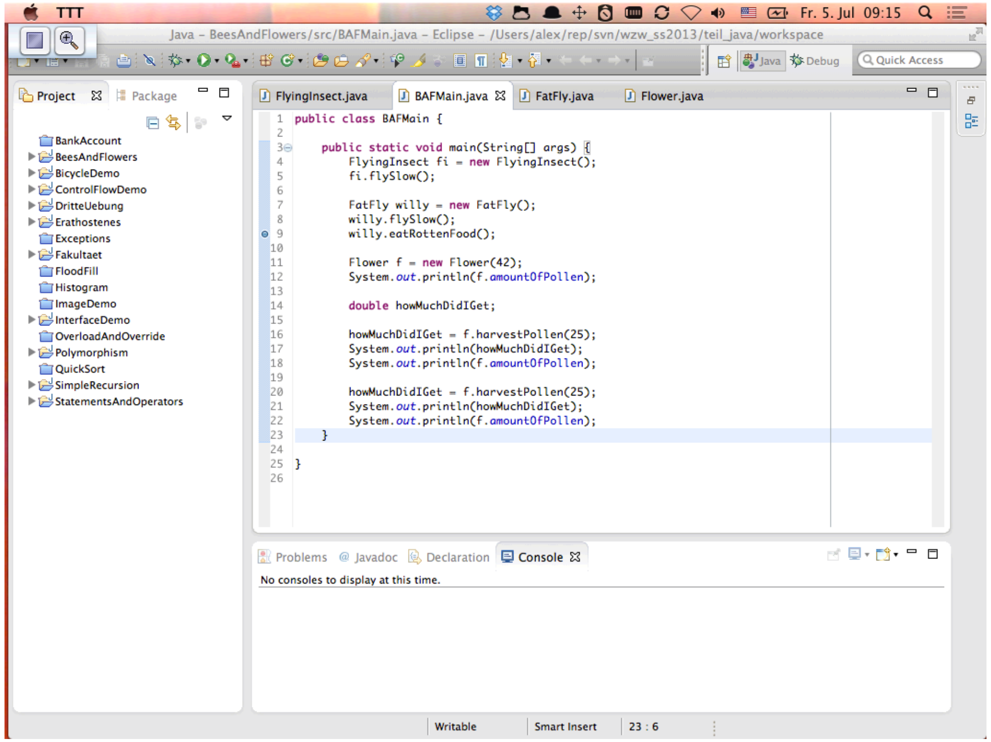
Script generated by TTT

Title: Lehmann: Uebung_Einf_HF (05.07.2013)

Date: Fri Jul 05 09:15:24 CEST 2013

Duration: 89:58 min

Pages: 119



```
public class BAFMain {

    public static void main(String[] args) {
        FlyingInsect fi = new FlyingInsect();
        fi.flySlow();

        FatFly willy = new FatFly();
        willy.flySlow();
        willy.eatRottenFood();

        Flower f = new Flower(42);
        System.out.println(f.amountOfPollen);

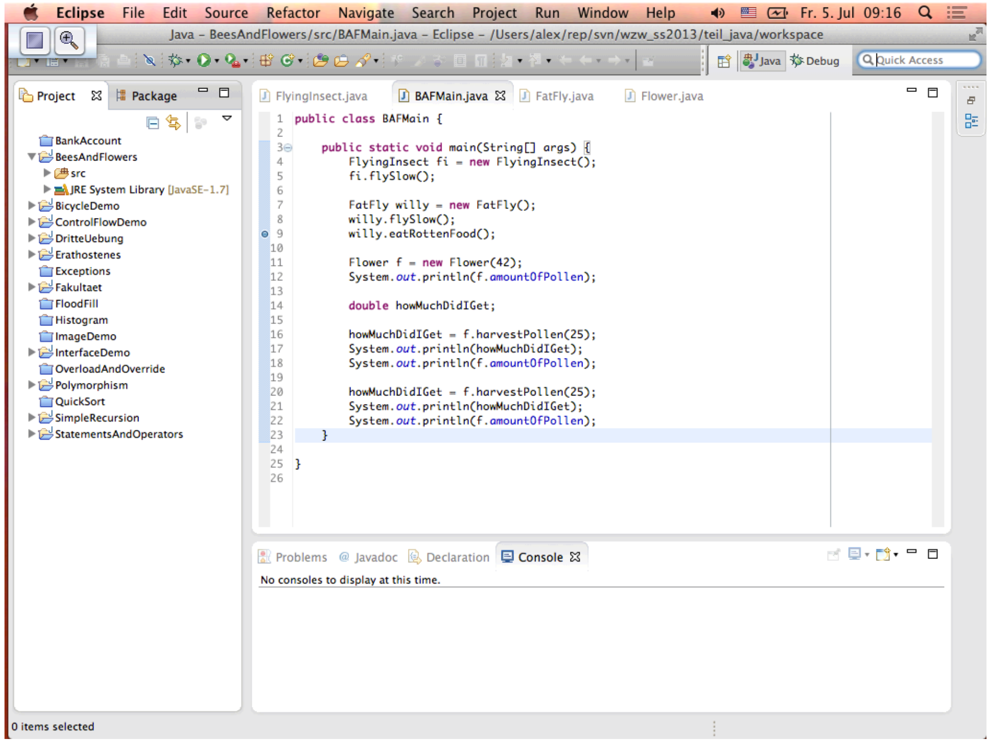
        double howMuchDidIGet;

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.amountOfPollen);

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.amountOfPollen);
    }

}
```

No consoles to display at this time.



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    public static void main(String[] args) {
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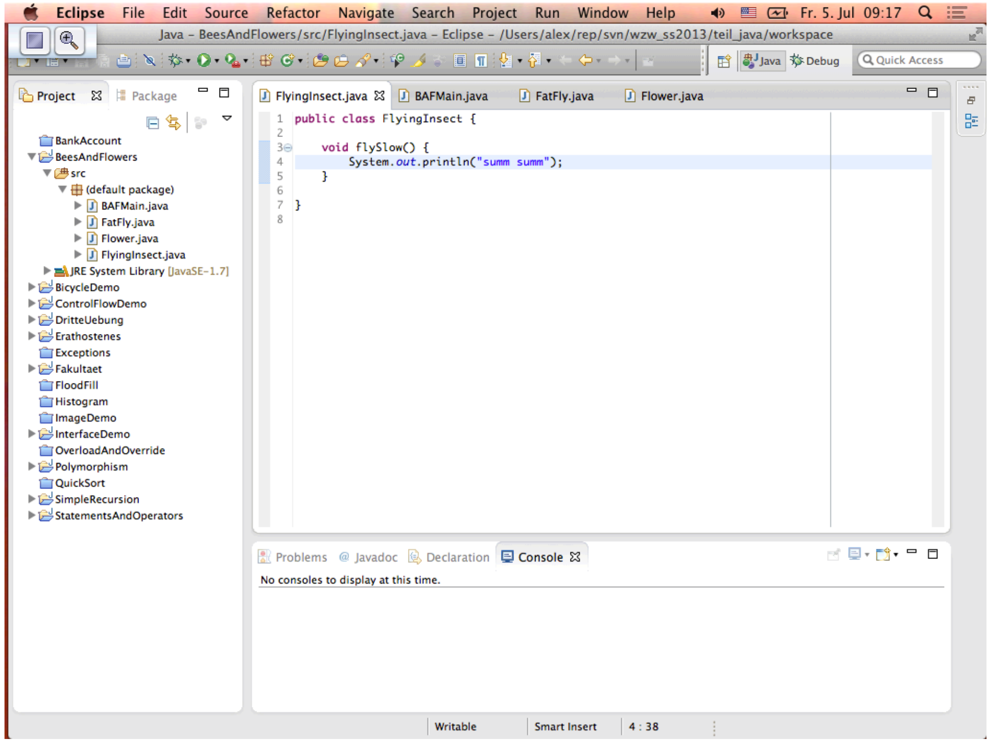
        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.amountOfPollen);
    }

}
```

No consoles to display at this time.

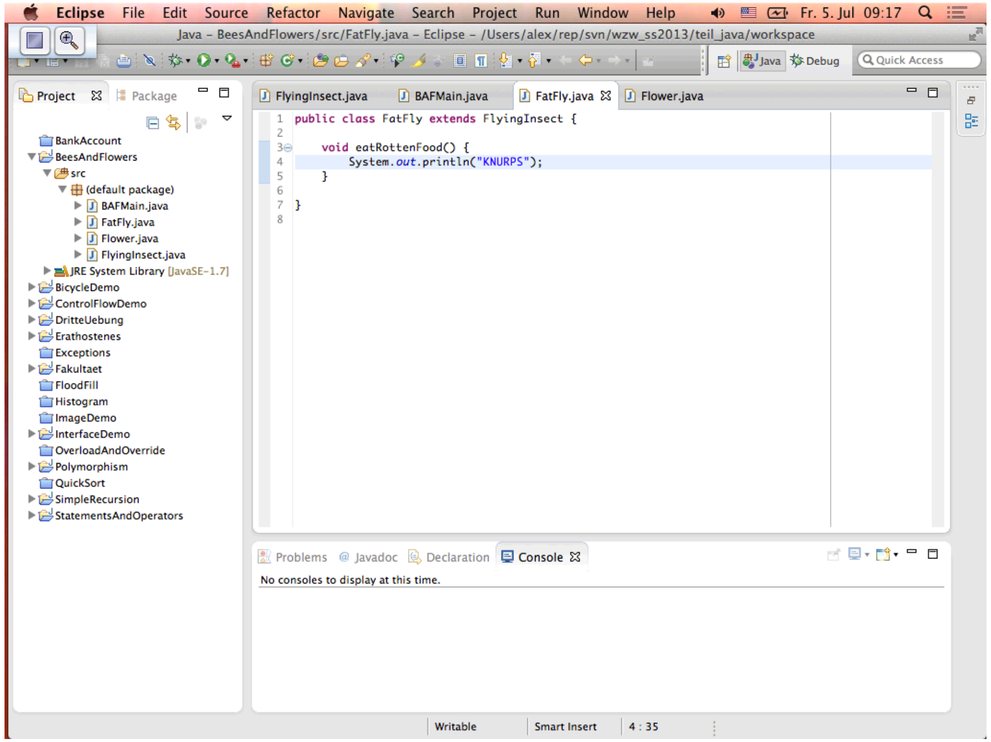


```
public class FlyingInsect {

    void flySlow() {
        System.out.println("summ summ");
    }

}
```

No consoles to display at this time.

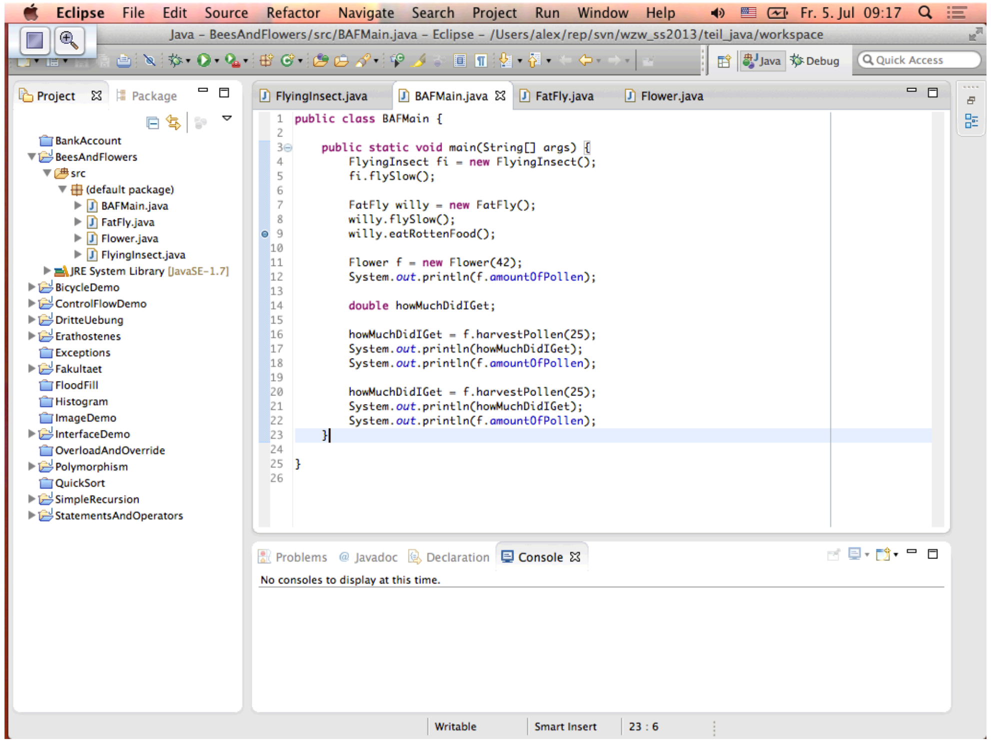


```java
public class FatFly extends FlyingInsect {

    void eatRottenFood() {
        System.out.println("KNURPS");
    }

}
```

No consoles to display at this time.


Eclipse File Edit Source Refactor Navigate Search Project Run Window Help
Fr. 5. Jul 09:17
Java – BeesAndFlowers/src/BAFMain.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace
Java
Debug
Quick Access
Project
Package
FlyingInsect.java
BAFMain.java
FatFly.java
Flower.java
Problems
Javadoc
Declaration
Console
Writable
Smart Insert
23 : 6

```java
public class BAFMain {

    public static void main(String[] args) {
        FlyingInsect fi = new FlyingInsect();
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        FatFly willy = new FatFly();
        willy.flySlow();
        willy.eatRottenFood();

        Flower f = new Flower(42);
        System.out.println(f.amountOfPollen);

        double howMuchDidIGet;

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.amountOfPollen);

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.amountOfPollen);
    }

}
```
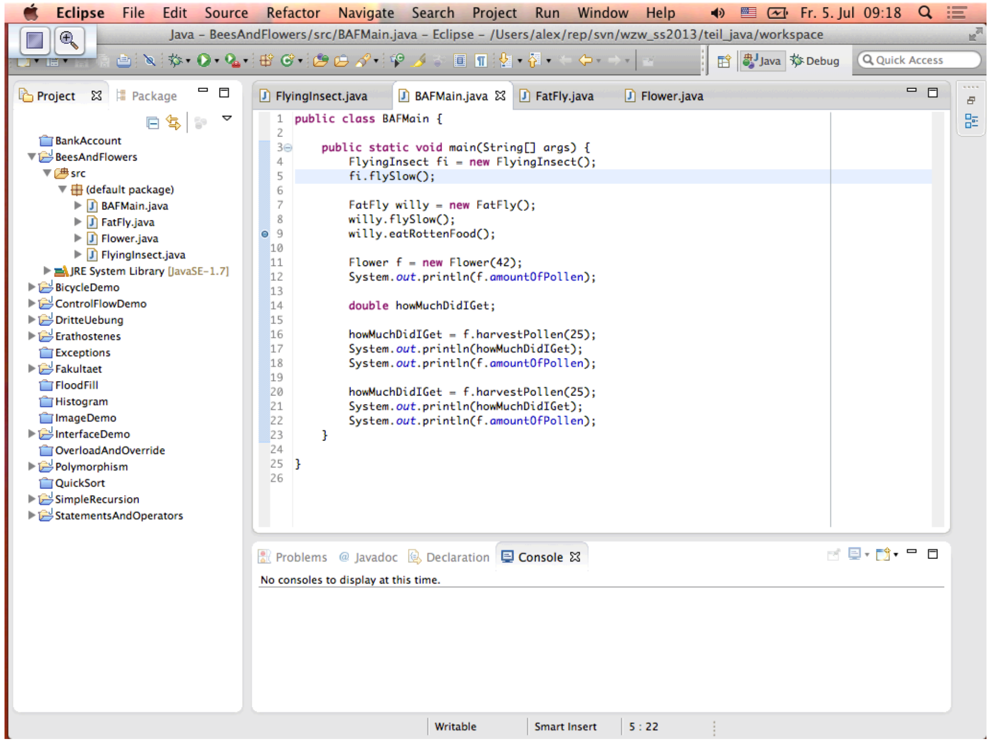

No consoles to display at this time.


Eclipse File Edit Source Refactor Navigate Search Project Run Window Help
Fr. 5. Jul 09:18
Java – BeesAndFlowers/src/BAFMain.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace
Writable
Smart Insert
5 : 22

```java
public class BAFMain {

    public static void main(String[] args) {
        FlyingInsect fi = new FlyingInsect();
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        Flower f = new Flower(42);
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        double howMuchDidIGet;

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}
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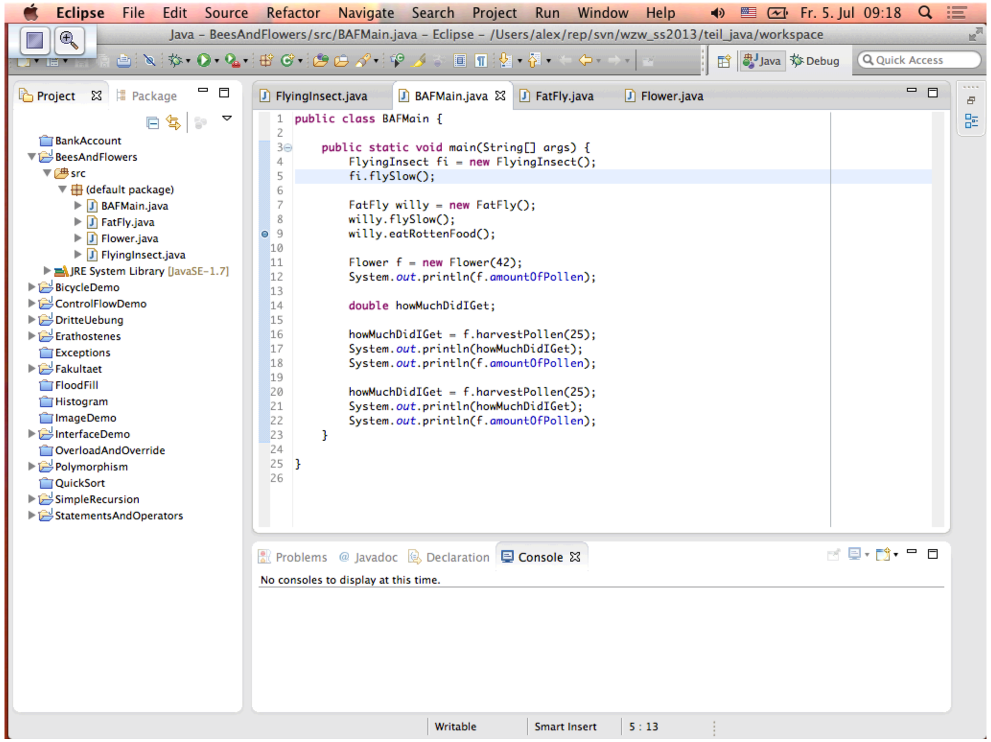
No consoles to display at this time.


Eclipse File Edit Source Refactor Navigate Search Project Run Window Help
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Java – BeesAndFlowers/src/BAFMain.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace
Writable
Smart Insert
5 : 13

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public class BAFMain {

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        System.out.println(f.amountOfPollen);
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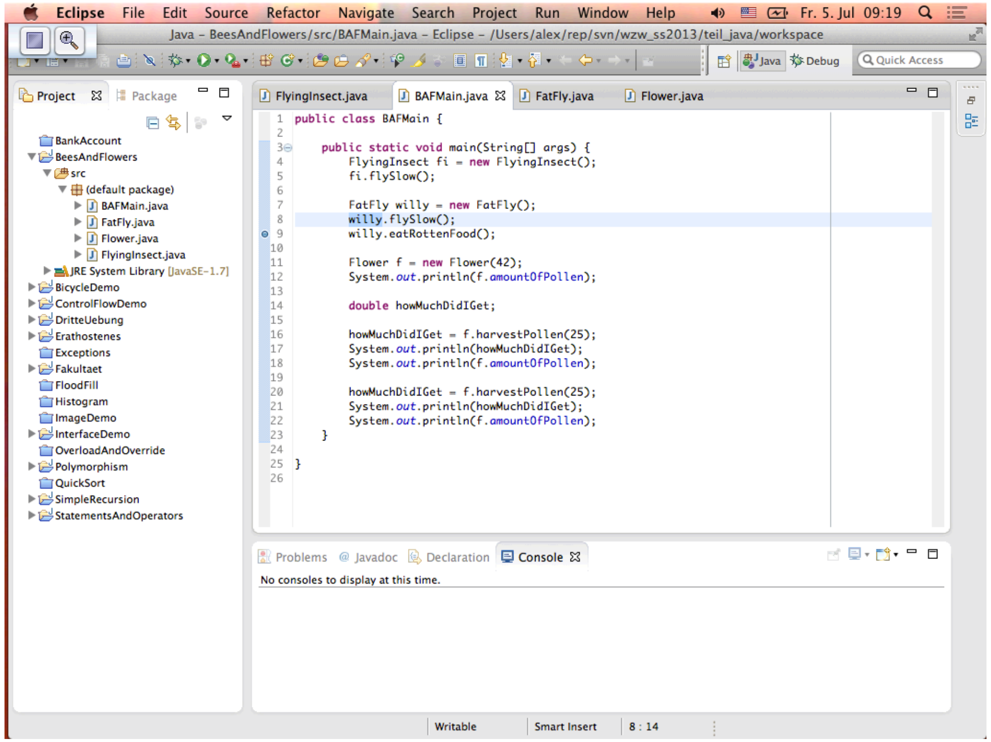
No consoles to display at this time.



Java – BeesAndFlowers/src/BAFMain.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

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        System.out.println(f.amountOfPollen);
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}
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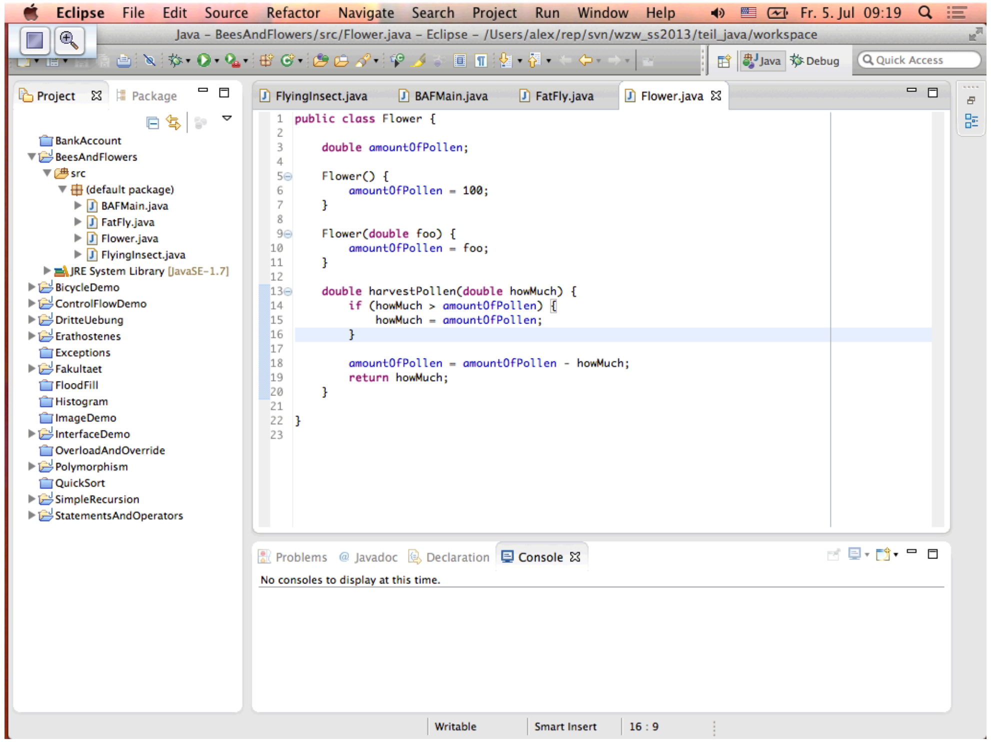
No consoles to display at this time.

Writable | Smart Insert | 8 : 14

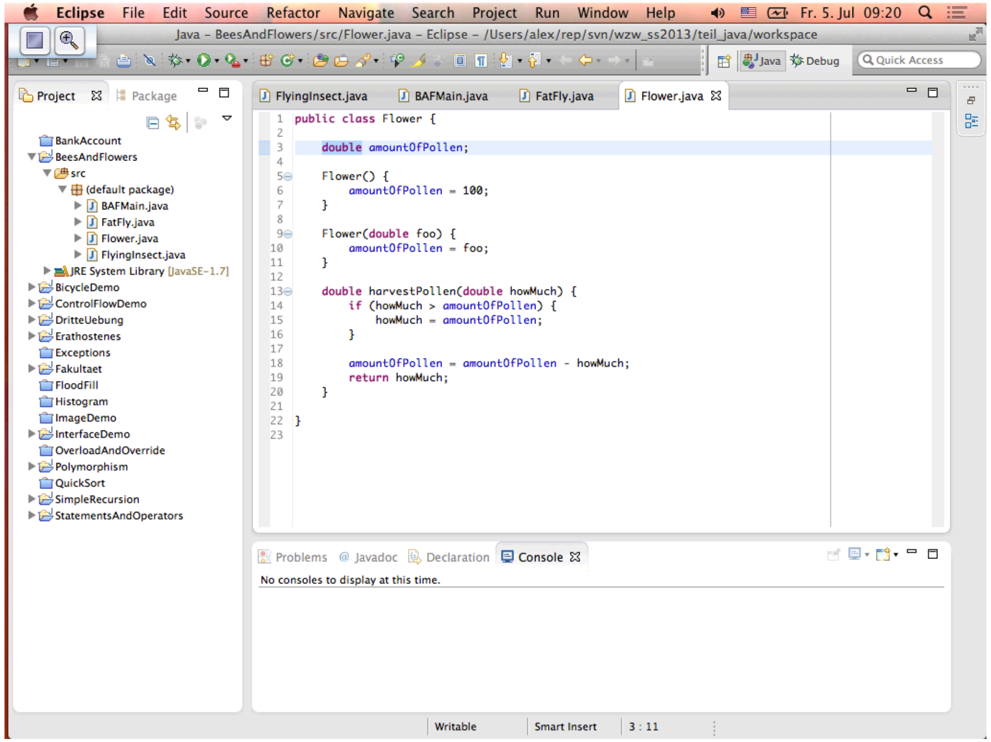


Java – BeesAndFlowers/src/Flower.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

```java
public class Flower {

    double amountOfPollen;

    Flower() {
        amountOfPollen = 100;
    }

    Flower(double foo) {
        amountOfPollen = foo;
    }

    double harvestPollen(double howMuch) {
        if (howMuch > amountOfPollen) {
            howMuch = amountOfPollen;
        }

        amountOfPollen = amountOfPollen - howMuch;
        return howMuch;
    }

}
```

No consoles to display at this time.

Writable | Smart Insert | 16 : 9



Java – BeesAndFlowers/src/Flower.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

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    Flower() {
        amountOfPollen = 100;
    }

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    }

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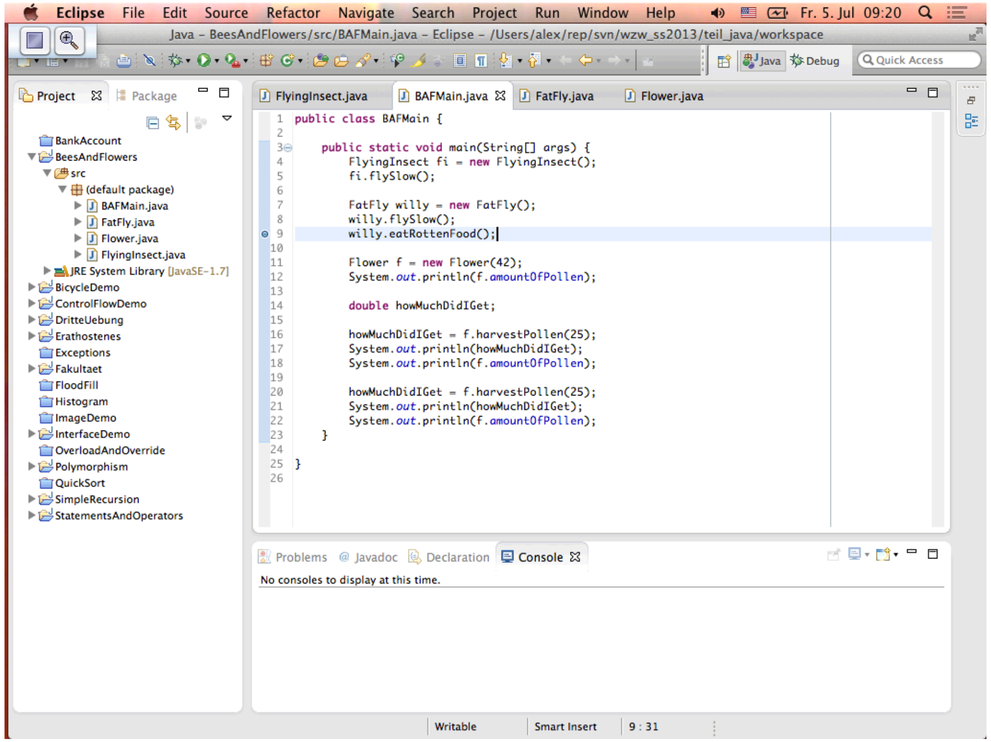
        if (howMuch > amountOfPollen) {
            howMuch = amountOfPollen;
        }

        amountOfPollen = amountOfPollen - howMuch;
        return howMuch;
    }

}
```

No consoles to display at this time.

Writable | Smart Insert | 3 : 11



Java – BeesAndFlowers/src/BAFMain.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

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public class BAFMain {

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        FlyingInsect fi = new FlyingInsect();
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        willy.flySlow();
        willy.eatRottenFood();

        Flower f = new Flower(42);
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        System.out.println(howMuchDidIGet);
        System.out.println(f.amountOfPollen);

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.amountOfPollen);
    }

}
```
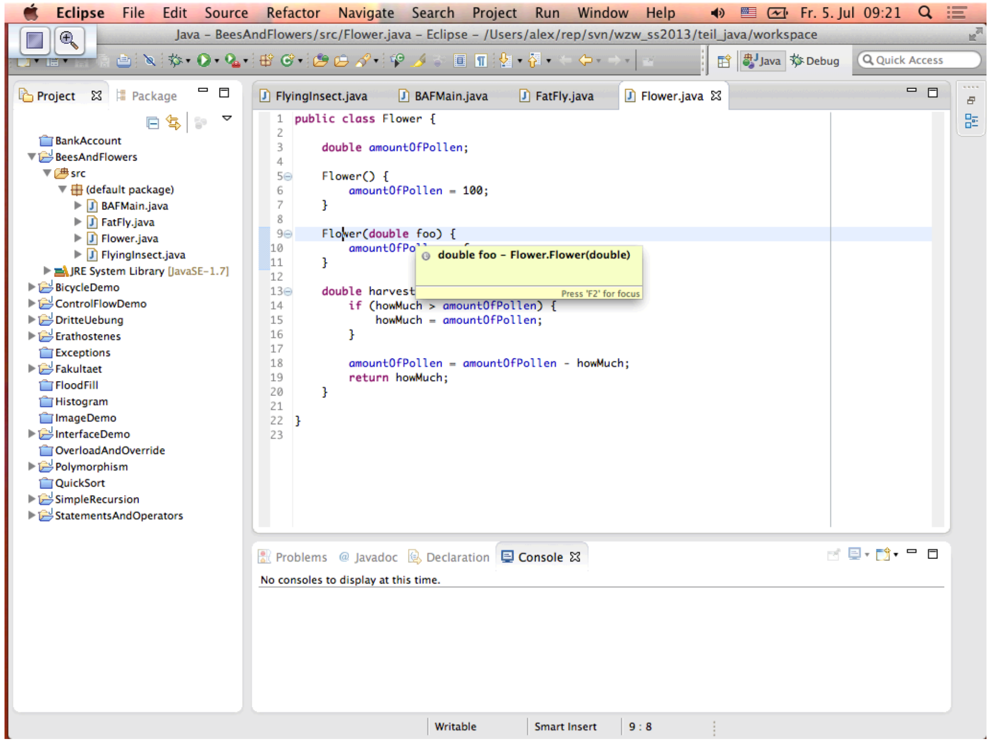

No consoles to display at this time.

Writable | Smart Insert | 9 : 31



Java – BeesAndFlowers/src/Flower.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

```java
public class Flower {

    double amountOfPollen;

    Flower() {
        amountOfPollen = 100;
    }

    Flower(double foo) {
        amountOfPo
    }

    double harvest
        if (howMuch > amountOfPollen) {
            howMuch = amountOfPollen;
        }

        amountOfPollen = amountOfPollen - howMuch;
        return howMuch;
    }

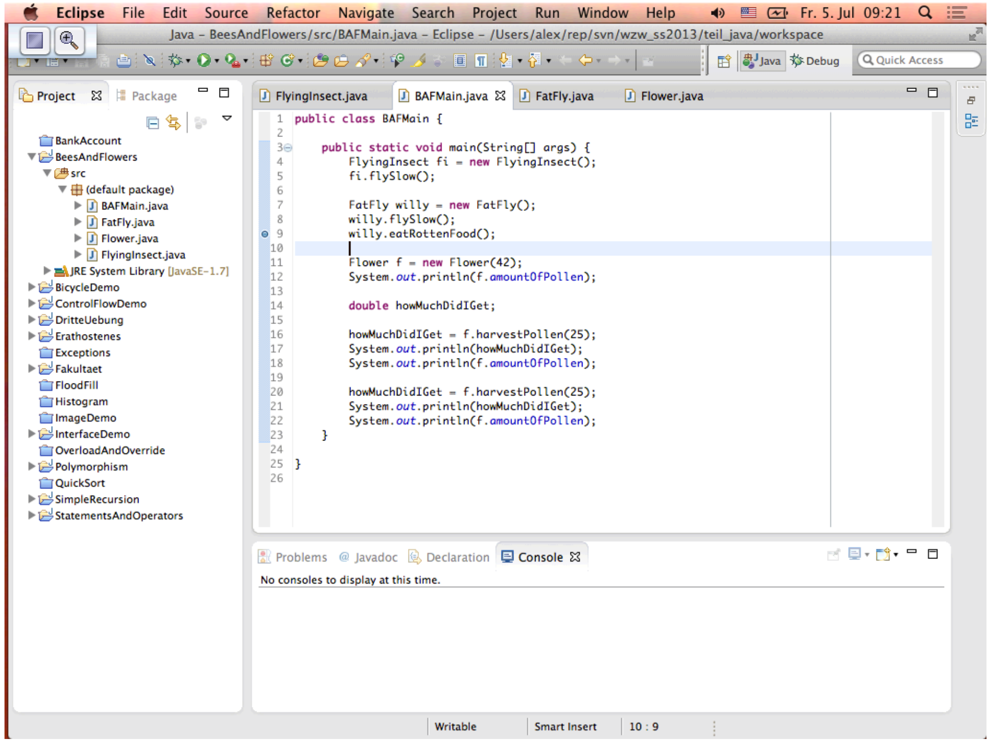
}
```

double foo – Flower.Flower(double)

Press 'F2' for focus

No consoles to display at this time.

Writable | Smart Insert | 9 : 8



Java – BeesAndFlowers/src/BAFMain.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

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        System.out.println(f.amountOfPollen);
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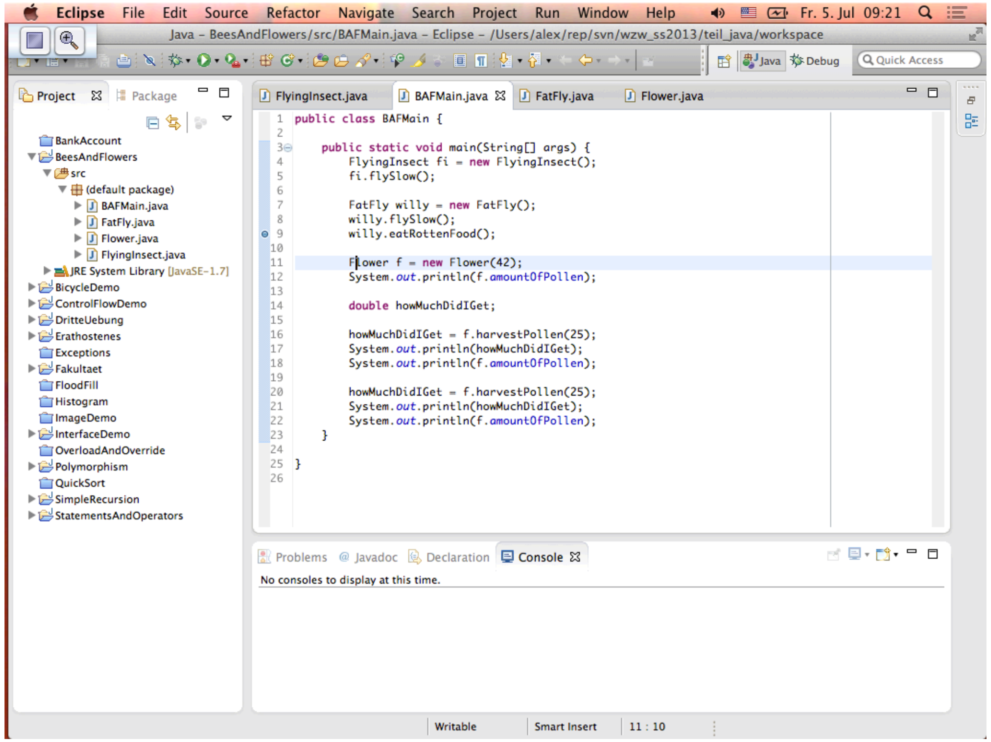
No consoles to display at this time.

Writable | Smart Insert | 10 : 9



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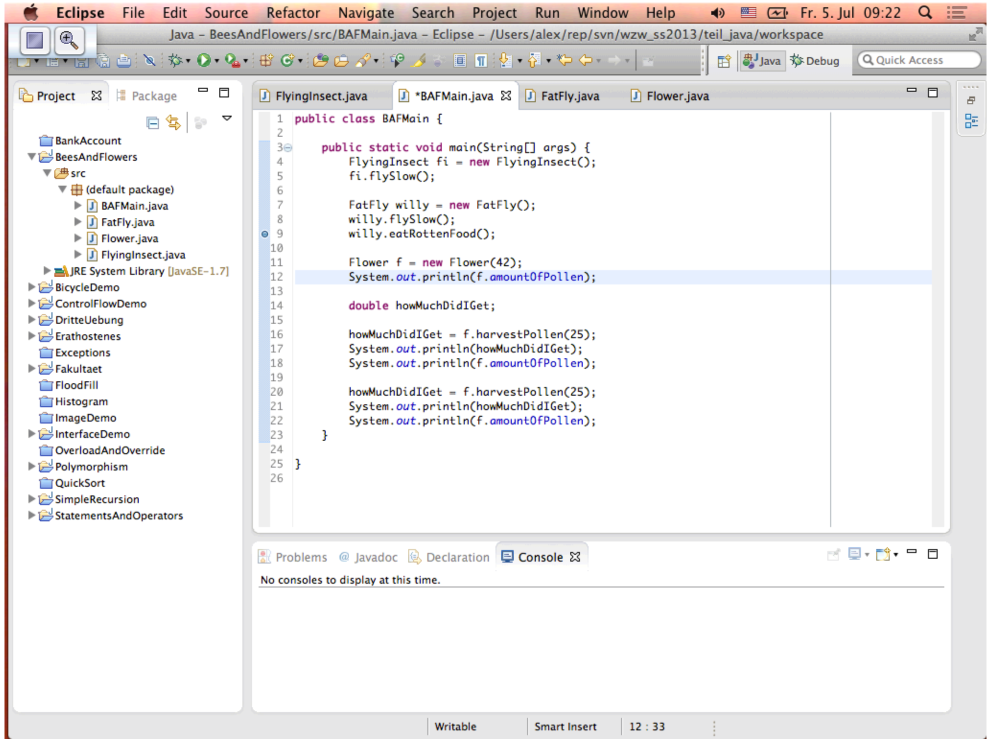
        System.out.println(f.amountOfPollen);
    }

}
```

No consoles to display at this time.

Writable | Smart Insert | 11 : 10



Java – BeesAndFlowers/src/BAFMain.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

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        System.out.println(f.amountOfPollen);

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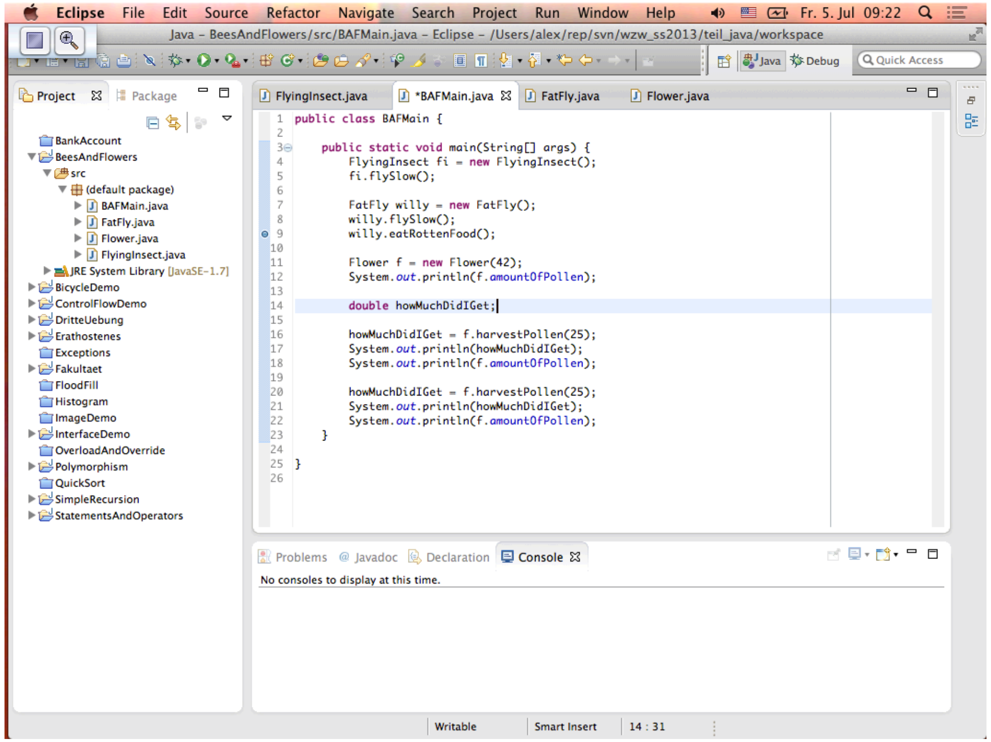
        System.out.println(howMuchDidIGet);
        System.out.println(f.amountOfPollen);
    }

}
```

No consoles to display at this time.

Writable | Smart Insert | 12 : 33


Java – BeesAndFlowers/src/BAFMain.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace
FlyingInsect.java
*BAFMain.java
FatFly.java
Flower.java
Writable
Smart Insert
14 : 31

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public class BAFMain {

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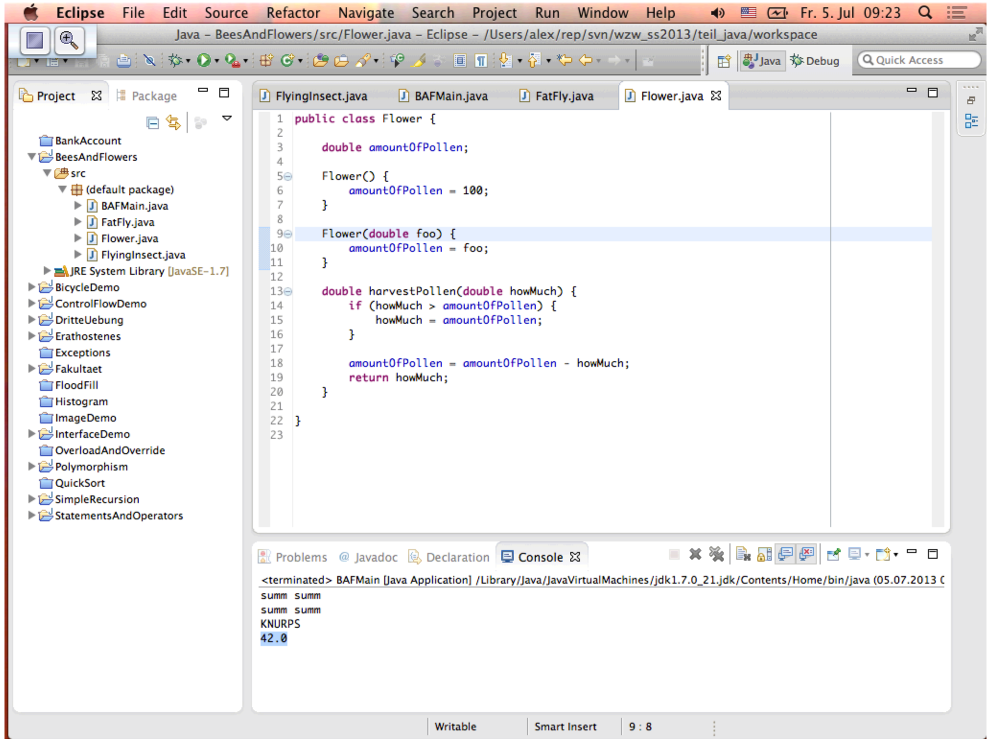
        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.amountOfPollen);
    }

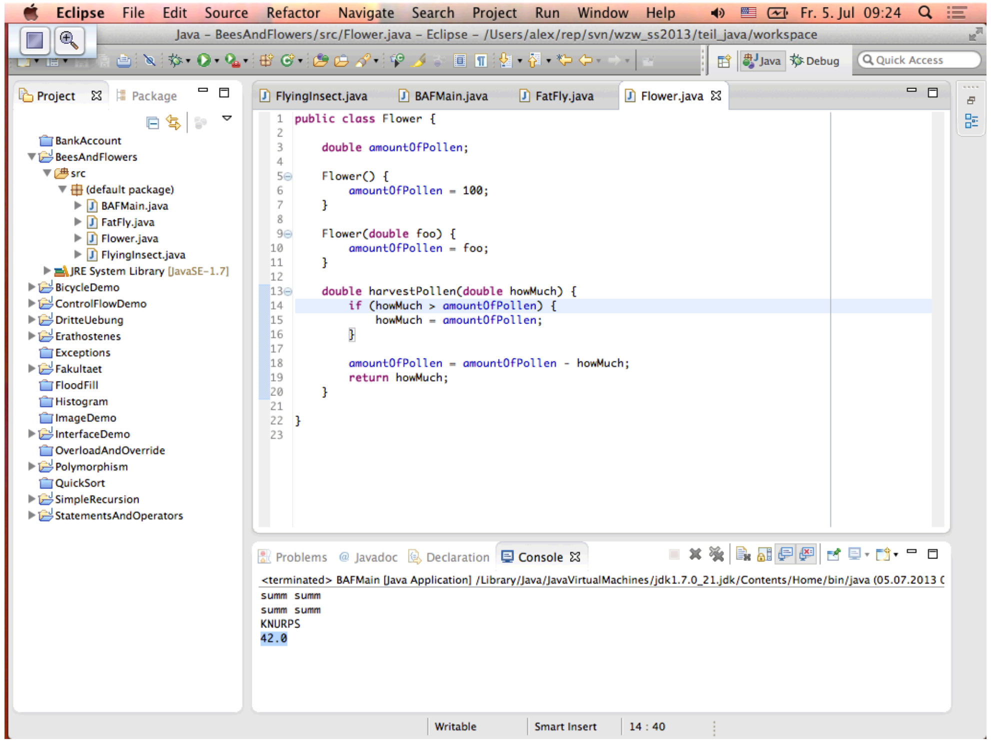
}
```

```
No consoles to display at this time.
```


Java – BeesAndFlowers/src/Flower.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace
FlyingInsect.java
BAFMain.java
FatFly.java
Flower.java
Writable
Smart Insert
9 : 8

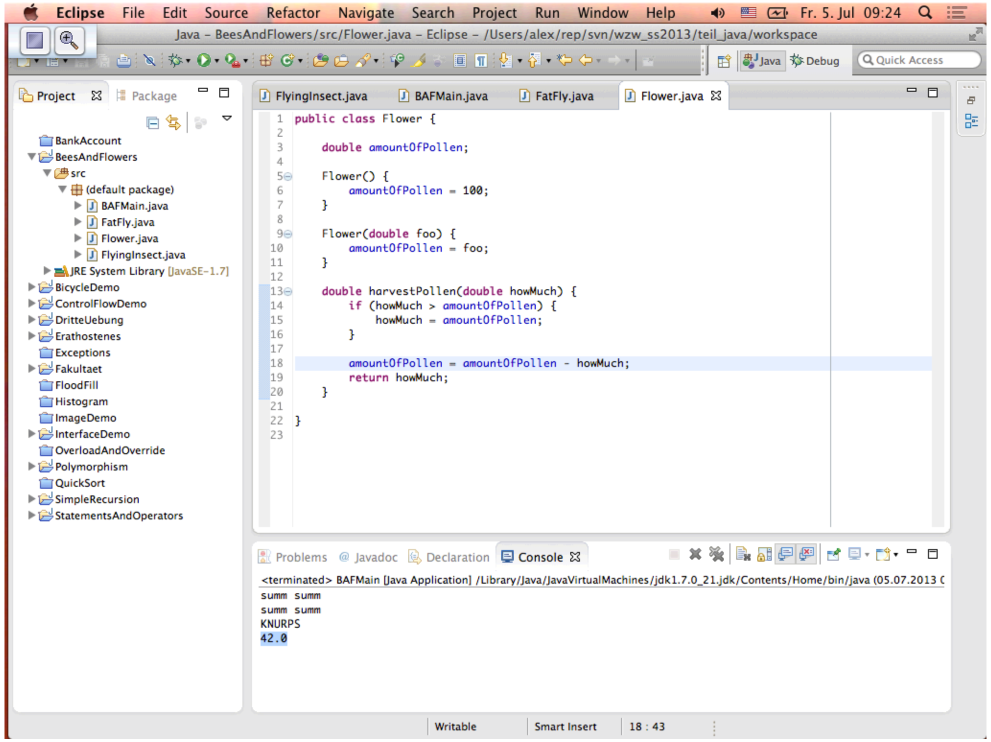
```java
public class Flower {

    double amountOfPollen;

    Flower() {
        amountOfPollen = 100;
    }

    Flower(double foo) {
        amountOfPollen = foo;
    }

    double harvestPollen(double howMuch) {
        if (howMuch > amountOfPollen) {
            howMuch = amountOfPollen;
        }

        amountOfPollen = amountOfPollen - howMuch;
        return howMuch;
    }

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
summ summ
summ summ
KNURPS
42.0
```


Java – BeesAndFlowers/src/Flower.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace
FlyingInsect.java
BAFMain.java
FatFly.java
Flower.java
Writable
Smart Insert
14 : 40

```java
public class Flower {

    double amountOfPollen;

    Flower() {
        amountOfPollen = 100;
    }

    Flower(double foo) {
        amountOfPollen = foo;
    }

    double harvestPollen(double howMuch) {
        if (howMuch > amountOfPollen) {
            howMuch = amountOfPollen;
        }

        amountOfPollen = amountOfPollen - howMuch;
        return howMuch;
    }

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
summ summ
summ summ
KNURPS
42.0
```


Java – BeesAndFlowers/src/Flower.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace
FlyingInsect.java
BAFMain.java
FatFly.java
Flower.java
Writable
Smart Insert
18 : 43

```java
public class Flower {

    double amountOfPollen;

    Flower() {
        amountOfPollen = 100;
    }

    Flower(double foo) {
        amountOfPollen = foo;
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    double harvestPollen(double howMuch) {
        if (howMuch > amountOfPollen) {
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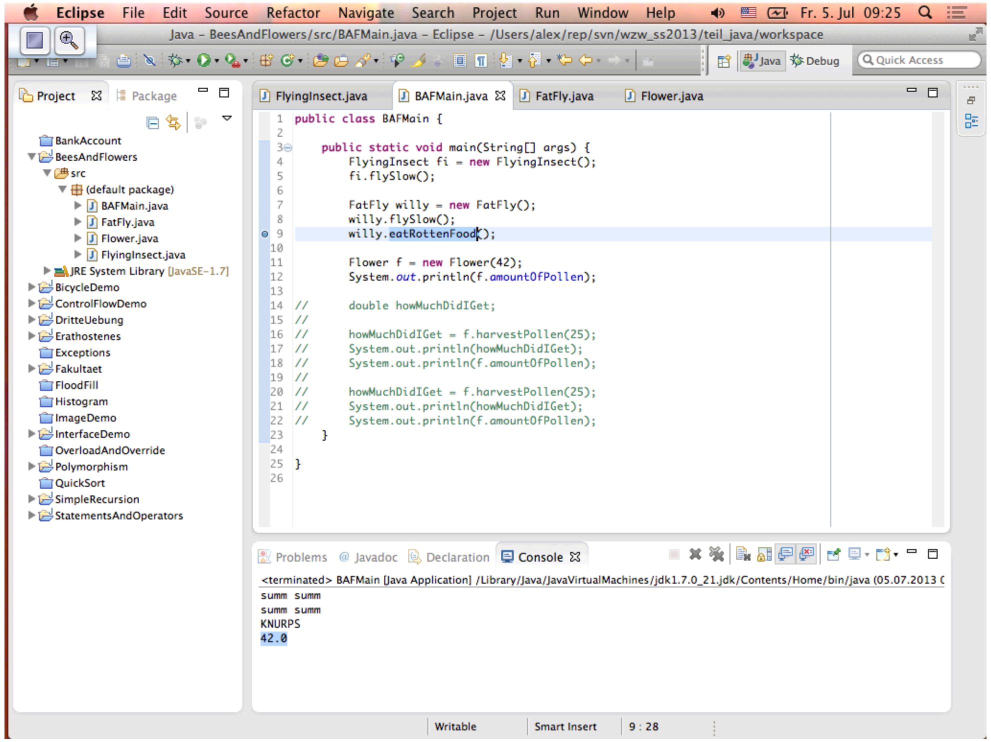
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
summ summ
summ summ
KNURPS
42.0
```



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        Flower f = new Flower(42);
        System.out.println(f.amountOfPollen);

//      double howMuchDidIGet;
//
//      howMuchDidIGet = f.harvestPollen(25);
//      System.out.println(howMuchDidIGet);
//      System.out.println(f.amountOfPollen);
//
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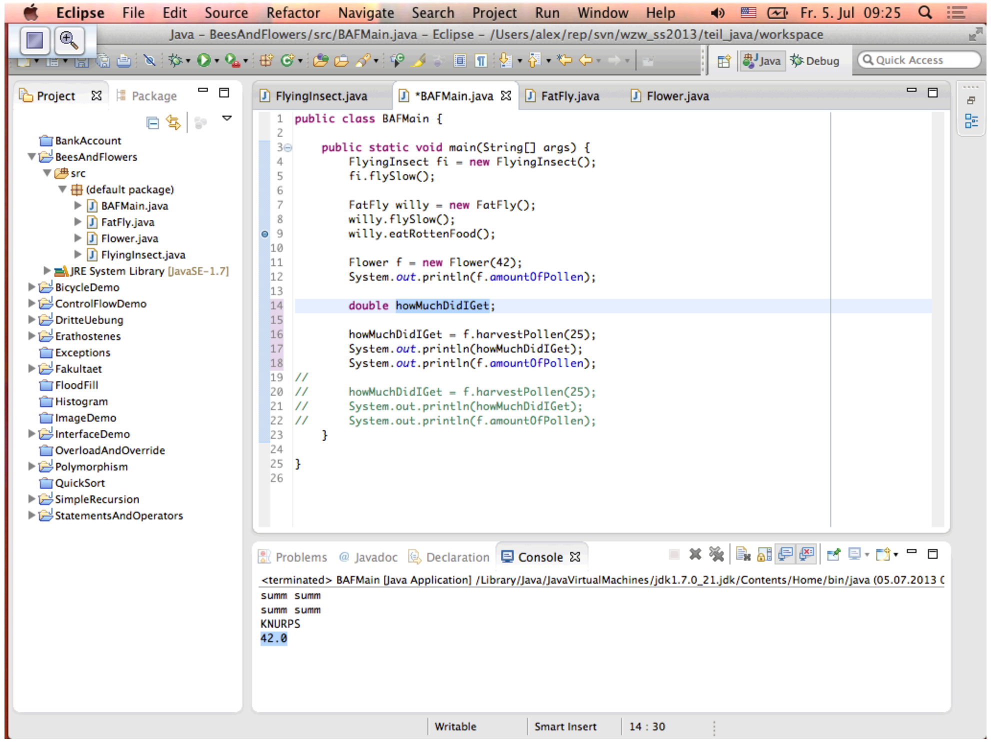
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
summ summ
summ summ
KNURPS
42.0
```



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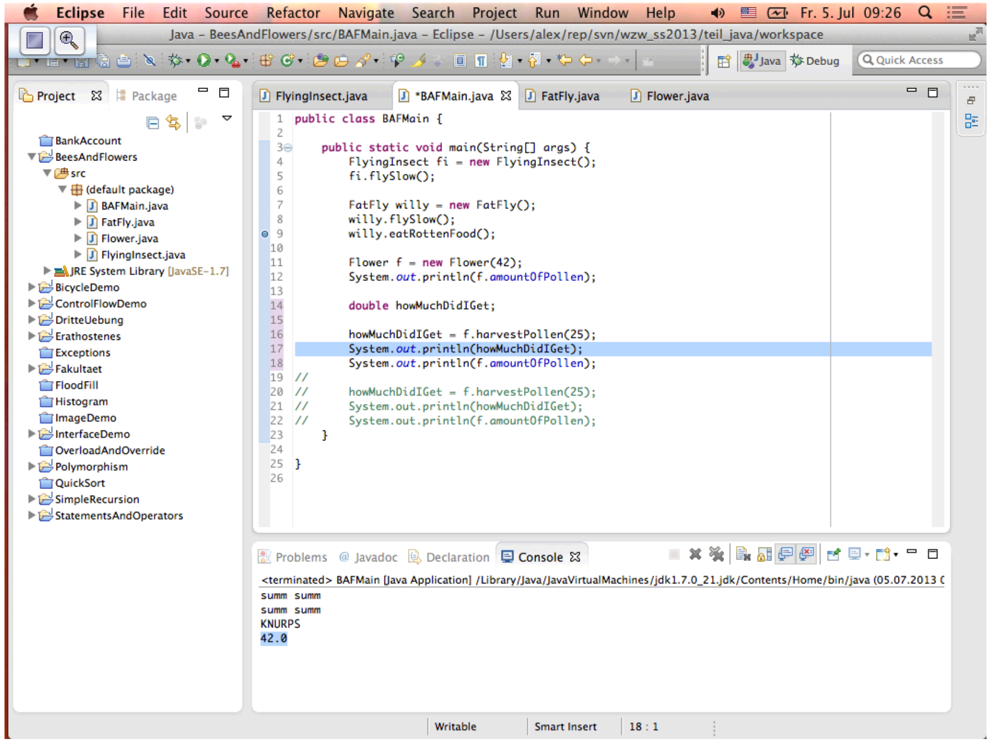
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
summ summ
summ summ
KNURPS
42.0
```



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        System.out.println(f.amountOfPollen);
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}
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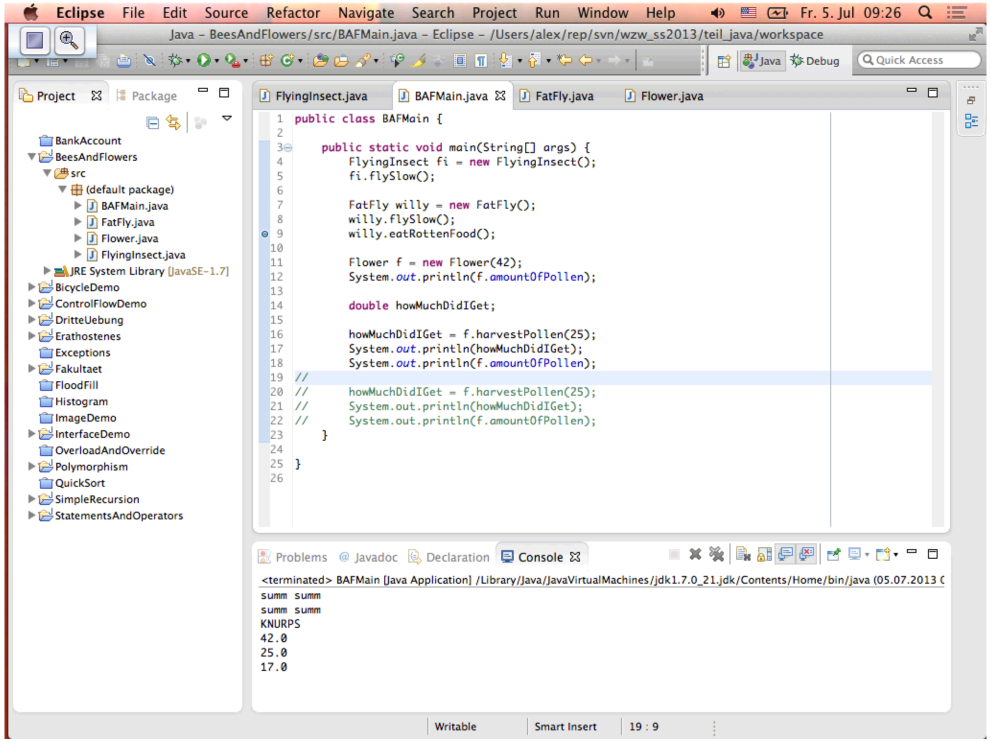
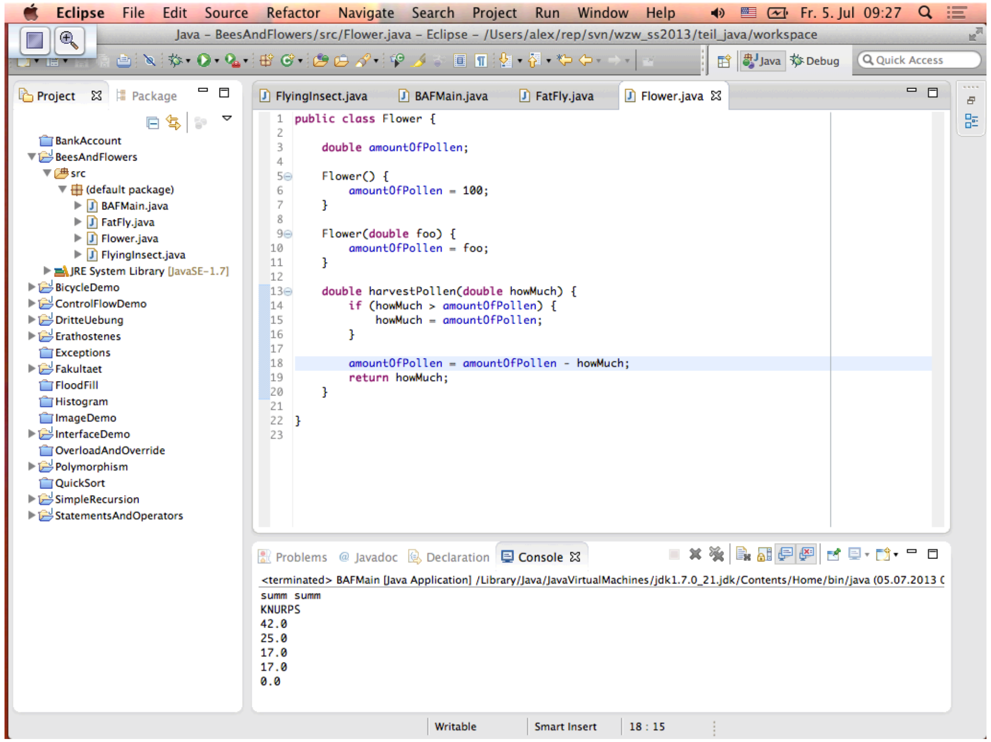
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
summ summ
summ summ
KNURPS
42.0
```



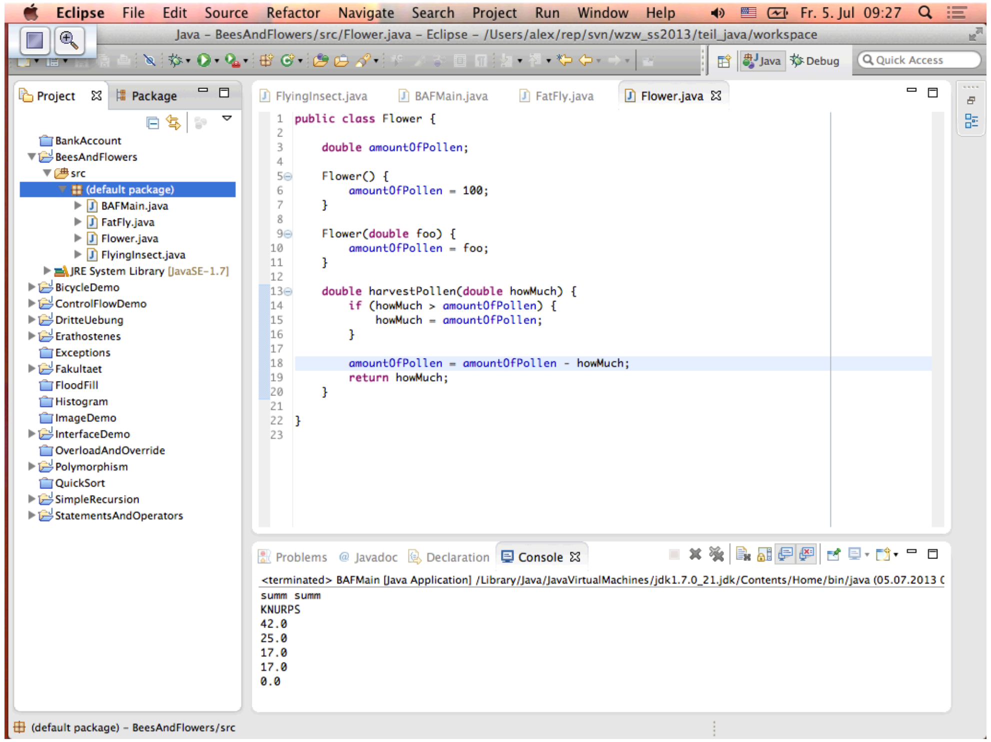
```java
public class BAFMain {

    public static void main(String[] args) {
        FlyingInsect fi = new FlyingInsect();
        fi.flySlow();

        FatFly willy = new FatFly();
        willy.flySlow();
        willy.eatRottenFood();

        Flower f = new Flower(42);
        System.out.println(f.amountOfPollen);

        double howMuchDidIGet;

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.amountOfPollen);
//
//      howMuchDidIGet = f.harvestPollen(25);
//      System.out.println(howMuchDidIGet);
//      System.out.println(f.amountOfPollen);
    }

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
summ summ
summ summ
KNURPS
42.0
25.0
17.0
```


Java - BeesAndFlowers/src/Flower.java - Eclipse - /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace
FlyingInsect.java
BAFMain.java
FatFly.java
Flower.java
Writable
Smart Insert
18 : 15

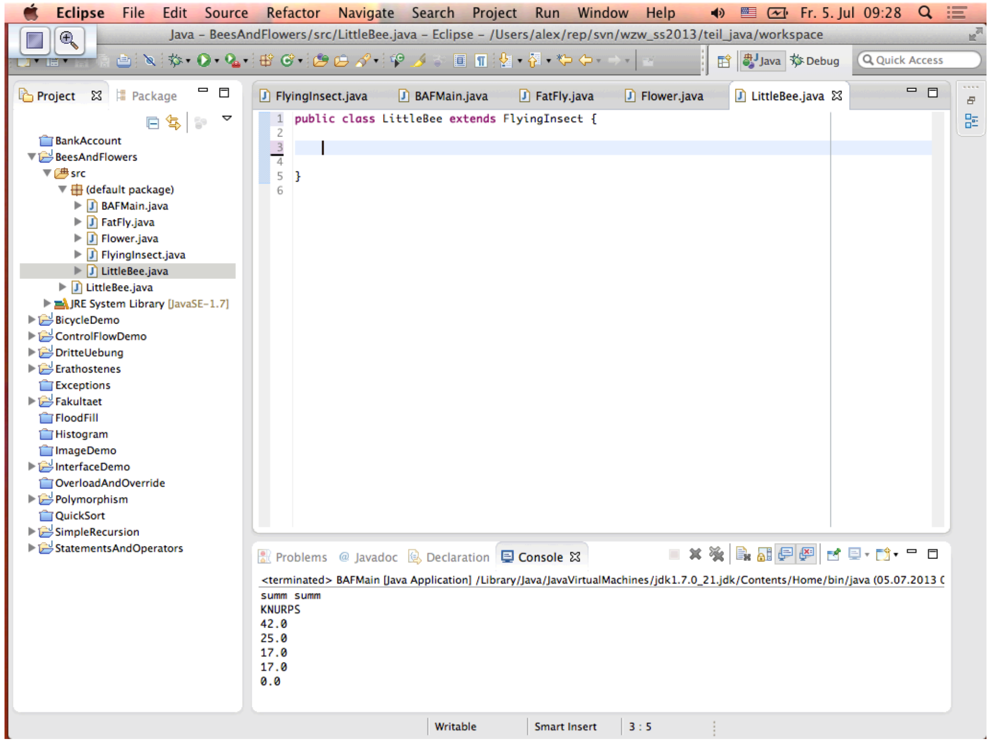
```
public class Flower {

    double amountOfPollen;

    Flower() {
        amountOfPollen = 100;
    }

    Flower(double foo) {
        amountOfPollen = foo;
    }

    double harvestPollen(double howMuch) {
        if (howMuch > amountOfPollen) {
            howMuch = amountOfPollen;
        }

        amountOfPollen = amountOfPollen - howMuch;
        return howMuch;
    }

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
summ summ
KNURPS
42.0
25.0
17.0
17.0
0.0
```


Java - BeesAndFlowers/src/Flower.java - Eclipse - /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace
(default package)
(default package) - BeesAndFlowers/src

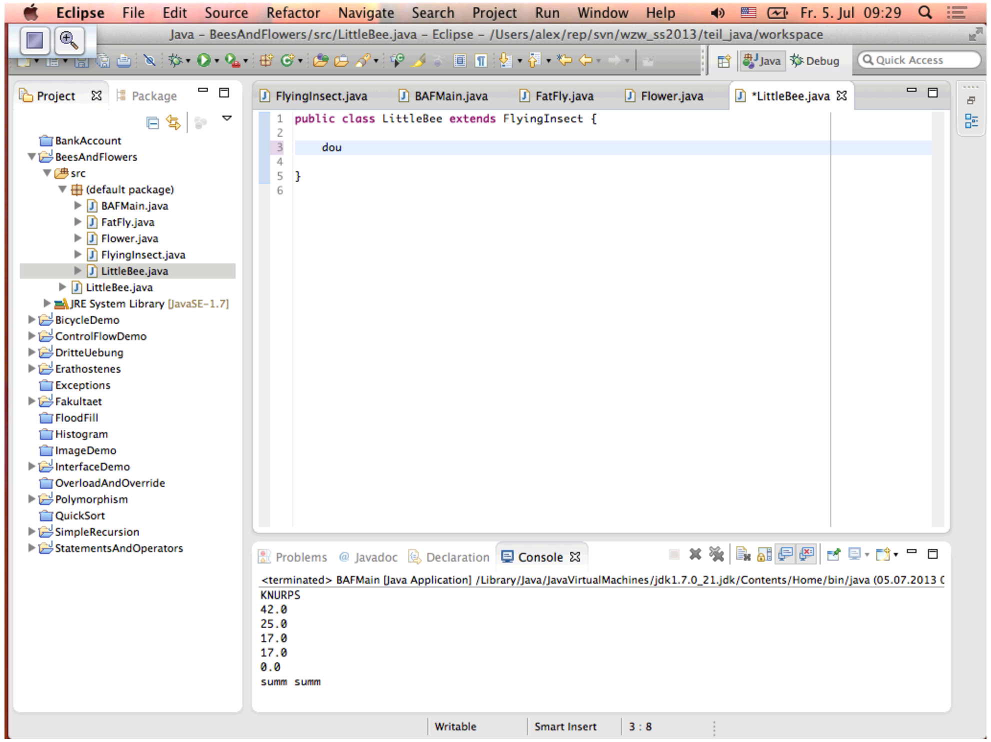
```
public class Flower {

    double amountOfPollen;

    Flower() {
        amountOfPollen = 100;
    }

    Flower(double foo) {
        amountOfPollen = foo;
    }

    double harvestPollen(double howMuch) {
        if (howMuch > amountOfPollen) {
            howMuch = amountOfPollen;
        }

        amountOfPollen = amountOfPollen - howMuch;
        return howMuch;
    }

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
summ summ
KNURPS
42.0
25.0
17.0
17.0
0.0
```


Java - BeesAndFlowers/src/LittleBee.java - Eclipse - /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace
LittleBee.java
Writable
Smart Insert
3 : 5

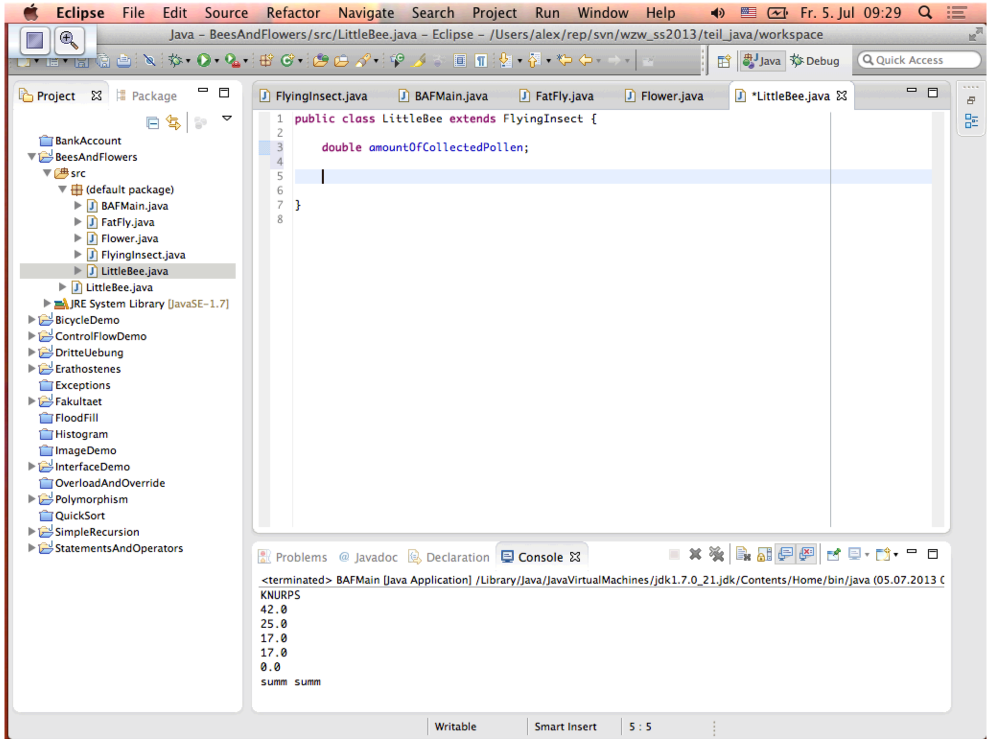
```
public class LittleBee extends FlyingInsect {



}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
summ summ
KNURPS
42.0
25.0
17.0
17.0
0.0
```


Java - BeesAndFlowers/src/LittleBee.java - Eclipse - /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace
*LittleBee.java
Writable
Smart Insert
3 : 8

```
public class LittleBee extends FlyingInsect {

    dou

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
KNURPS
42.0
25.0
17.0
17.0
0.0
summ summ
```

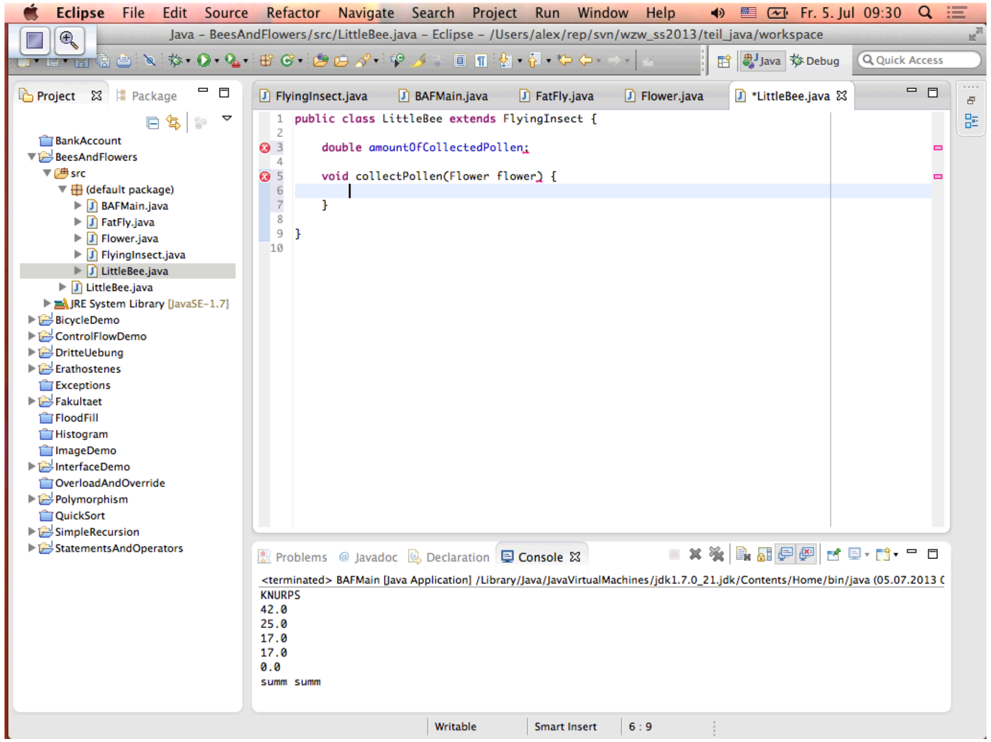


Java – BeesAndFlowers/src/LittleBee.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

```
public class LittleBee extends FlyingInsect {

    double amountOfCollectedPollen;



}

```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
KNURPS
42.0
25.0
17.0
17.0
0.0
summ summ
```

Writable | Smart Insert | 5 : 5

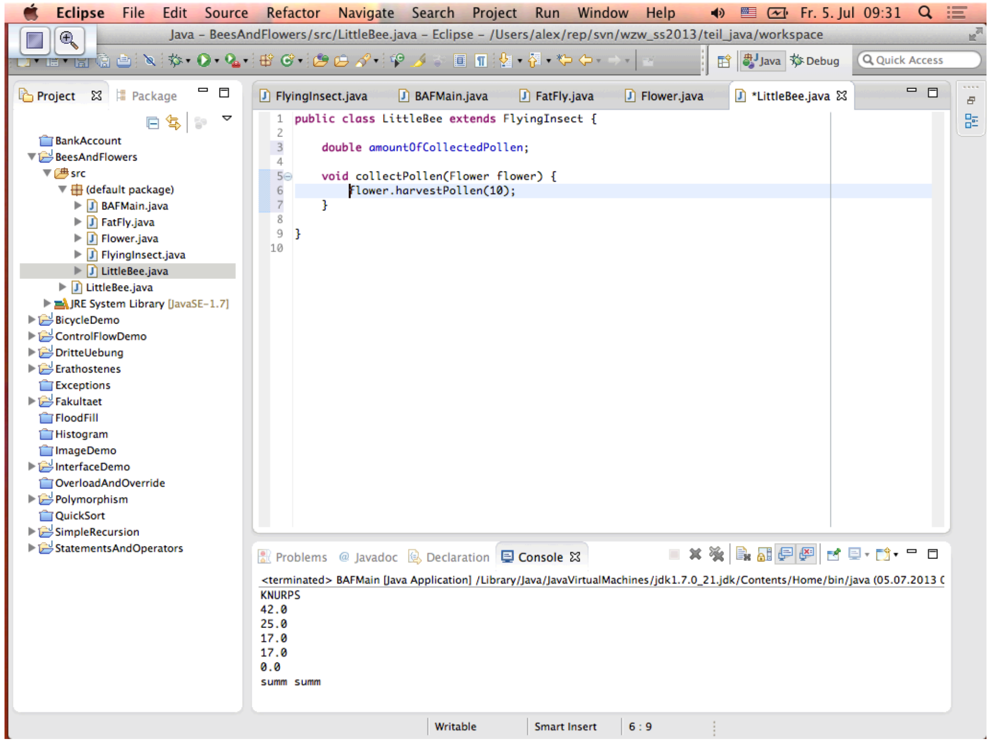

Eclipse File Edit Source Refactor Navigate Search Project Run Window Help
Fr. 5. Jul 09:30
Java Debug Quick Access
Project Package
FlyingInsect.java BAFMain.java FatFly.java Flower.java *LittleBee.java
Problems Javadoc Declaration Console

Java – BeesAndFlowers/src/LittleBee.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

```
public class LittleBee extends FlyingInsect {

    double amountOfCollectedPollen;

    void collectPollen(Flower flower) {
        
    }

}

```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
KNURPS
42.0
25.0
17.0
17.0
0.0
summ summ
```

Writable | Smart Insert | 6 : 9

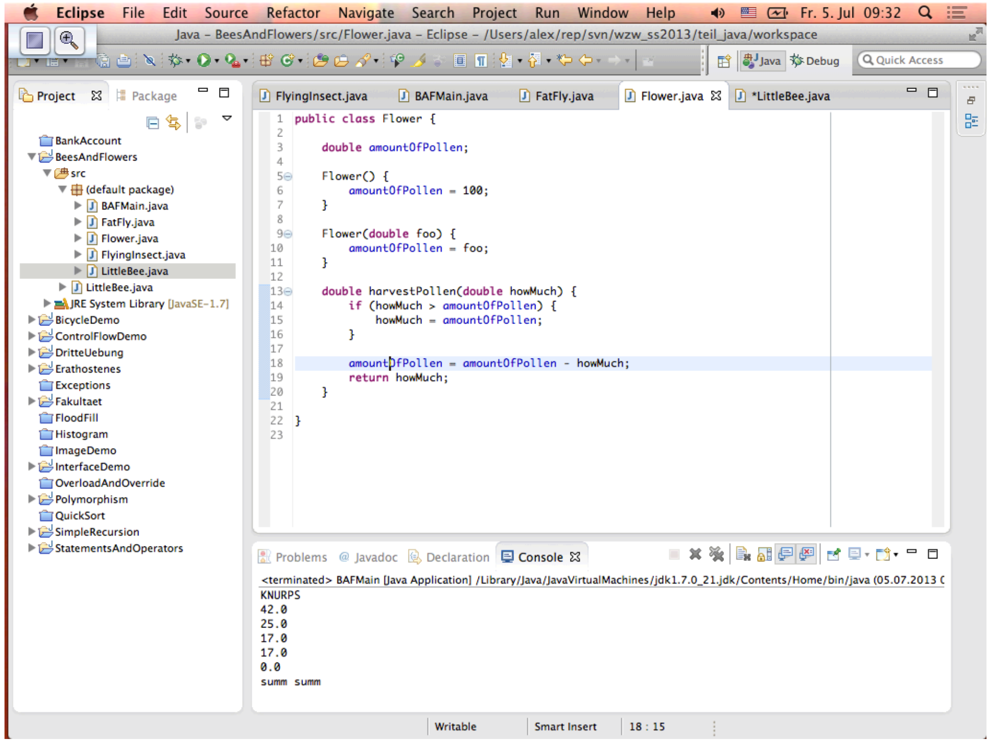

Eclipse File Edit Source Refactor Navigate Search Project Run Window Help
Fr. 5. Jul 09:31
Java Debug Quick Access
Project Package
FlyingInsect.java BAFMain.java FatFly.java Flower.java *LittleBee.java
Problems Javadoc Declaration Console

Java – BeesAndFlowers/src/LittleBee.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

```
public class LittleBee extends FlyingInsect {

    double amountOfCollectedPollen;

    void collectPollen(Flower flower) {
        flower.harvestPollen(10);
    }

}

```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
KNURPS
42.0
25.0
17.0
17.0
0.0
summ summ
```

Writable | Smart Insert | 6 : 9


Eclipse File Edit Source Refactor Navigate Search Project Run Window Help
Fr. 5. Jul 09:32
Java Debug Quick Access
Project Package
FlyingInsect.java BAFMain.java FatFly.java Flower.java *LittleBee.java
Problems Javadoc Declaration Console

Java – BeesAndFlowers/src/Flower.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

```
public class Flower {

    double amountOfPollen;

    Flower() {
        amountOfPollen = 100;
    }

    Flower(double foo) {
        amountOfPollen = foo;
    }

    double harvestPollen(double howMuch) {
        if (howMuch > amountOfPollen) {
            howMuch = amountOfPollen;
        }

        amountOfPollen = amountOfPollen - howMuch;
        return howMuch;
    }

}

```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
KNURPS
42.0
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17.0
17.0
0.0
summ summ
```
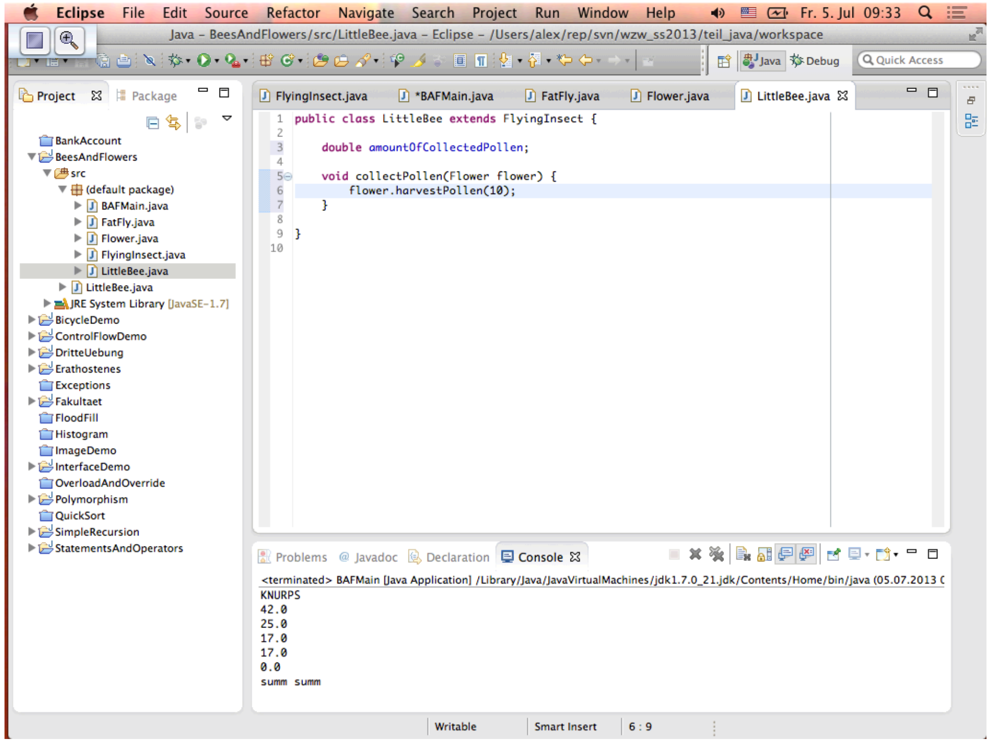
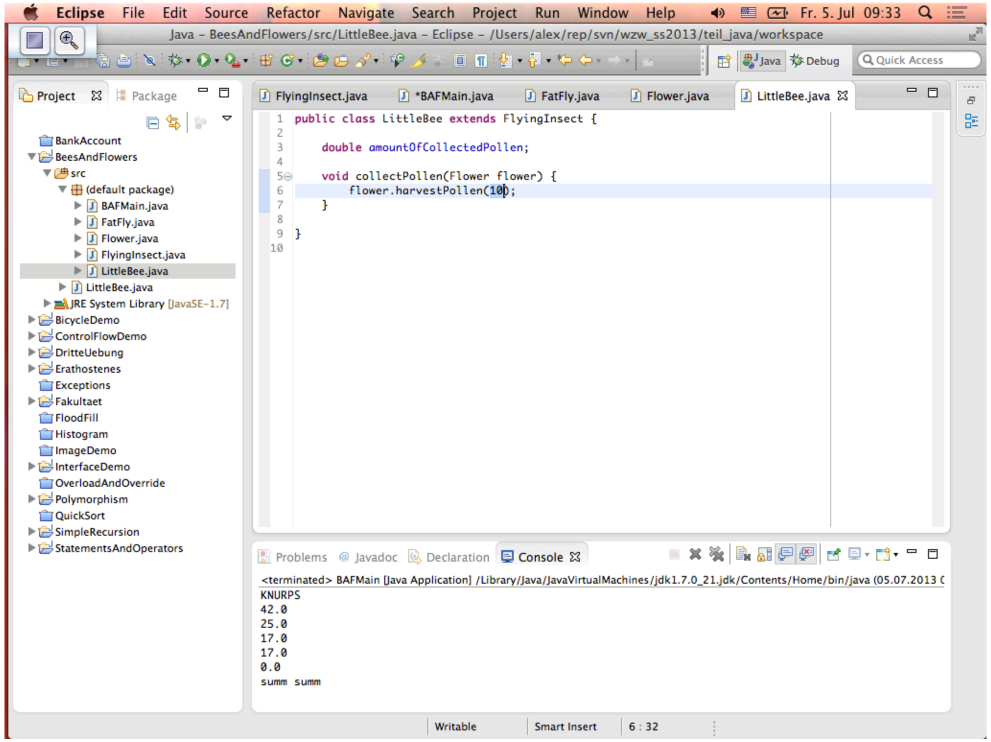

Writable | Smart Insert | 18 : 15



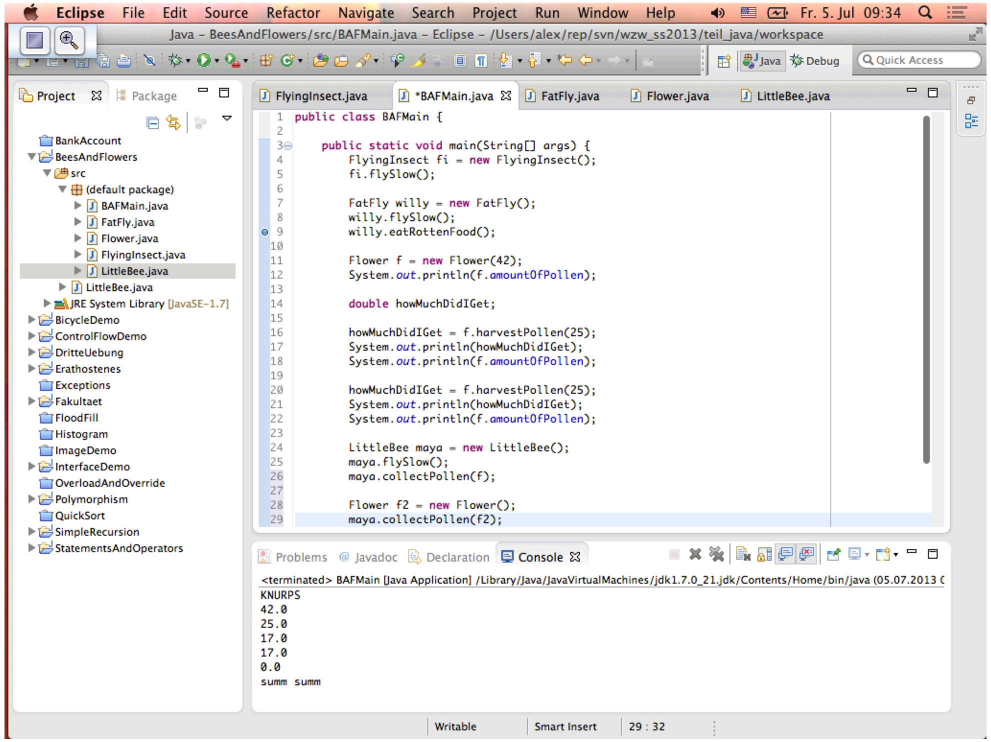
```java
public class LittleBee extends FlyingInsect {

    double amountOfCollectedPollen;

    void collectPollen(Flower flower) {
        flower.harvestPollen(10);
    }

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
KNURPS
42.0
25.0
17.0
17.0
0.0
summ summ
```



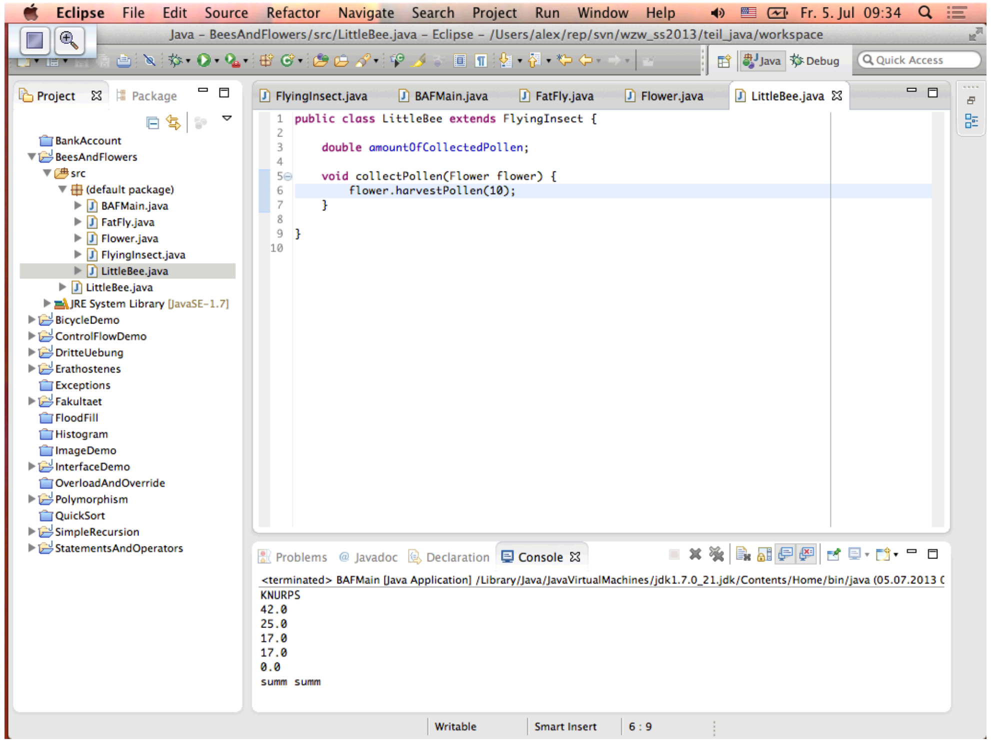
```java
public class LittleBee extends FlyingInsect {

    double amountOfCollectedPollen;

    void collectPollen(Flower flower) {
        flower.harvestPollen(10);
    }

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
KNURPS
42.0
25.0
17.0
17.0
0.0
summ summ
```



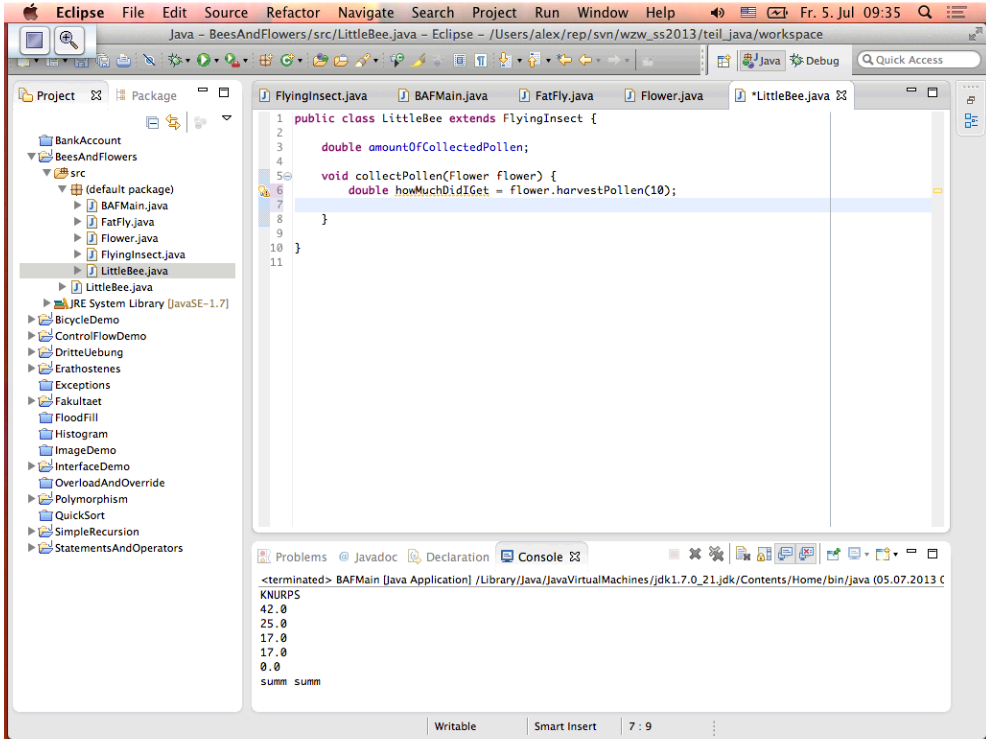
```java
public class BAFMain {

    public static void main(String[] args) {
        FlyingInsect fi = new FlyingInsect();
        fi.flySlow();

        FatFly willy = new FatFly();
        willy.flySlow();
        willy.eatRottenFood();

        Flower f = new Flower(42);
        System.out.println(f.amountOfPollen);

        double howMuchDidIGet;

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.amountOfPollen);

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.amountOfPollen);

        LittleBee maya = new LittleBee();
        maya.flySlow();
        maya.collectPollen(f);

        Flower f2 = new Flower();
        maya.collectPollen(f2);
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
KNURPS
42.0
25.0
17.0
17.0
0.0
summ summ
```



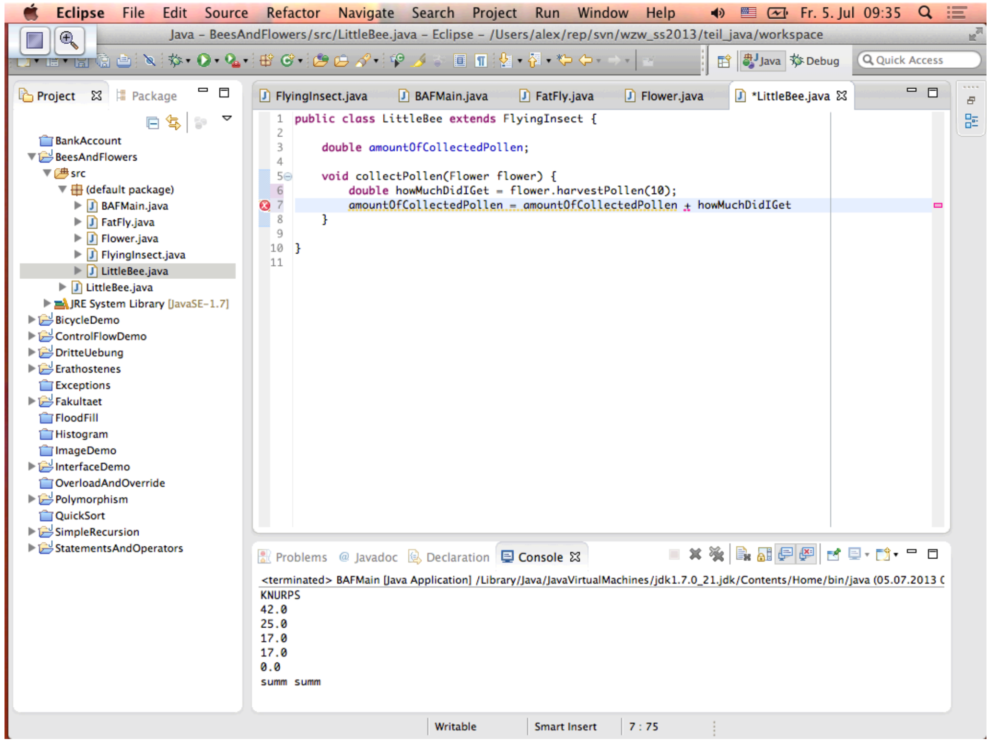
```java
public class LittleBee extends FlyingInsect {

    double amountOfCollectedPollen;

    void collectPollen(Flower flower) {
        flower.harvestPollen(10);
    }

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
KNURPS
42.0
25.0
17.0
17.0
0.0
summ summ
```



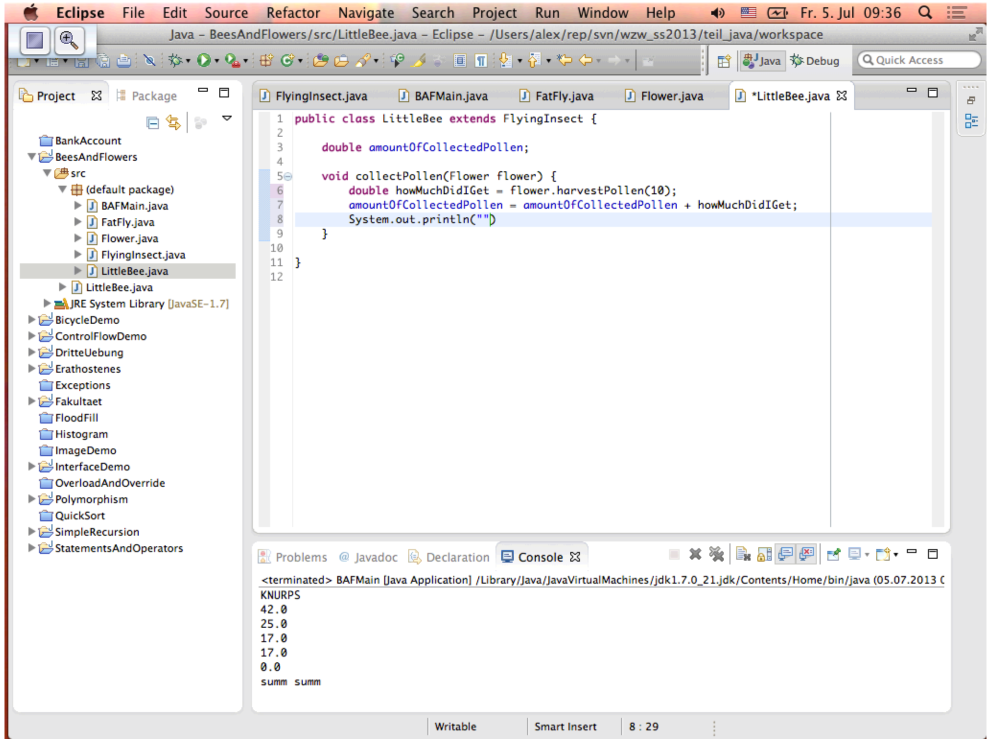
```java
public class LittleBee extends FlyingInsect {

    double amountOfCollectedPollen;

    void collectPollen(Flower flower) {
        double howMuchDidIGet = flower.harvestPollen(10);


    }

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
KNURPS
42.0
25.0
17.0
17.0
0.0
summ summ
```


Eclipse File Edit Source Refactor Navigate Search Project Run Window Help
Fr. 5. Jul 09:35
Java – BeesAndFlowers/src/LittleBee.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace
FlyingInsect.java
BAFMain.java
FatFly.java
Flower.java
*LittleBee.java
Problems
Javadoc
Declaration
Console
Writable
Smart Insert
7 : 75

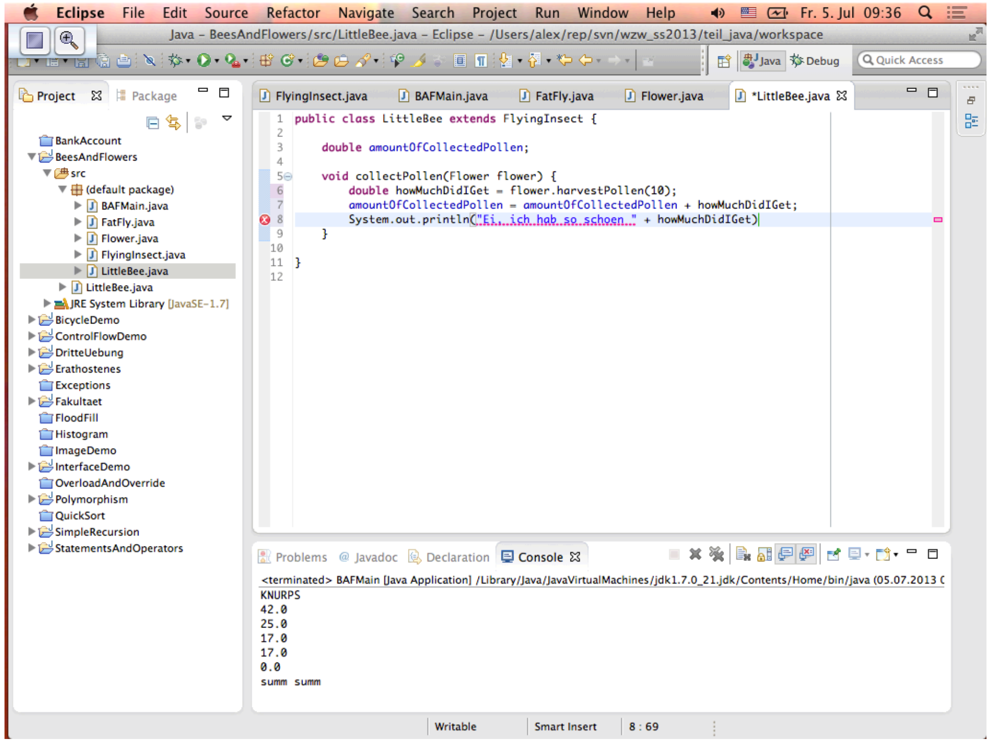
```java
public class LittleBee extends FlyingInsect {

    double amountOfCollectedPollen;

    void collectPollen(Flower flower) {
        double howMuchDidIGet = flower.harvestPollen(10);
        amountOfCollectedPollen = amountOfCollectedPollen + howMuchDidIGet
    }

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
KNURPS
42.0
25.0
17.0
17.0
0.0
summ summ
```


Eclipse File Edit Source Refactor Navigate Search Project Run Window Help
Fr. 5. Jul 09:36
Java – BeesAndFlowers/src/LittleBee.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace
FlyingInsect.java
BAFMain.java
FatFly.java
Flower.java
*LittleBee.java
Problems
Javadoc
Declaration
Console
Writable
Smart Insert
8 : 29

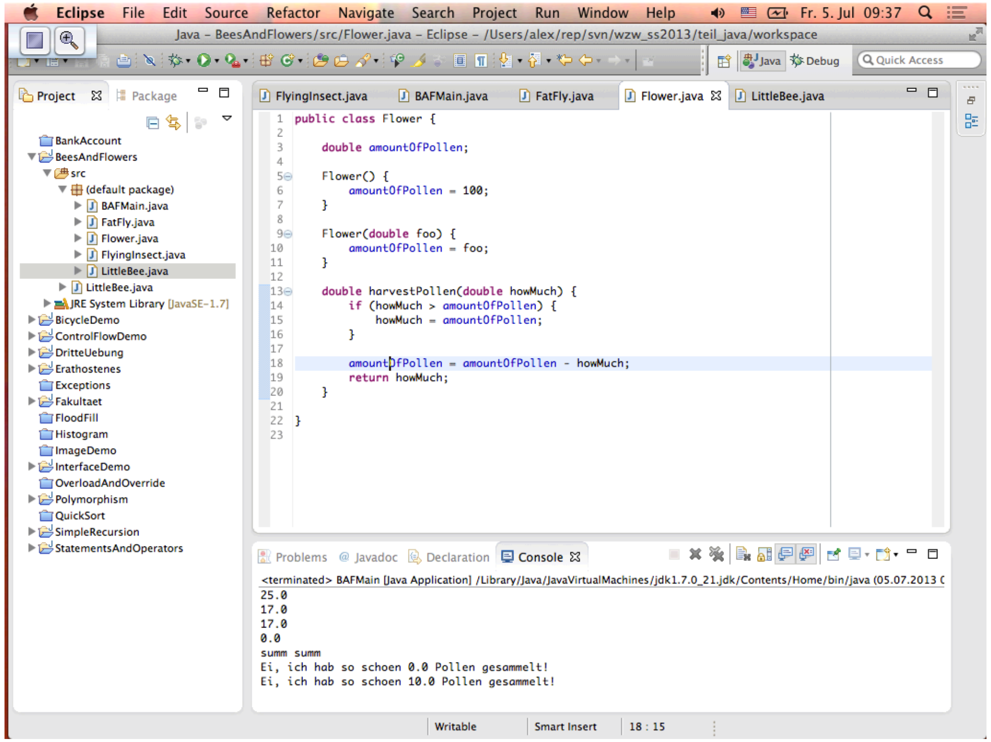
```java
public class LittleBee extends FlyingInsect {

    double amountOfCollectedPollen;

    void collectPollen(Flower flower) {
        double howMuchDidIGet = flower.harvestPollen(10);
        amountOfCollectedPollen = amountOfCollectedPollen + howMuchDidIGet;
        System.out.println("")
    }

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
KNURPS
42.0
25.0
17.0
17.0
0.0
summ summ
```


Eclipse File Edit Source Refactor Navigate Search Project Run Window Help
Fr. 5. Jul 09:36
Java – BeesAndFlowers/src/LittleBee.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace
FlyingInsect.java
BAFMain.java
FatFly.java
Flower.java
*LittleBee.java
Problems
Javadoc
Declaration
Console
Writable
Smart Insert
8 : 69

```java
public class LittleBee extends FlyingInsect {

    double amountOfCollectedPollen;

    void collectPollen(Flower flower) {
        double howMuchDidIGet = flower.harvestPollen(10);
        amountOfCollectedPollen = amountOfCollectedPollen + howMuchDidIGet;
        System.out.println("Ei, ich hab so schoen " + howMuchDidIGet)
    }

}
```

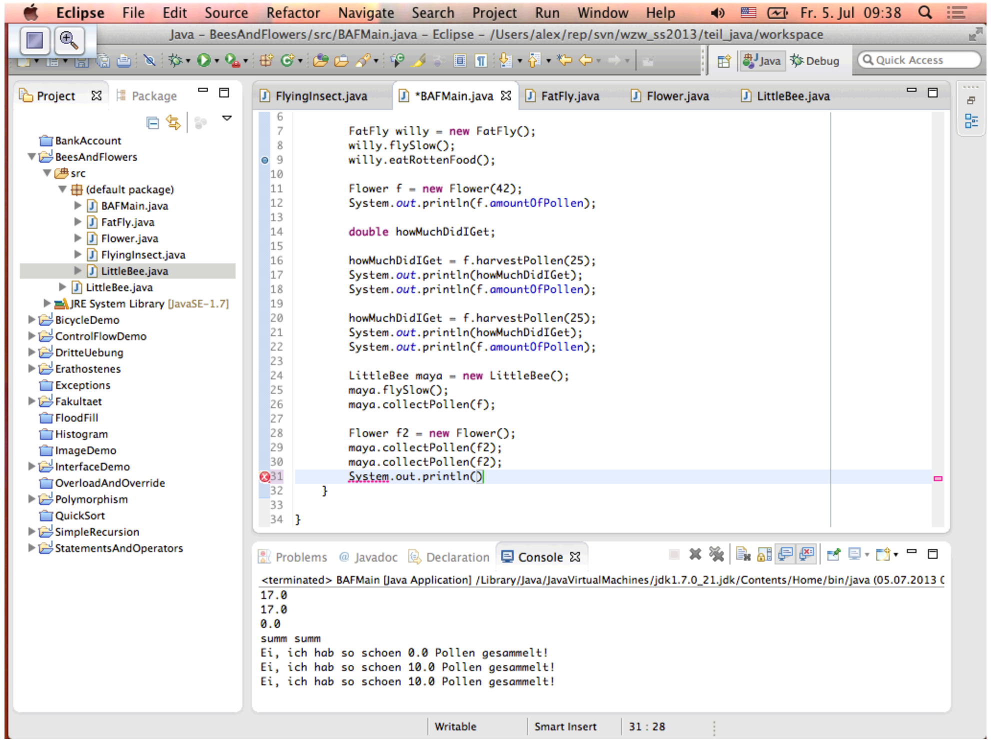
```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
KNURPS
42.0
25.0
17.0
17.0
0.0
summ summ
```



Java – BeesAndFlowers/src/Flower.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

```java
public class Flower {

    double amountOfPollen;

    Flower() {
        amountOfPollen = 100;
    }

    Flower(double foo) {
        amountOfPollen = foo;
    }

    double harvestPollen(double howMuch) {
        if (howMuch > amountOfPollen) {
            howMuch = amountOfPollen;
        }

        amountOfPollen = amountOfPollen - howMuch;
        return howMuch;
    }

}
```

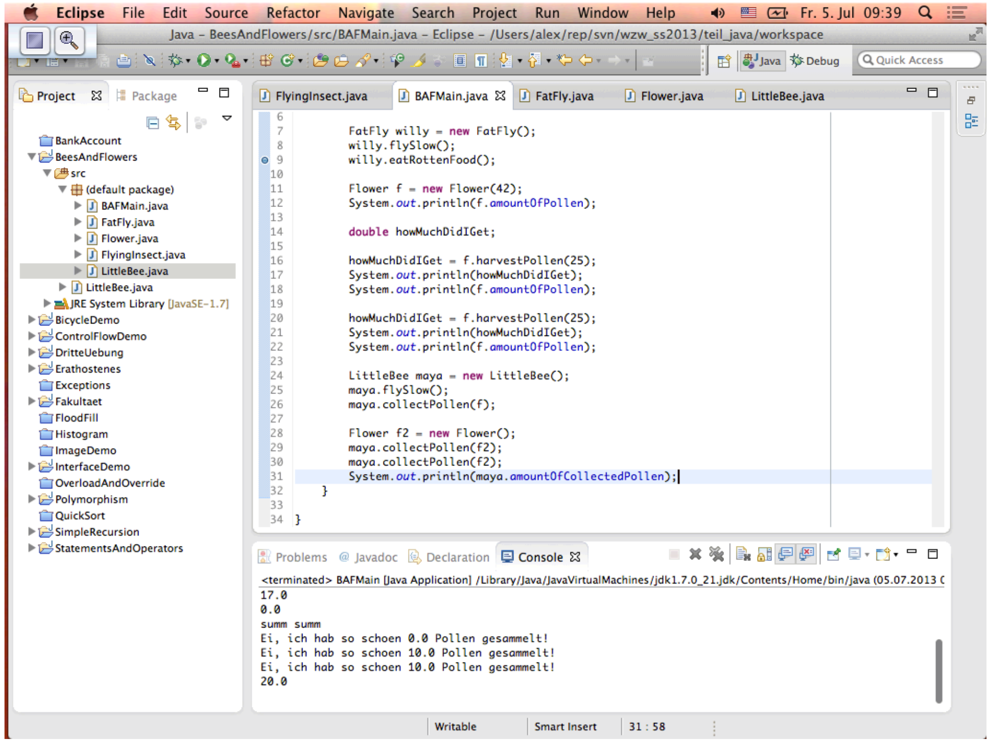
```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
25.0
17.0
17.0
0.0
summ summ
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
```


Eclipse File Edit Source Refactor Navigate Search Project Run Window Help
Fr. 5. Jul 09:38
Java Debug Quick Access
Project Package
FlyingInsect.java *BAFMain.java FatFly.java Flower.java LittleBee.java
Problems Javadoc Declaration Console
Writable Smart Insert 31 : 28

Java – BeesAndFlowers/src/BAFMain.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

```java

        FatFly willy = new FatFly();
        willy.flySlow();
        willy.eatRottenFood();

        Flower f = new Flower(42);
        System.out.println(f.amountOfPollen);

        double howMuchDidIGet;

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.amountOfPollen);

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.amountOfPollen);

        LittleBee maya = new LittleBee();
        maya.flySlow();
        maya.collectPollen(f);

        Flower f2 = new Flower();
        maya.collectPollen(f2);
        maya.collectPollen(f2);
        System.out.println()
    }

}
```

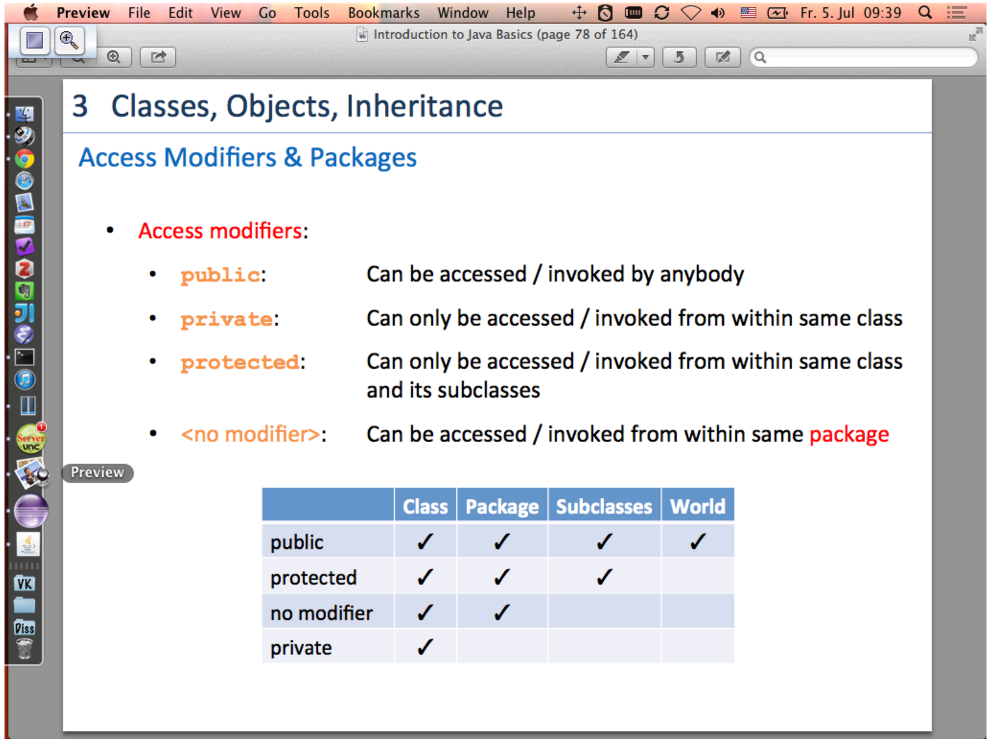
```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
17.0
17.0
0.0
summ summ
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
```


Eclipse File Edit Source Refactor Navigate Search Project Run Window Help
Fr. 5. Jul 09:39
Java Debug Quick Access
Project Package
FlyingInsect.java BAFMain.java FatFly.java Flower.java LittleBee.java
Problems Javadoc Declaration Console
Writable Smart Insert 31 : 58

Java – BeesAndFlowers/src/BAFMain.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

```java

        FatFly willy = new FatFly();
        willy.flySlow();
        willy.eatRottenFood();

        Flower f = new Flower(42);
        System.out.println(f.amountOfPollen);

        double howMuchDidIGet;

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.amountOfPollen);

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.amountOfPollen);

        LittleBee maya = new LittleBee();
        maya.flySlow();
        maya.collectPollen(f);

        Flower f2 = new Flower();
        maya.collectPollen(f2);
        maya.collectPollen(f2);
        System.out.println(maya.amountOfCollectedPollen);
    }

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
17.0
0.0
summ summ
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
```

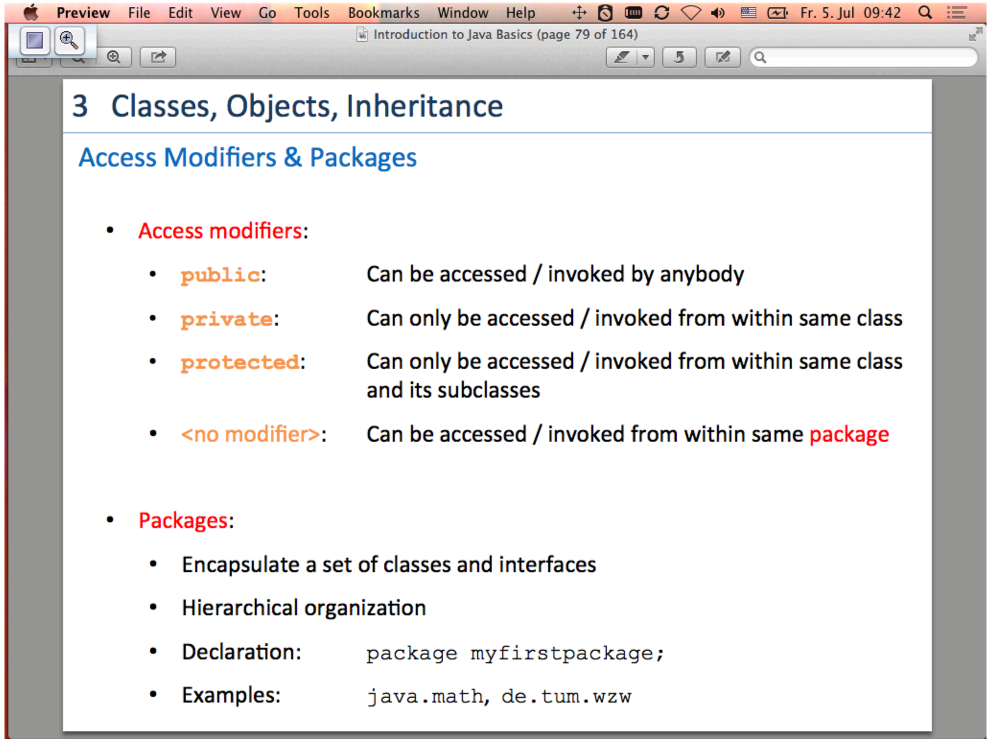

Preview File Edit View Go Tools Bookmarks Window Help
Fr. 5. Jul 09:39
Introduction to Java Basics (page 78 of 164)
Preview

3 Classes, Objects, Inheritance

Access Modifiers & Packages

- Access modifiers:
  - public: Can be accessed / invoked by anybody
  - private: Can only be accessed / invoked from within same class
  - protected: Can only be accessed / invoked from within same class and its subclasses
  - <no modifier>: Can be accessed / invoked from within same package

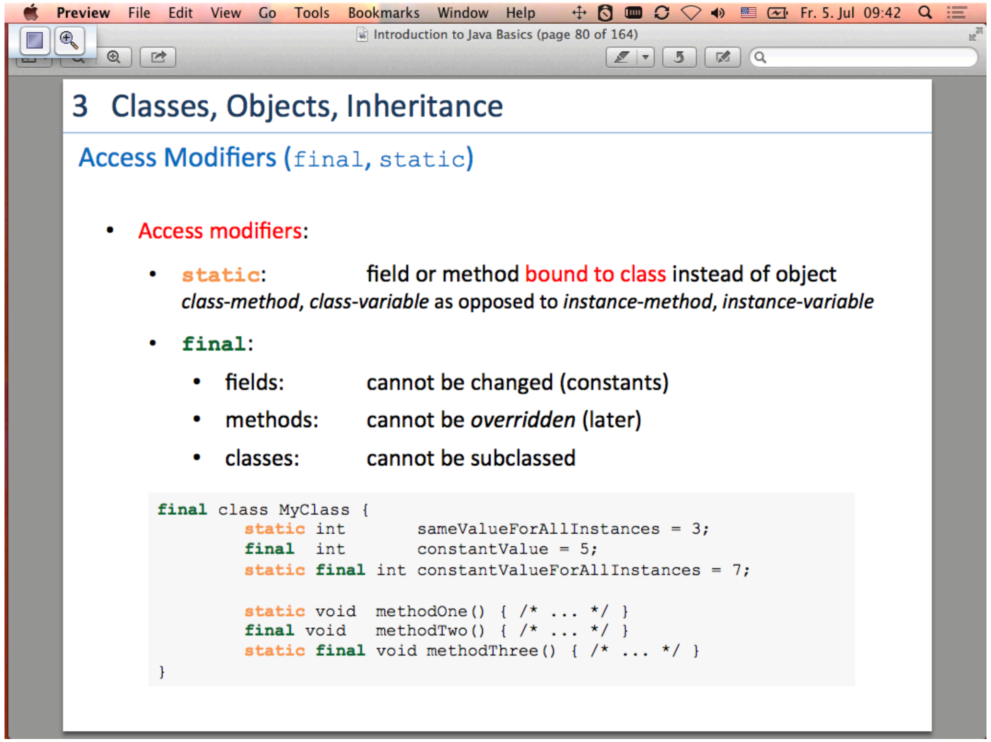
	Class	Package	Subclasses	World
public	✓	✓	✓	✓
protected	✓	✓	✓	
no modifier	✓	✓		
private	✓			


Preview File Edit View Go Tools Bookmarks Window Help
Fr. 5. Jul 09:42
Introduction to Java Basics (page 79 of 164)

3 Classes, Objects, Inheritance

Access Modifiers & Packages

- Access modifiers:
  - `public`: Can be accessed / invoked by anybody
  - `private`: Can only be accessed / invoked from within same class
  - `protected`: Can only be accessed / invoked from within same class and its subclasses
  - <no modifier>: Can be accessed / invoked from within same package
- Packages:
  - Encapsulate a set of classes and interfaces
  - Hierarchical organization
  - Declaration: `package myfirstpackage;`
  - Examples: `java.math, de.tum.wzw`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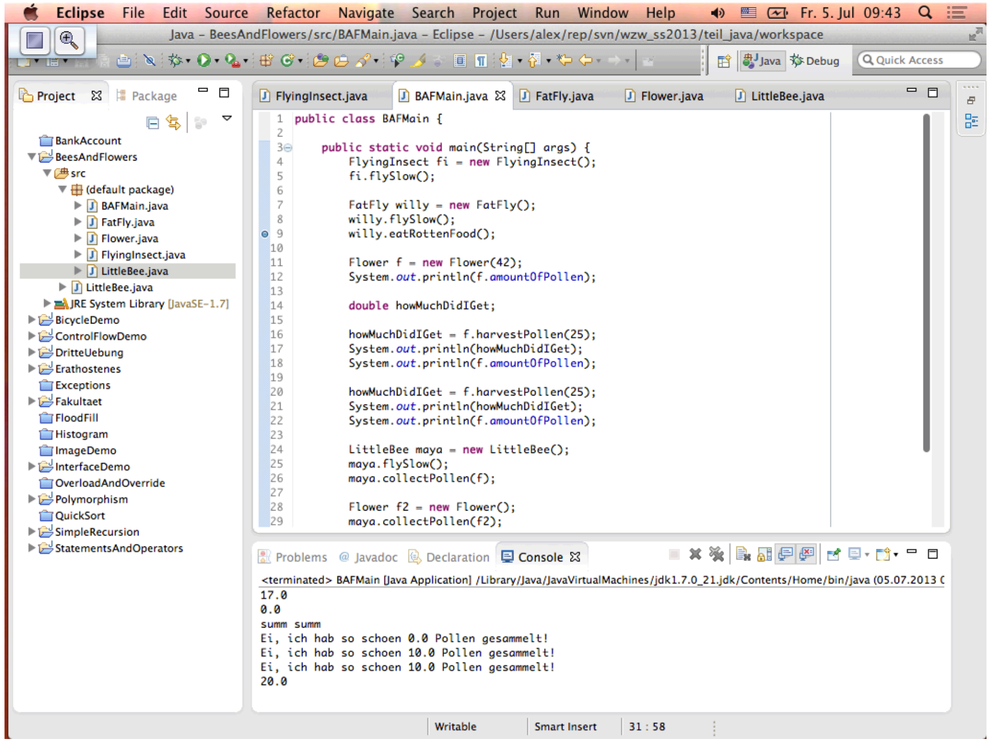
Fr. 5. Jul 09:42
Introduction to Java Basics (page 80 of 164)

3 Classes, Objects, Inheritance

Access Modifiers (`final`, `static`)

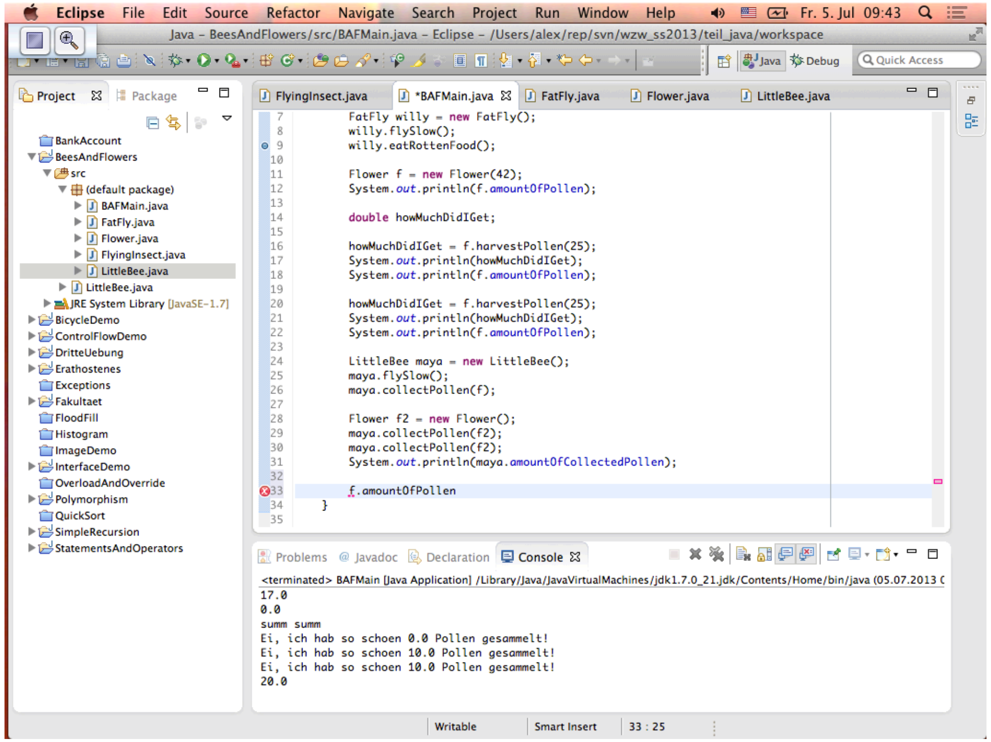
- Access modifiers:
  - `static`: field or method bound to class instead of object
    class-method, *class-variable* as opposed to *instance-method*, *instance-variable*
  - `final`:
    - fields: cannot be changed (constants)
    - methods: cannot be *overridden* (later)
    - classes: cannot be subclassed

```
final class MyClass {
        static int        sameValueForAllInstances = 3;
        final  int        constantValue  = 5;
        static final int constantValueForAllInstances = 7;

        static void  methodOne() { /* ... */ }
        final void   methodTwo() { /* ... */ }
        static final void methodThree() { /* ... */ }
}
```



```
public class BAFMain {

    public static void main(String[] args) {
        FlyingInsect fi = new FlyingInsect();
        fi.flySlow();

        FatFly willy = new FatFly();
        willy.flySlow();
        willy.eatRottenFood();

        Flower f = new Flower(42);
        System.out.println(f.amountOfPollen);

        double howMuchDidIGet;

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.amountOfPollen);

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.amountOfPollen);

        LittleBee maya = new LittleBee();
        maya.flySlow();
        maya.collectPollen(f);

        Flower f2 = new Flower();
        maya.collectPollen(f2);
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
17.0
0.0
summ summ
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
```



```
        FatFly willy = new FatFly();
        willy.flySlow();
        willy.eatRottenFood();

        Flower f = new Flower(42);
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        double howMuchDidIGet;

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.amountOfPollen);

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.amountOfPollen);

        LittleBee maya = new LittleBee();
        maya.flySlow();
        maya.collectPollen(f);

        Flower f2 = new Flower();
        maya.collectPollen(f2);
        maya.collectPollen(f2);
        System.out.println(maya.amountOfCollectedPollen);

        f.amountOfPollen
    }

```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
17.0
0.0
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20.0
```

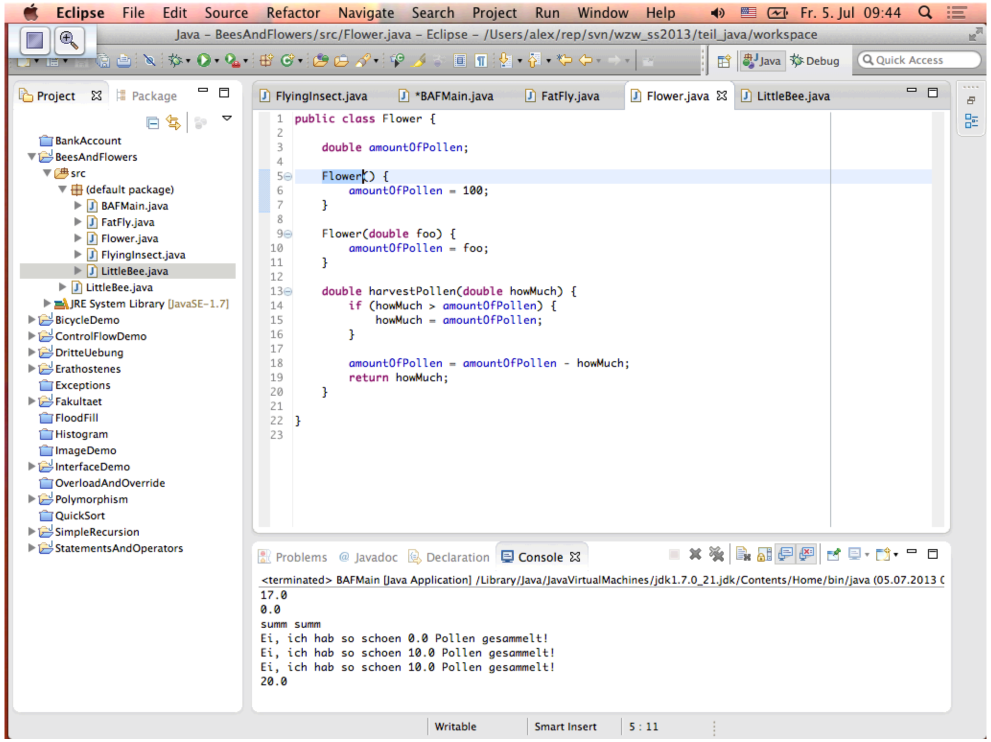

```
public class Flower {

    double amountOfPollen;

    Flower() {
        amountOfPollen = 100;
    }

    Flower(double foo) {
        amountOfPollen = foo;
    }

    double harvestPollen(double howMuch) {
        if (howMuch > amountOfPollen) {
            howMuch = amountOfPollen;
        }

        amountOfPollen = amountOfPollen - howMuch;
        return howMuch;
    }
}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013
17.0
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```

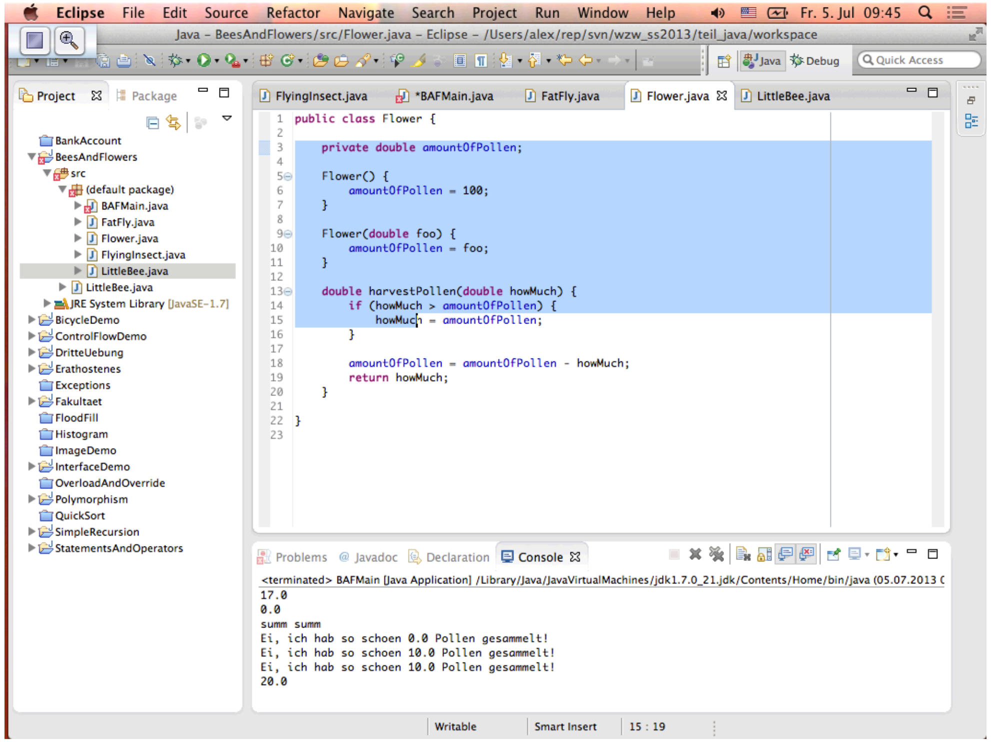

```
public class Flower {

    private double amountOfPollen;

    Flower() {
        amountOfPollen = 100;
    }

    Flower(double foo) {
        amountOfPollen = foo;
    }

    double harvestPollen(double howMuch) {
        if (howMuch > amountOfPollen) {
            howMuch = amountOfPollen;
        }

        amountOfPollen = amountOfPollen - howMuch;
        return howMuch;
    }
}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013
17.0
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```

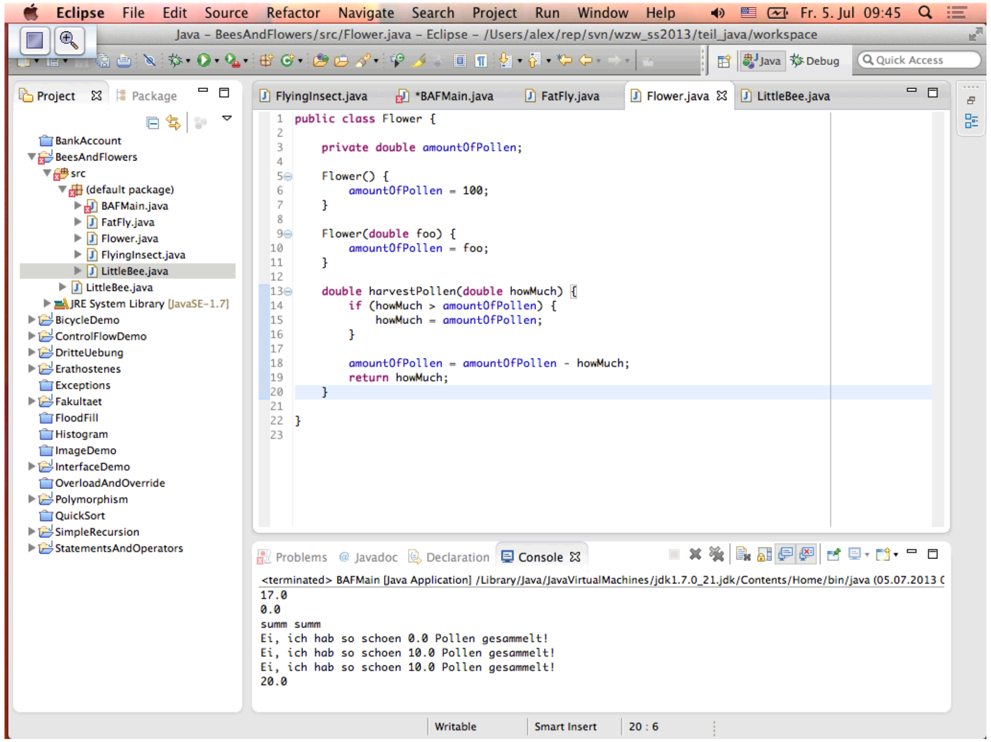

```
public class Flower {

    private double amountOfPollen;

    Flower() {
        amountOfPollen = 100;
    }

    Flower(double foo) {
        amountOfPollen = foo;
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    double harvestPollen(double howMuch) {
        if (howMuch > amountOfPollen) {
            howMuch = amountOfPollen;
        }

        amountOfPollen = amountOfPollen - howMuch;
        return howMuch;
    }
}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013
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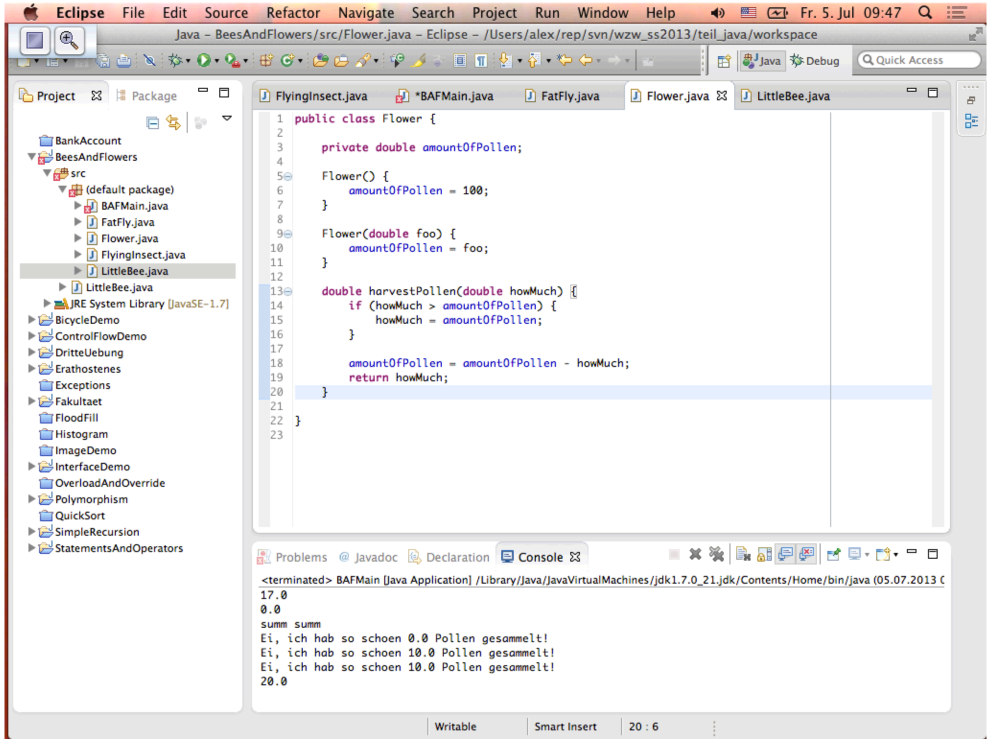

```
public class Flower {

    private double amountOfPollen;

    Flower() {
        amountOfPollen = 100;
    }

    Flower(double foo) {
        amountOfPollen = foo;
    }

    double harvestPollen(double howMuch) {
        if (howMuch > amountOfPollen) {
            howMuch = amountOfPollen;
        }

        amountOfPollen = amountOfPollen - howMuch;
        return howMuch;
    }
}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013
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20.0
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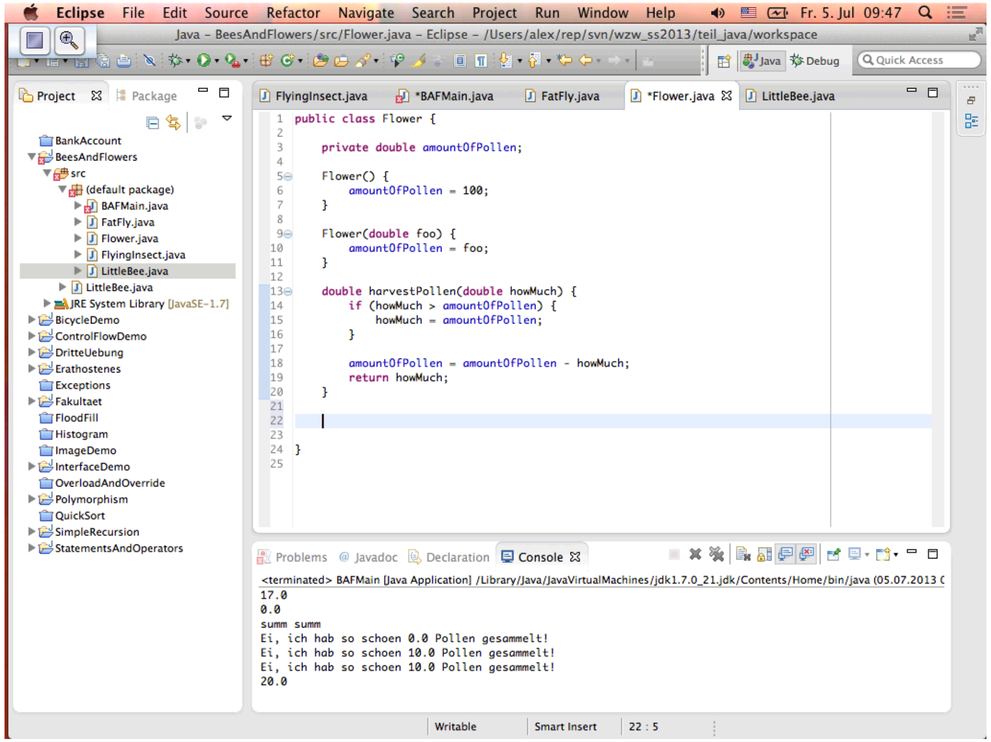

Java – BeesAndFlowers/src/Flower.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

```
public class Flower {

    private double amountOfPollen;

    Flower() {
        amountOfPollen = 100;
    }

    Flower(double foo) {
        amountOfPollen = foo;
    }

    double harvestPollen(double howMuch) {
        if (howMuch > amountOfPollen) {
            howMuch = amountOfPollen;
        }

        amountOfPollen = amountOfPollen - howMuch;
        return howMuch;
    }



}

```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
17.0
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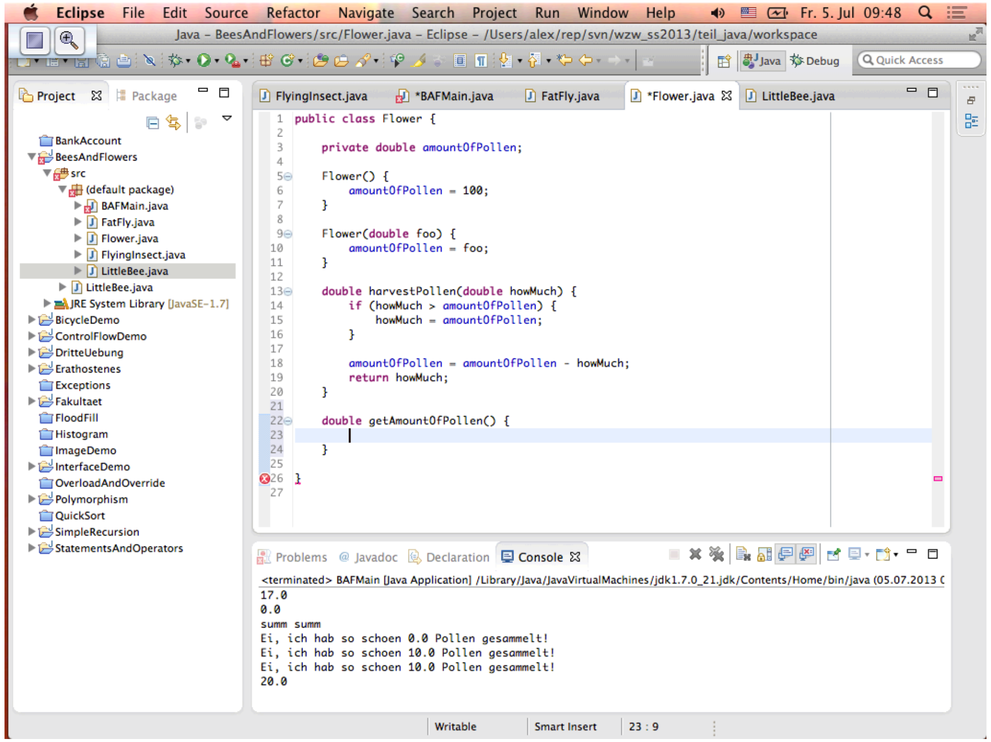

Java – BeesAndFlowers/src/Flower.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

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    Flower() {
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    }

    Flower(double foo) {
        amountOfPollen = foo;
    }

    double harvestPollen(double howMuch) {
        if (howMuch > amountOfPollen) {
            howMuch = amountOfPollen;
        }

        amountOfPollen = amountOfPollen - howMuch;
        return howMuch;
    }

    double getAmountOfPollen() {

    }

}

```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
17.0
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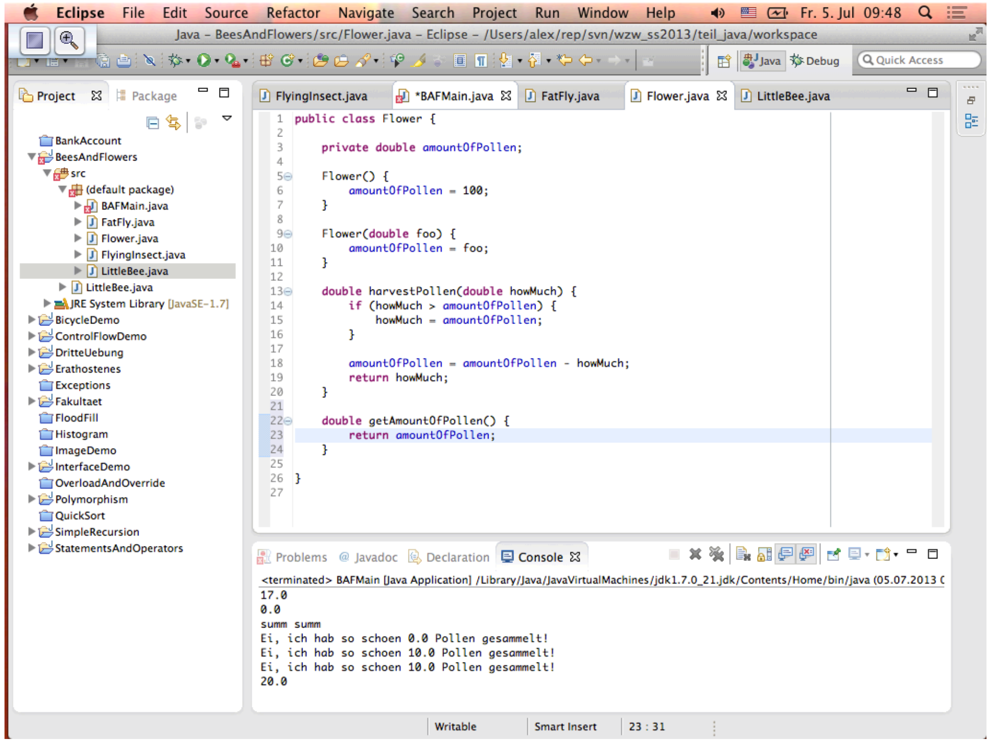

Java – BeesAndFlowers/src/Flower.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

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    double harvestPollen(double howMuch) {
        if (howMuch > amountOfPollen) {
            howMuch = amountOfPollen;
        }

        amountOfPollen = amountOfPollen - howMuch;
        return howMuch;
    }

    double getAmountOfPollen() {
        return amountOfPollen;
    }

}

```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
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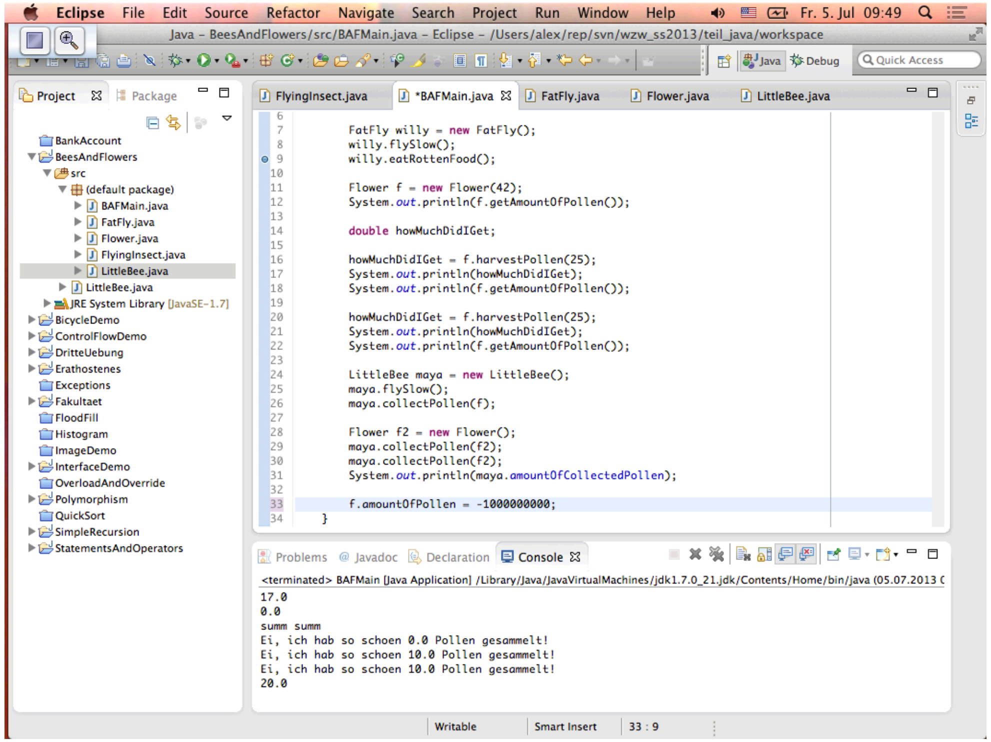

Java – BeesAndFlowers/src/BAFMain.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

```

        FatFly willy = new FatFly();
        willy.flySlow();
        willy.eatRottenFood();

        Flower f = new Flower(42);
        System.out.println(f.getAmountOfPollen());

        double howMuchDidIGet;

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        LittleBee maya = new LittleBee();
        maya.flySlow();
        maya.collectPollen(f);

        Flower f2 = new Flower();
        maya.collectPollen(f2);
        maya.collectPollen(f2);
        System.out.println(maya.amountOfCollectedPollen);

        f.amountOfPollen = -1000000000;
    }
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
17.0
0.0
summ summ
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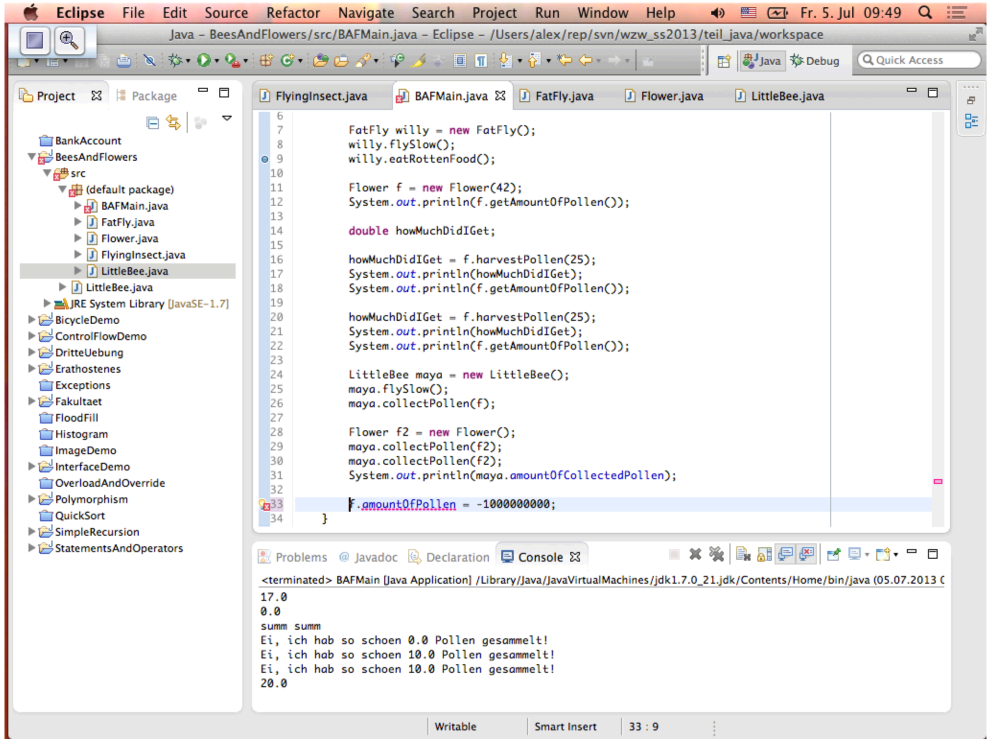
```



```
        FatFly willy = new FatFly();
        willy.flySlow();
        willy.eatRottenFood();

        Flower f = new Flower(42);
        System.out.println(f.getAmountOfPollen());

        double howMuchDidIGet;

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        LittleBee maya = new LittleBee();
        maya.flySlow();
        maya.collectPollen(f);

        Flower f2 = new Flower();
        maya.collectPollen(f2);
        maya.collectPollen(f2);
        System.out.println(maya.amountOfCollectedPollen);

        f.amountOfPollen = -1000000000;
    }
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
17.0
0.0
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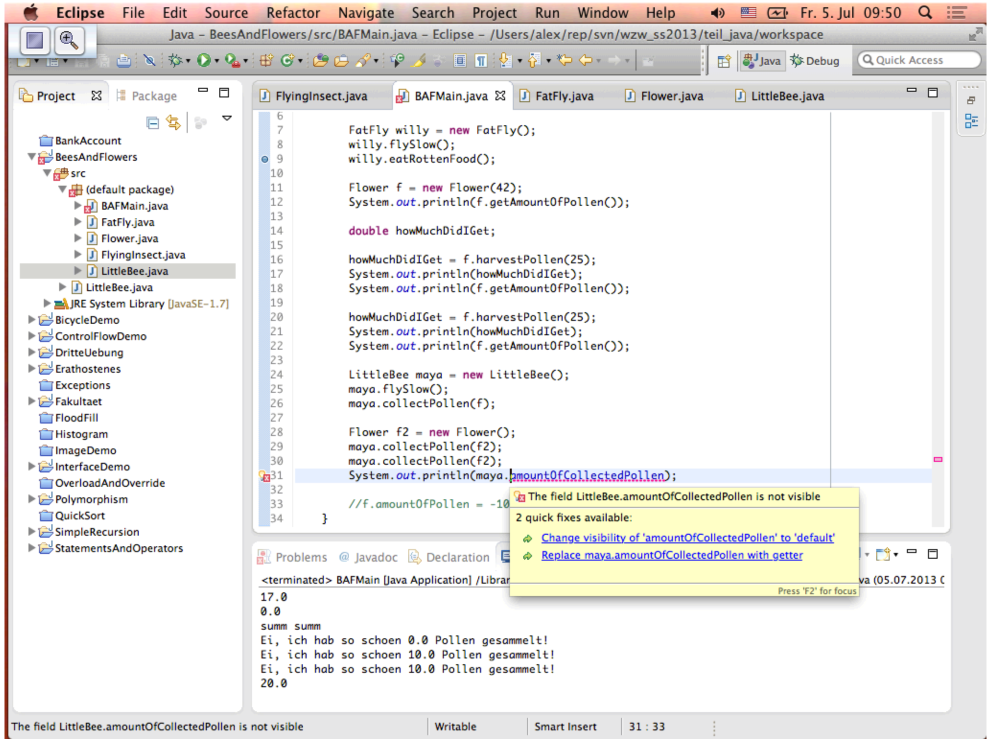
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
```



```
        FatFly willy = new FatFly();
        willy.flySlow();
        willy.eatRottenFood();

        Flower f = new Flower(42);
        System.out.println(f.getAmountOfPollen());

        double howMuchDidIGet;

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        LittleBee maya = new LittleBee();
        maya.flySlow();
        maya.collectPollen(f);

        Flower f2 = new Flower();
        maya.collectPollen(f2);
        maya.collectPollen(f2);
        System.out.println(maya.amountOfCollectedPollen);

        //f.amountOfPollen = -10
    }
```

The field LittleBee.amountOfCollectedPollen is not visible

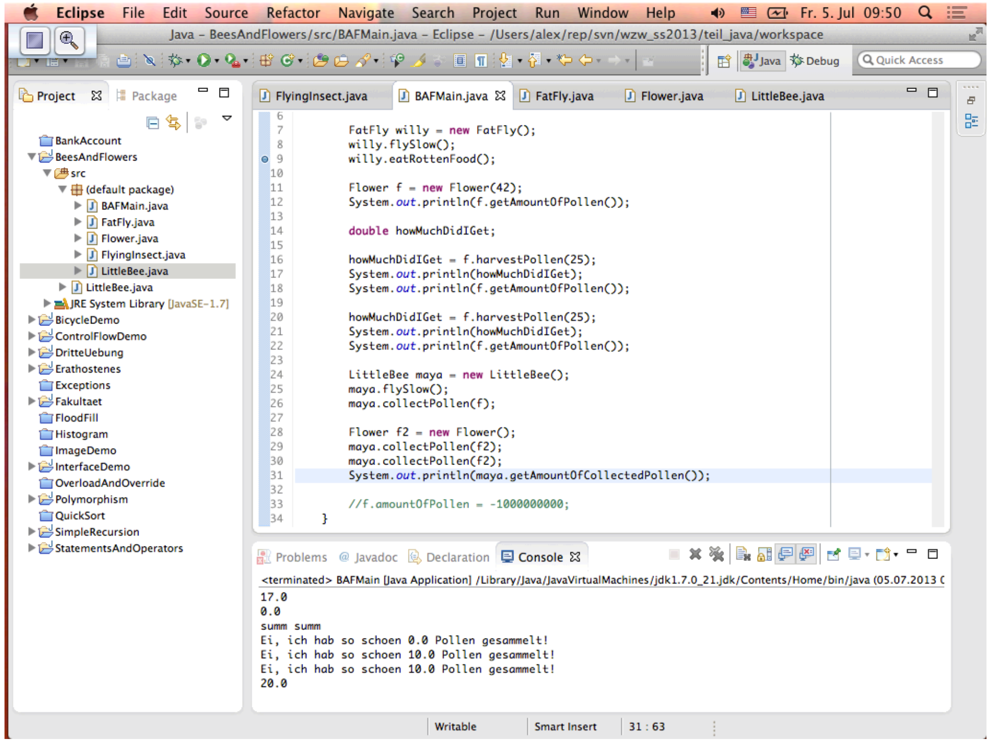
2 quick fixes available:

- Change visibility of 'amountOfCollectedPollen' to 'default'
- Replace maya.amountOfCollectedPollen with getter

Press 'F2' for focus

```
<terminated> BAFMain [Java Application] /Librar                                  va (05.07.2013 (
17.0
0.0
summ summ
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
```

The field LittleBee.amountOfCollectedPollen is not visible



```
        FatFly willy = new FatFly();
        willy.flySlow();
        willy.eatRottenFood();

        Flower f = new Flower(42);
        System.out.println(f.getAmountOfPollen());

        double howMuchDidIGet;

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
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        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        LittleBee maya = new LittleBee();
        maya.flySlow();
        maya.collectPollen(f);

        Flower f2 = new Flower();
        maya.collectPollen(f2);
        maya.collectPollen(f2);
        System.out.println(maya.getAmountOfCollectedPollen());

        //f.amountOfPollen = -1000000000;
    }
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
17.0
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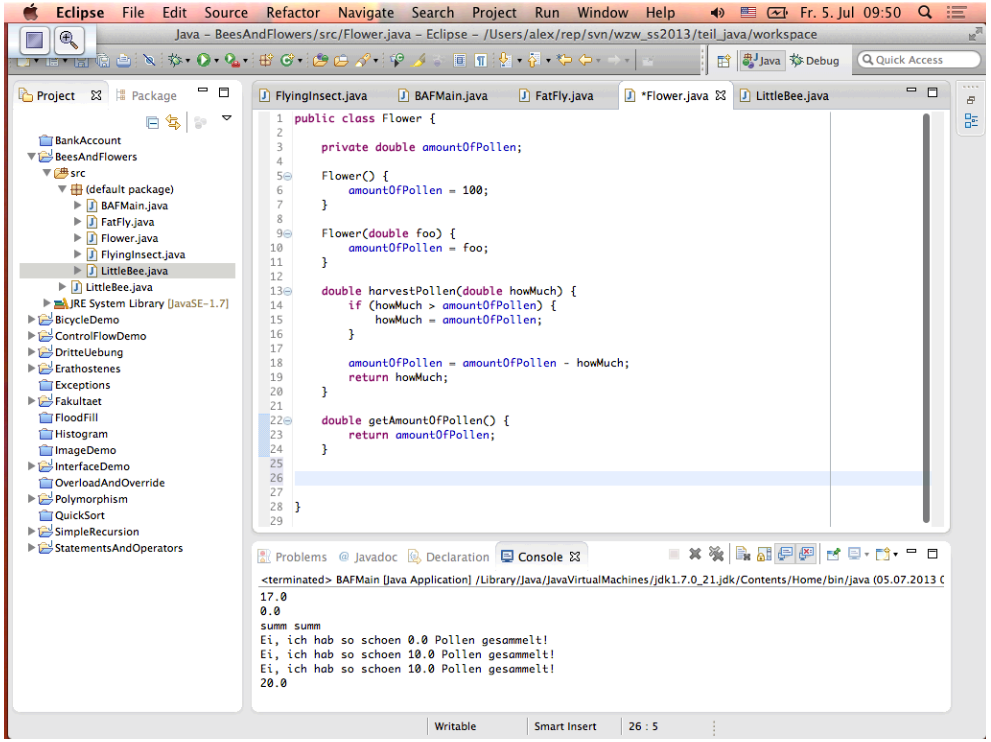
```



```
public class Flower {

    private double amountOfPollen;

    Flower() {
        amountOfPollen = 100;
    }

    Flower(double foo) {
        amountOfPollen = foo;
    }

    double harvestPollen(double howMuch) {
        if (howMuch > amountOfPollen) {
            howMuch = amountOfPollen;
        }

        amountOfPollen = amountOfPollen - howMuch;
        return howMuch;
    }

    double getAmountOfPollen() {
        return amountOfPollen;
    }



}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
17.0
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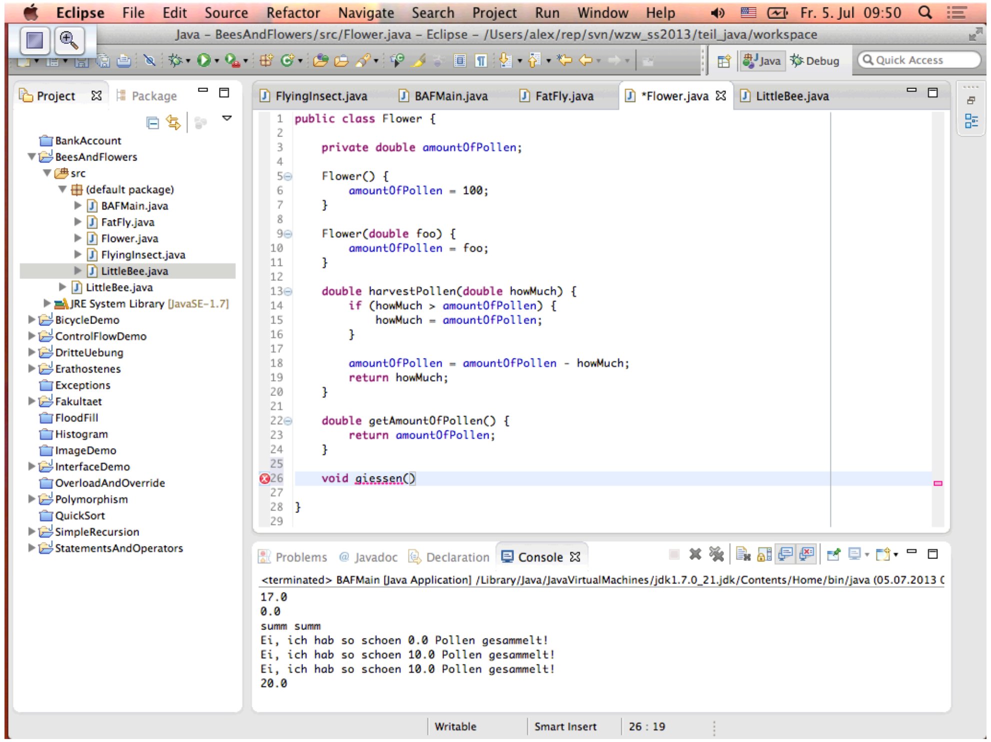
Eclipse File Edit Source Refactor Navigate Search Project Run Window Help
Fr. 5. Jul 09:50
Java - BeesAndFlowers/src/Flower.java - Eclipse - /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace
FlyingInsect.java
BAFMain.java
FatFly.java
*Flower.java
LittleBee.java
Writable
Smart Insert
26 : 19

```java
public class Flower {

    private double amountOfPollen;

    Flower() {
        amountOfPollen = 100;
    }

    Flower(double foo) {
        amountOfPollen = foo;
    }

    double harvestPollen(double howMuch) {
        if (howMuch > amountOfPollen) {
            howMuch = amountOfPollen;
        }

        amountOfPollen = amountOfPollen - howMuch;
        return howMuch;
    }

    double getAmountOfPollen() {
        return amountOfPollen;
    }

    void giessen()

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
17.0
0.0
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Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
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```
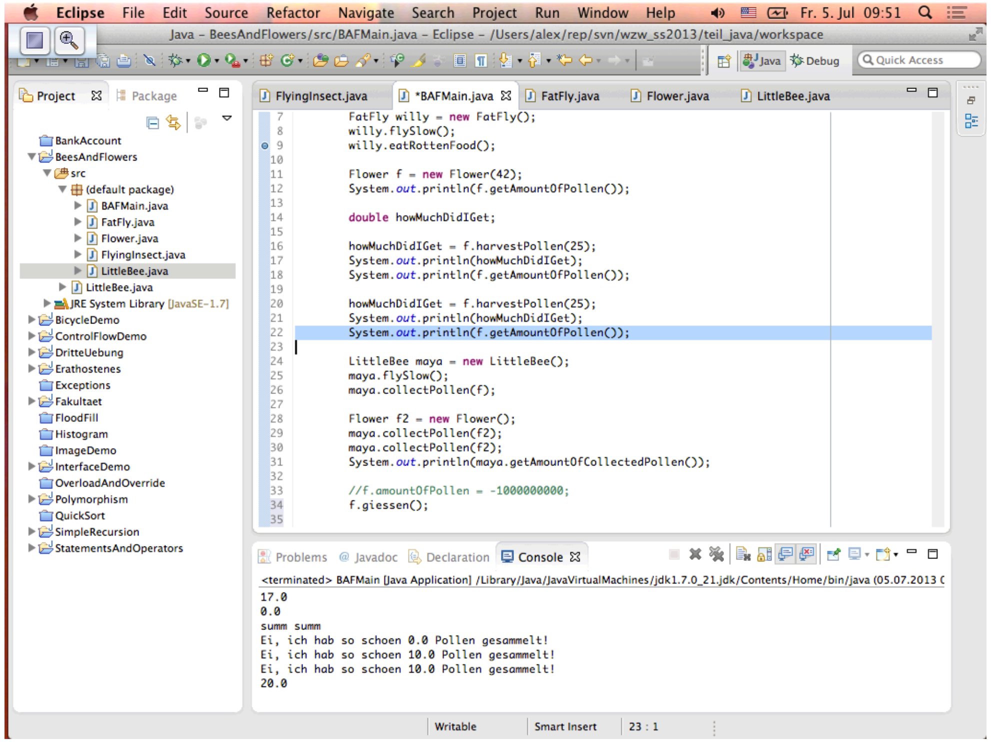
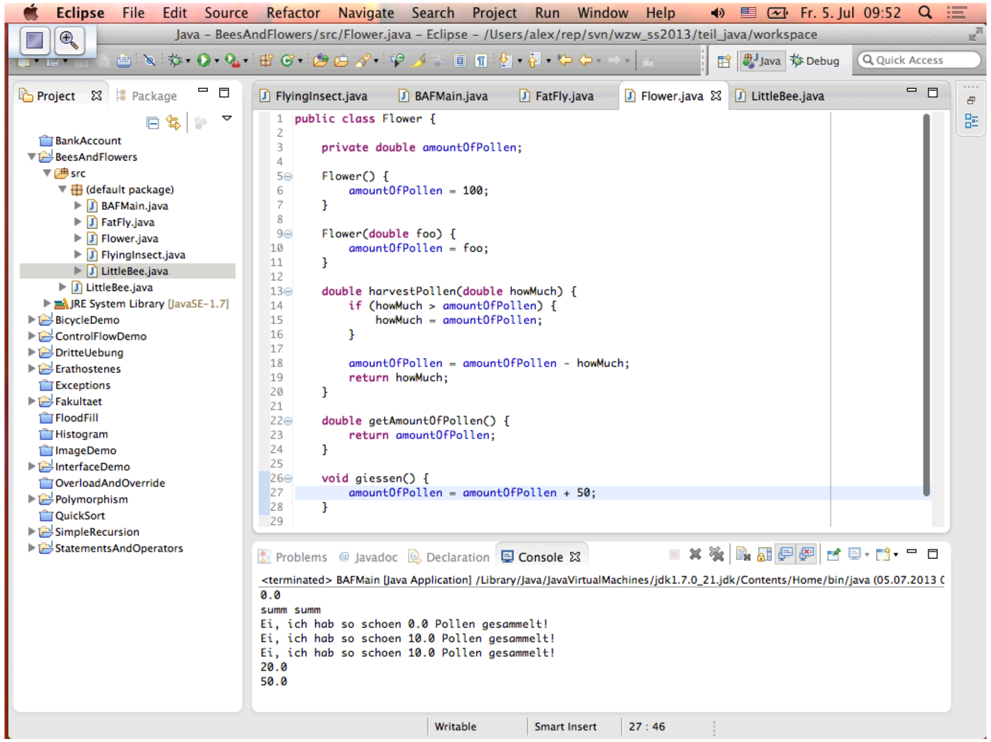


Eclipse File Edit Source Refactor Navigate Search Project Run Window Help
Fr. 5. Jul 09:51
Java - BeesAndFlowers/src/BAFMain.java - Eclipse - /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace
FlyingInsect.java
*BAFMain.java
FatFly.java
Flower.java
LittleBee.java
Writable
Smart Insert
23 : 1

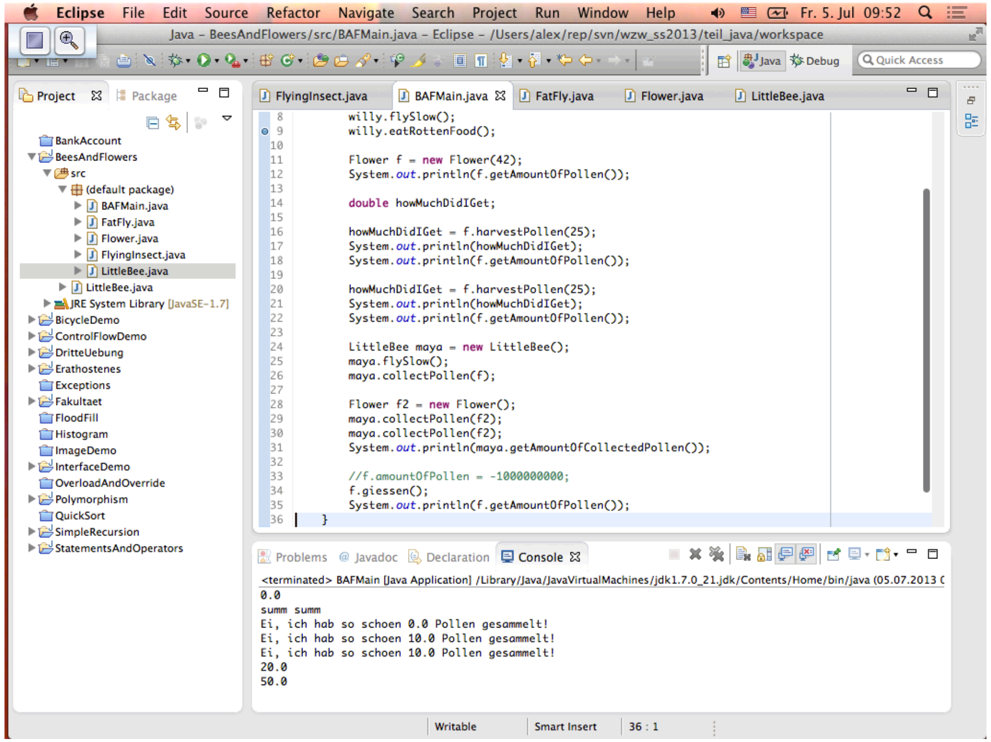
```java
        FatFly willy = new FatFly();
        willy.flySlow();
        willy.eatRottenFood();

        Flower f = new Flower(42);
        System.out.println(f.getAmountOfPollen());

        double howMuchDidIGet;

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        LittleBee maya = new LittleBee();
        maya.flySlow();
        maya.collectPollen(f);

        Flower f2 = new Flower();
        maya.collectPollen(f2);
        maya.collectPollen(f2);
        System.out.println(maya.getAmountOfCollectedPollen());

        //f.amountOfPollen = -1000000000;
        f.giessen();

```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
17.0
0.0
summ summ
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
```


Eclipse File Edit Source Refactor Navigate Search Project Run Window Help
Fr. 5. Jul 09:52
Java - BeesAndFlowers/src/Flower.java - Eclipse - /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace
FlyingInsect.java
BAFMain.java
FatFly.java
Flower.java
LittleBee.java
Writable
Smart Insert
27 : 46

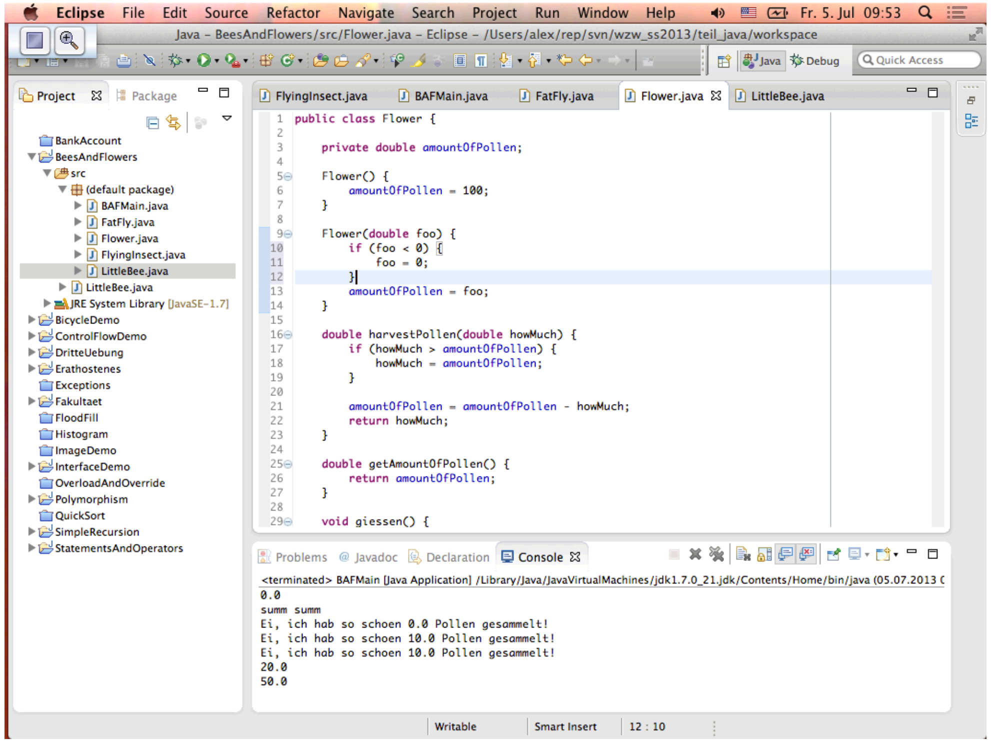
```java
public class Flower {

    private double amountOfPollen;

    Flower() {
        amountOfPollen = 100;
    }

    Flower(double foo) {
        amountOfPollen = foo;
    }

    double harvestPollen(double howMuch) {
        if (howMuch > amountOfPollen) {
            howMuch = amountOfPollen;
        }

        amountOfPollen = amountOfPollen - howMuch;
        return howMuch;
    }

    double getAmountOfPollen() {
        return amountOfPollen;
    }

    void giessen() {
        amountOfPollen = amountOfPollen + 50;
    }

```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
0.0
summ summ
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
```


Eclipse File Edit Source Refactor Navigate Search Project Run Window Help
Fr. 5. Jul 09:52
Java - BeesAndFlowers/src/BAFMain.java - Eclipse - /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace
FlyingInsect.java
BAFMain.java
FatFly.java
Flower.java
LittleBee.java
Writable
Smart Insert
36 : 1

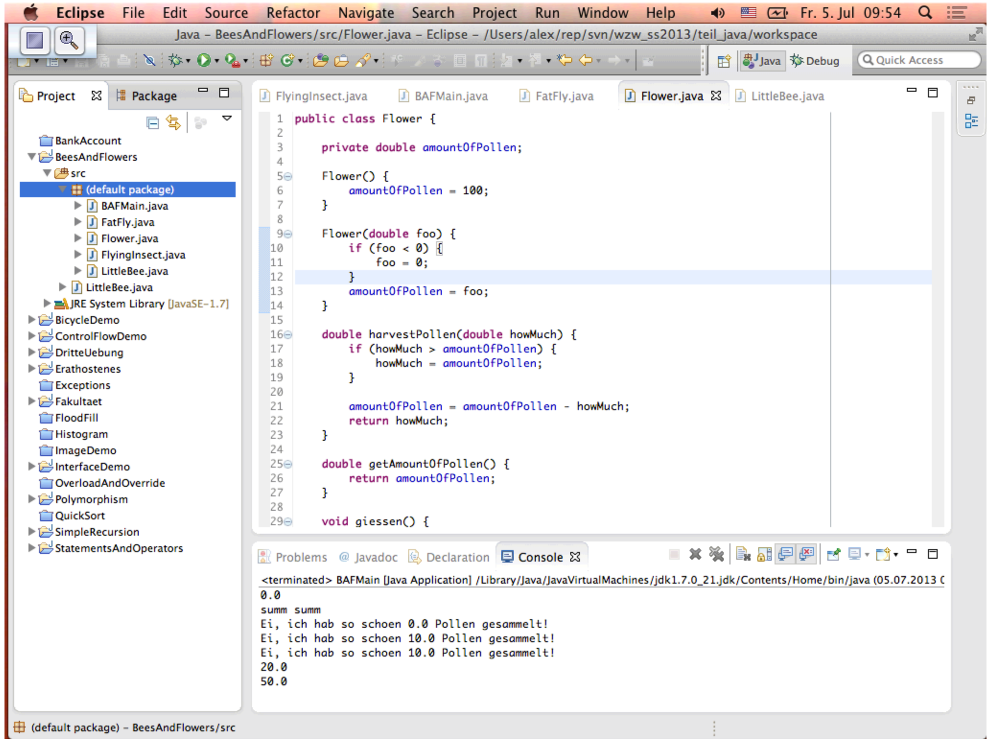
```java
        willy.flySlow();
        willy.eatRottenFood();

        Flower f = new Flower(42);
        System.out.println(f.getAmountOfPollen());

        double howMuchDidIGet;

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        LittleBee maya = new LittleBee();
        maya.flySlow();
        maya.collectPollen(f);

        Flower f2 = new Flower();
        maya.collectPollen(f2);
        maya.collectPollen(f2);
        System.out.println(maya.getAmountOfCollectedPollen());

        //f.amountOfPollen = -1000000000;
        f.giessen();
        System.out.println(f.getAmountOfPollen());
    }
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
0.0
summ summ
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
```



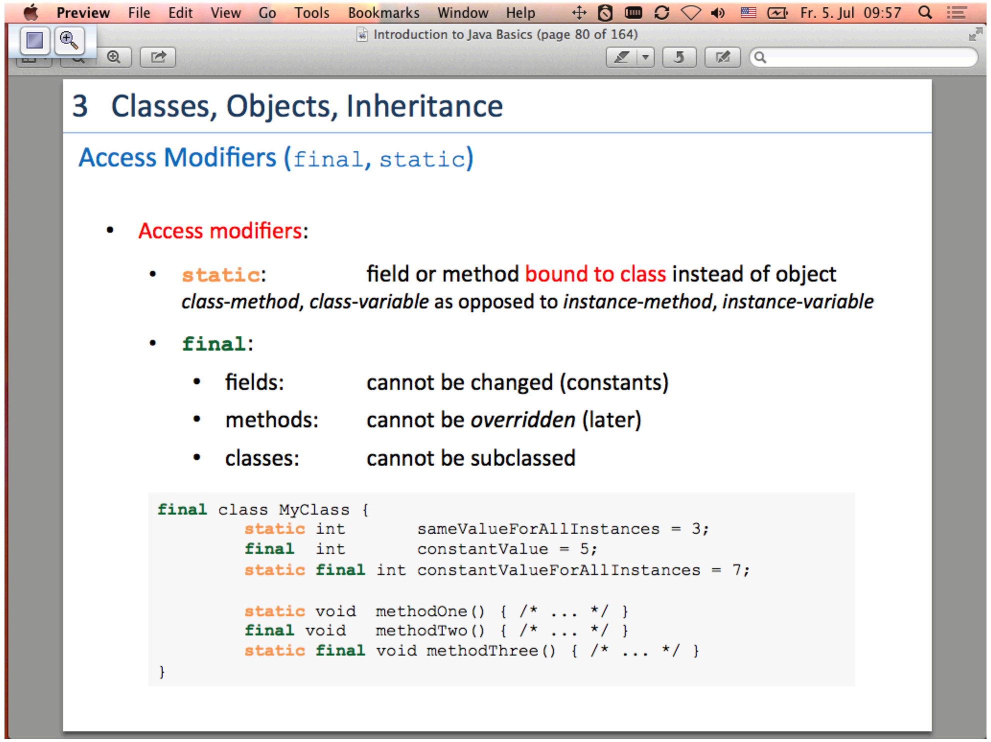
```
public class Flower {

    private double amountOfPollen;

    Flower() {
        amountOfPollen = 100;
    }

    Flower(double foo) {
        if (foo < 0) {
            foo = 0;
        }
        amountOfPollen = foo;
    }

    double harvestPollen(double howMuch) {
        if (howMuch > amountOfPollen) {
            howMuch = amountOfPollen;
        }

        amountOfPollen = amountOfPollen - howMuch;
        return howMuch;
    }

    double getAmountOfPollen() {
        return amountOfPollen;
    }

    void giessen() {
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
0.0
summ summ
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
```



```
public class Flower {

    private double amountOfPollen;

    Flower() {
        amountOfPollen = 100;
    }

    Flower(double foo) {
        if (foo < 0) {
            foo = 0;
        }
        amountOfPollen = foo;
    }

    double harvestPollen(double howMuch) {
        if (howMuch > amountOfPollen) {
            howMuch = amountOfPollen;
        }

        amountOfPollen = amountOfPollen - howMuch;
        return howMuch;
    }

    double getAmountOfPollen() {
        return amountOfPollen;
    }

    void giessen() {
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
0.0
summ summ
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
```

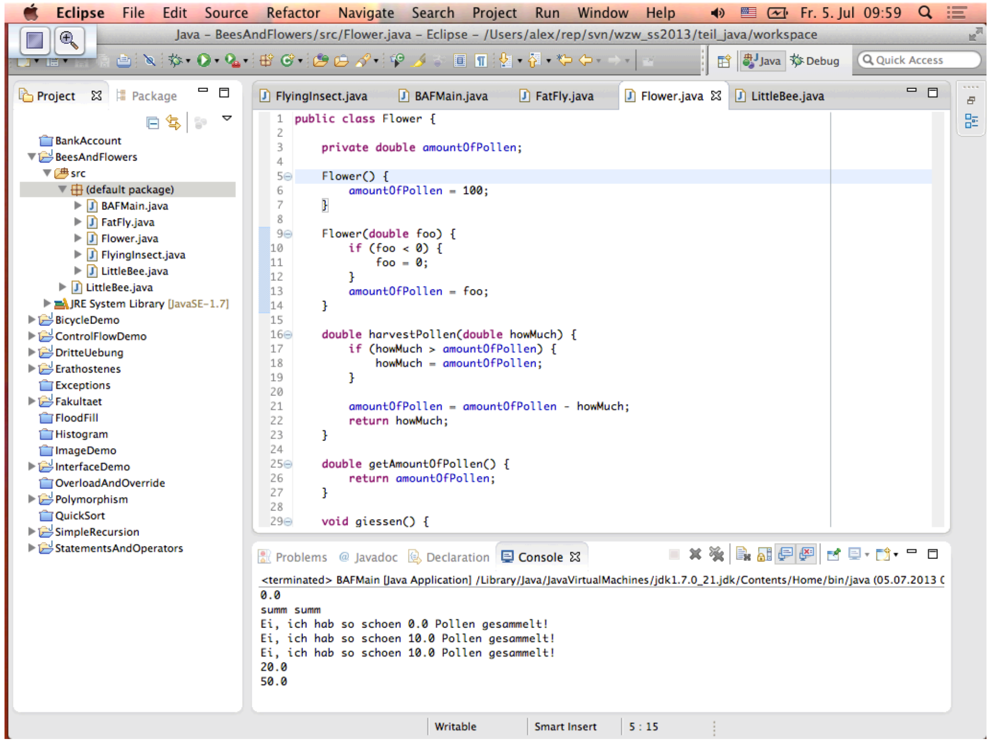

Preview File Edit View Go Tools Bookmarks Window Help
Fr. 5. Jul 09:57
Introduction to Java Basics (page 80 of 164)

3 Classes, Objects, Inheritance

Access Modifiers (final, static)

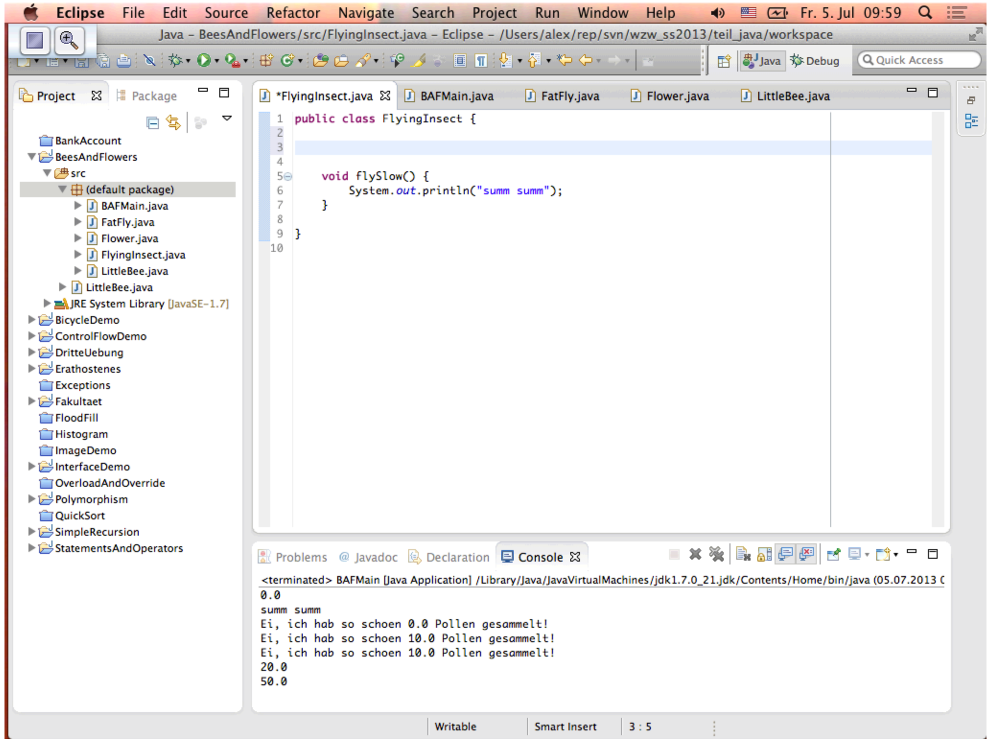
- Access modifiers:
  - static: field or method bound to class instead of object
    class-method, *class-variable* as opposed to *instance-method*, *instance-variable*
  - final:
    - fields: cannot be changed (constants)
    - methods: cannot be *overridden* (later)
    - classes: cannot be subclassed

```
final class MyClass {
    static int        sameValueForAllInstances = 3;
    final  int        constantValue = 5;
    static final int constantValueForAllInstances = 7;

    static void    methodOne() { /* ... */ }
    final  void    methodTwo() { /* ... */ }
    static final void methodThree() { /* ... */ }
}
```



```
public class Flower {

    private double amountOfPollen;

    Flower() {
        amountOfPollen = 100;
    }

    Flower(double foo) {
        if (foo < 0) {
            foo = 0;
        }
        amountOfPollen = foo;
    }

    double harvestPollen(double howMuch) {
        if (howMuch > amountOfPollen) {
            howMuch = amountOfPollen;
        }

        amountOfPollen = amountOfPollen - howMuch;
        return howMuch;
    }

    double getAmountOfPollen() {
        return amountOfPollen;
    }

    void giessen() {
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
0.0
summ summ
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
```

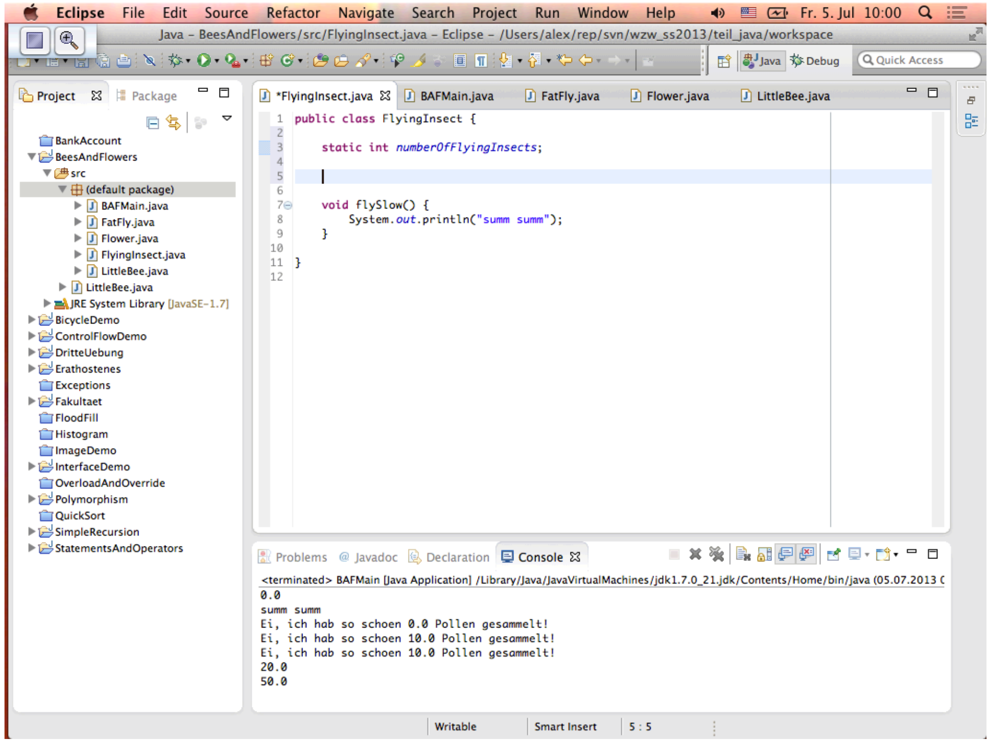


Java – BeesAndFlowers/src/FlyingInsect.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

```
public class FlyingInsect {



    void flySlow() {
        System.out.println("summ summ");
    }

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
0.0
summ summ
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
```

Writable | Smart Insert | 3 : 5

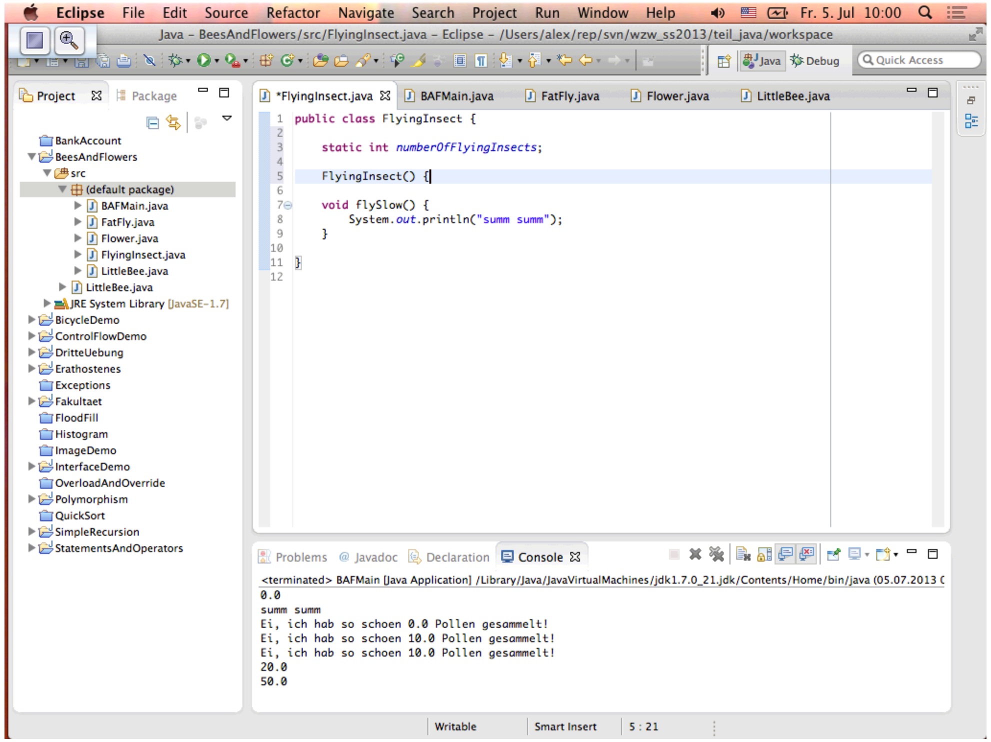


Java – BeesAndFlowers/src/FlyingInsect.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

```
public class FlyingInsect {

    static int numberOfFlyingInsects;



    void flySlow() {
        System.out.println("summ summ");
    }

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
0.0
summ summ
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
```

Writable | Smart Insert | 5 : 5

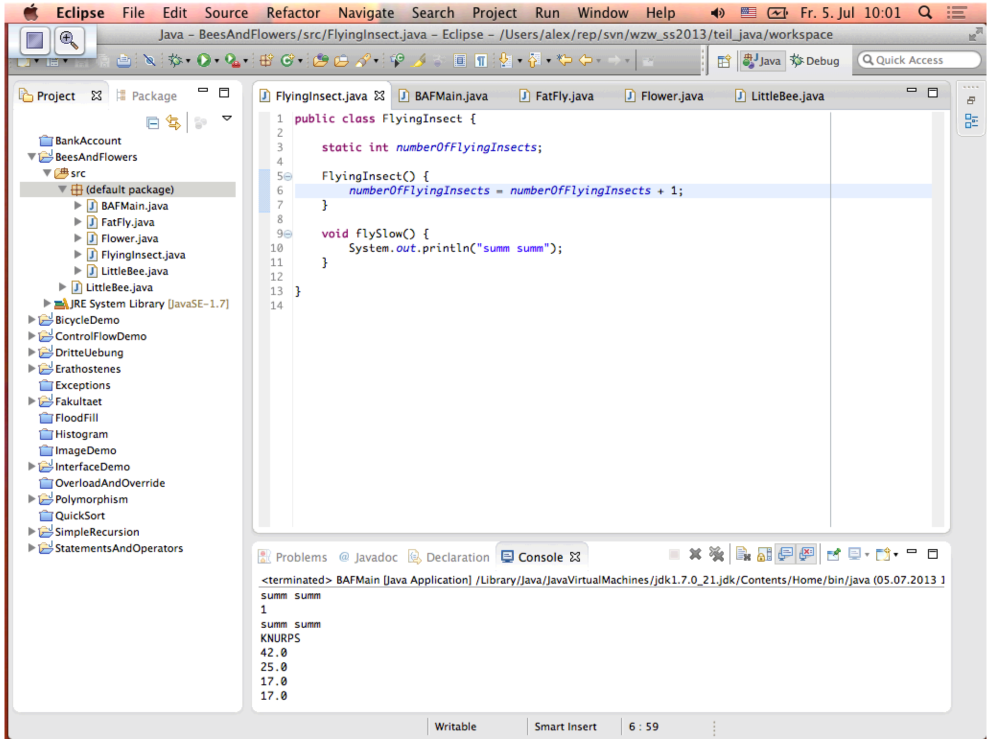


Java – BeesAndFlowers/src/FlyingInsect.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

```
public class FlyingInsect {

    static int numberOfFlyingInsects;

    FlyingInsect() {}

    void flySlow() {
        System.out.println("summ summ");
    }

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 (
0.0
summ summ
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
```

Writable | Smart Insert | 5 : 21

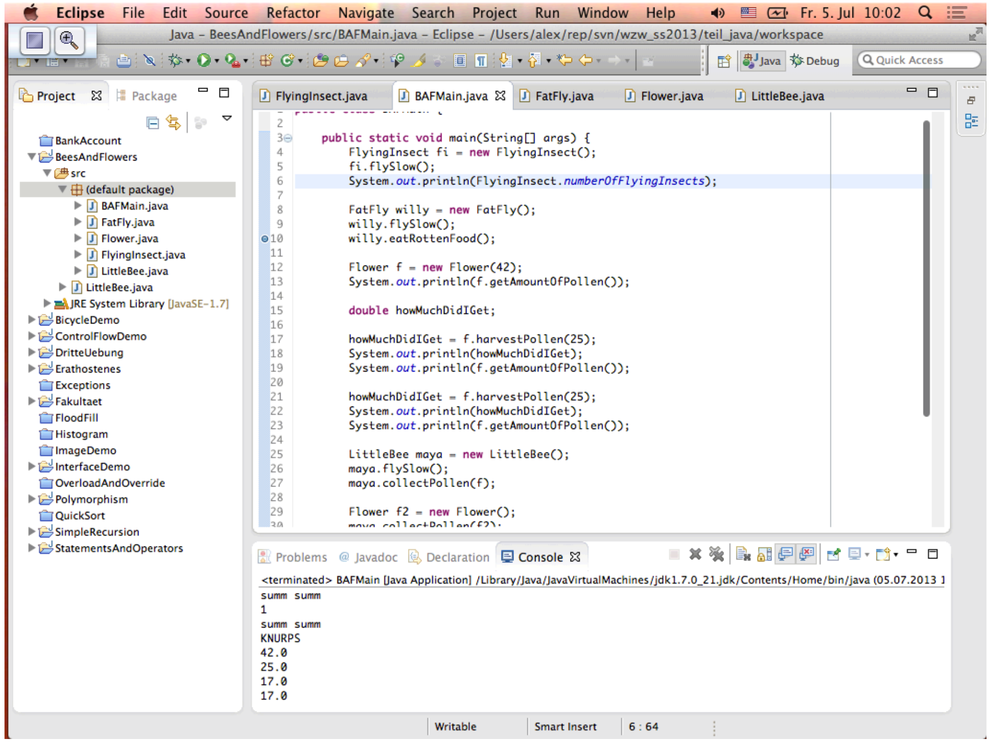


Java – BeesAndFlowers/src/FlyingInsect.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

```
public class FlyingInsect {

    static int numberOfFlyingInsects;

    FlyingInsect() {
        numberOfFlyingInsects = numberOfFlyingInsects + 1;
    }

    void flySlow() {
        System.out.println("summ summ");
    }

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
summ summ
1
summ summ
KNURPS
42.0
25.0
17.0
17.0
```

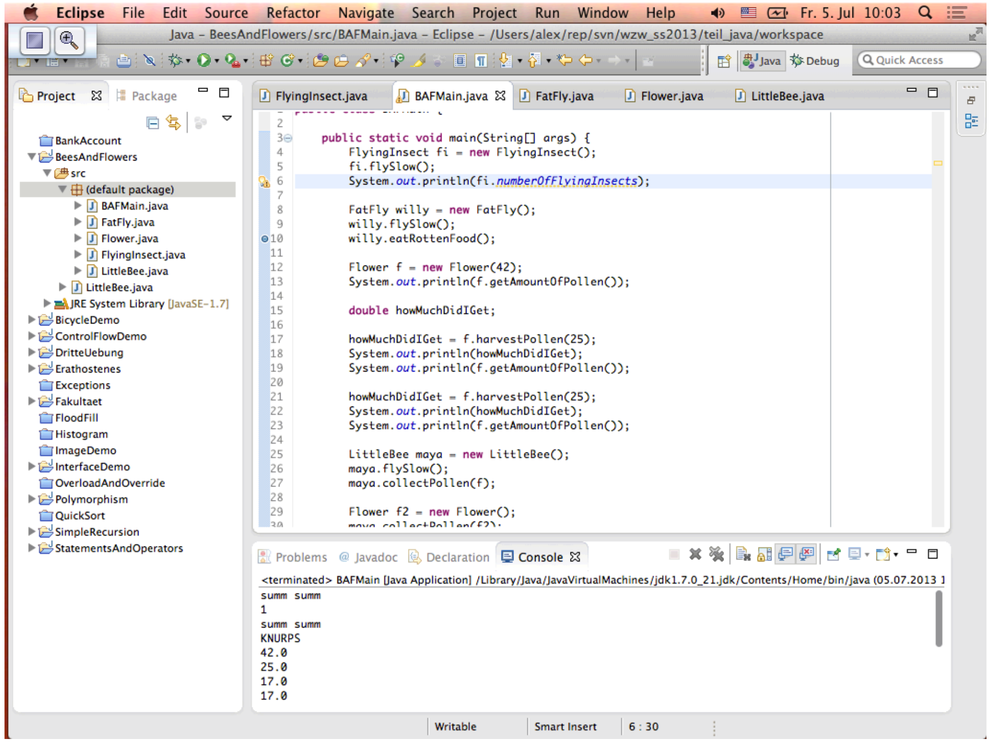
Writable | Smart Insert | 6 : 59



```
    public static void main(String[] args) {
        FlyingInsect fi = new FlyingInsect();
        fi.flySlow();
        System.out.println(FlyingInsect.numberOfFlyingInsects);

        FatFly willy = new FatFly();
        willy.flySlow();
        willy.eatRottenFood();

        Flower f = new Flower(42);
        System.out.println(f.getAmountOfPollen());

        double howMuchDidIGet;

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        LittleBee maya = new LittleBee();
        maya.flySlow();
        maya.collectPollen(f);

        Flower f2 = new Flower();
        maya.collectPollen(f2);
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
summ summ
1
summ summ
KNURPS
42.0
25.0
17.0
17.0
```

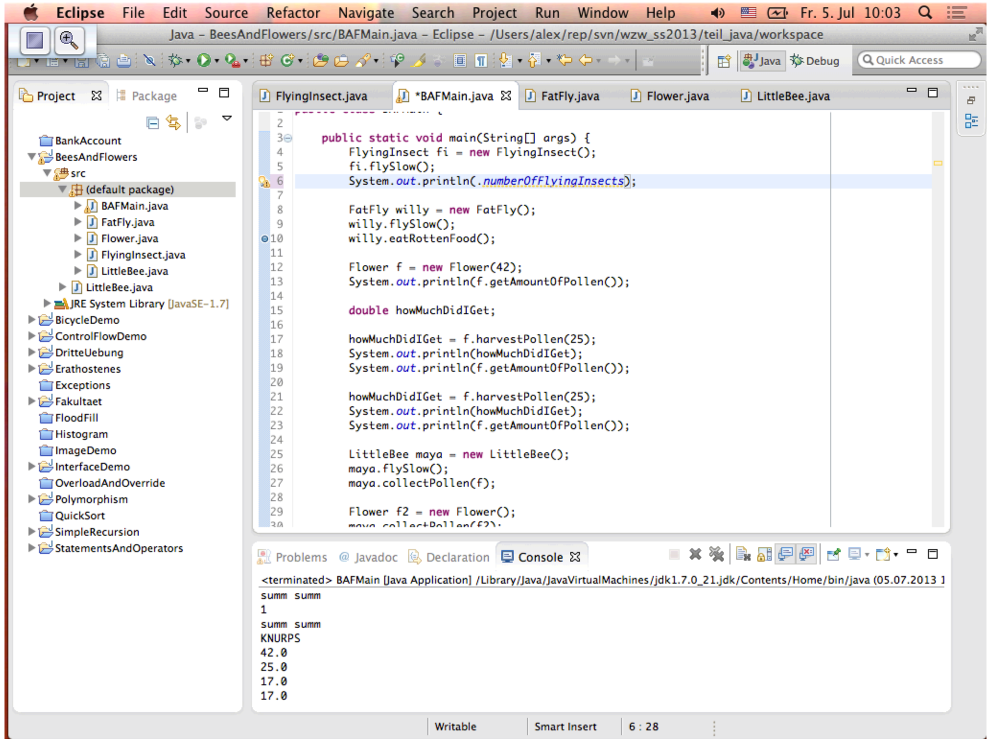
Writable | Smart Insert | 6 : 64


Eclipse File Edit Source Refactor Navigate Search Project Run Window Help
Fr. 5. Jul 10:03
Java – BeesAndFlowers/src/BAFMain.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace
Java
Debug
Quick Access
Project
Package
FlyingInsect.java
BAFMain.java
FatFly.java
Flower.java
LittleBee.java
Problems
Javadoc
Declaration
Console

```
    public static void main(String[] args) {
        FlyingInsect fi = new FlyingInsect();
        fi.flySlow();
        System.out.println(fi.numberOfFlyingInsects);

        FatFly willy = new FatFly();
        willy.flySlow();
        willy.eatRottenFood();

        Flower f = new Flower(42);
        System.out.println(f.getAmountOfPollen());

        double howMuchDidIGet;

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        LittleBee maya = new LittleBee();
        maya.flySlow();
        maya.collectPollen(f);

        Flower f2 = new Flower();
        maya.collectPollen(f2);
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
summ summ
1
summ summ
KNURPS
42.0
25.0
17.0
17.0
```

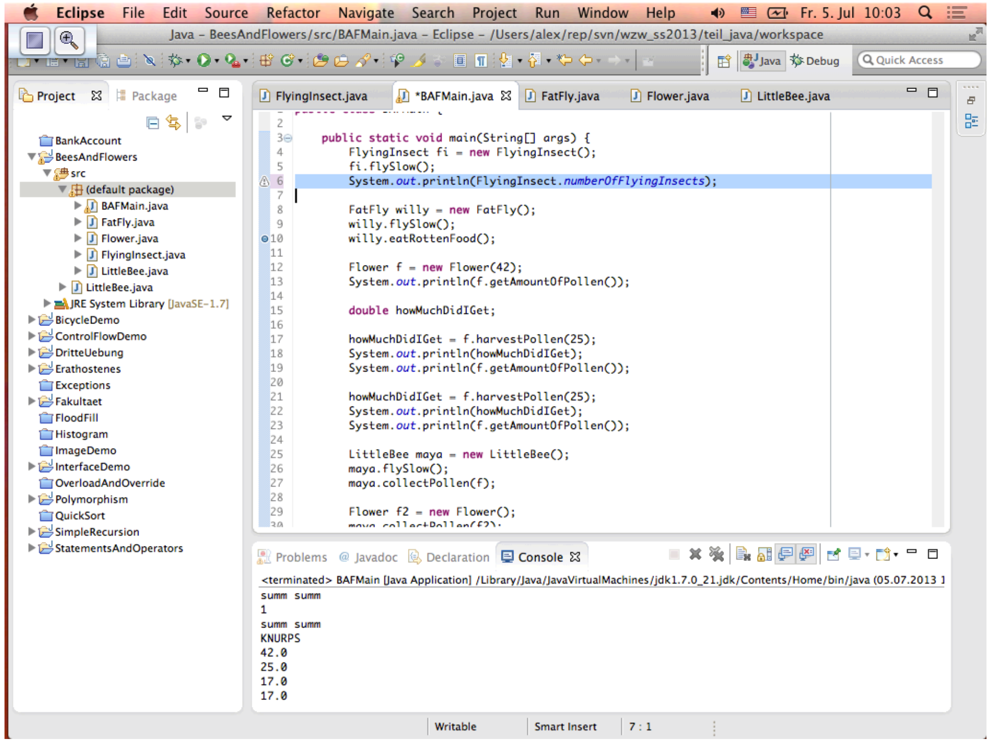
Writable | Smart Insert | 6 : 30


Eclipse File Edit Source Refactor Navigate Search Project Run Window Help
Fr. 5. Jul 10:03
Java – BeesAndFlowers/src/BAFMain.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace
Java
Debug
Quick Access
Project
Package
FlyingInsect.java
*BAFMain.java
FatFly.java
Flower.java
LittleBee.java
Problems
Javadoc
Declaration
Console

```
    public static void main(String[] args) {
        FlyingInsect fi = new FlyingInsect();
        fi.flySlow();
        System.out.println(.numberOfFlyingInsects);

        FatFly willy = new FatFly();
        willy.flySlow();
        willy.eatRottenFood();

        Flower f = new Flower(42);
        System.out.println(f.getAmountOfPollen());

        double howMuchDidIGet;

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        LittleBee maya = new LittleBee();
        maya.flySlow();
        maya.collectPollen(f);

        Flower f2 = new Flower();
        maya.collectPollen(f2);
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
summ summ
1
summ summ
KNURPS
42.0
25.0
17.0
17.0
```

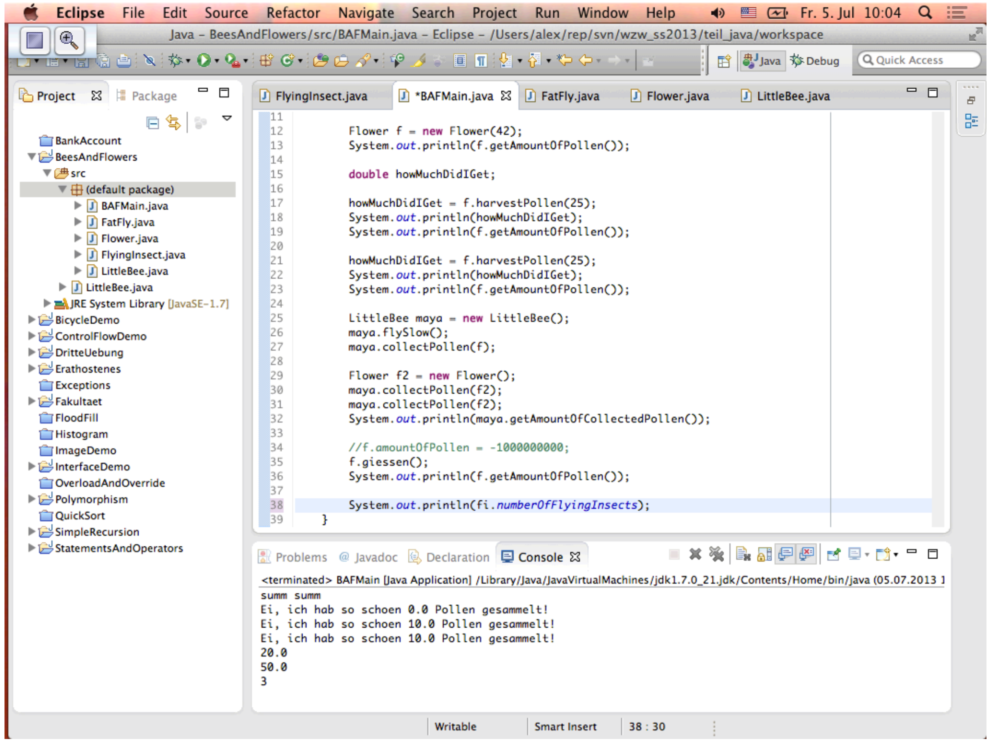
Writable | Smart Insert | 6 : 28


Eclipse File Edit Source Refactor Navigate Search Project Run Window Help
Fr. 5. Jul 10:03
Java – BeesAndFlowers/src/BAFMain.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace
Java
Debug
Quick Access
Project
Package
FlyingInsect.java
*BAFMain.java
FatFly.java
Flower.java
LittleBee.java
Problems
Javadoc
Declaration
Console

```
    public static void main(String[] args) {
        FlyingInsect fi = new FlyingInsect();
        fi.flySlow();
        System.out.println(FlyingInsect.numberOfFlyingInsects);

        FatFly willy = new FatFly();
        willy.flySlow();
        willy.eatRottenFood();

        Flower f = new Flower(42);
        System.out.println(f.getAmountOfPollen());

        double howMuchDidIGet;

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        LittleBee maya = new LittleBee();
        maya.flySlow();
        maya.collectPollen(f);

        Flower f2 = new Flower();
        maya.collectPollen(f2);
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
summ summ
1
summ summ
KNURPS
42.0
25.0
17.0
17.0
```

Writable | Smart Insert | 7 : 1

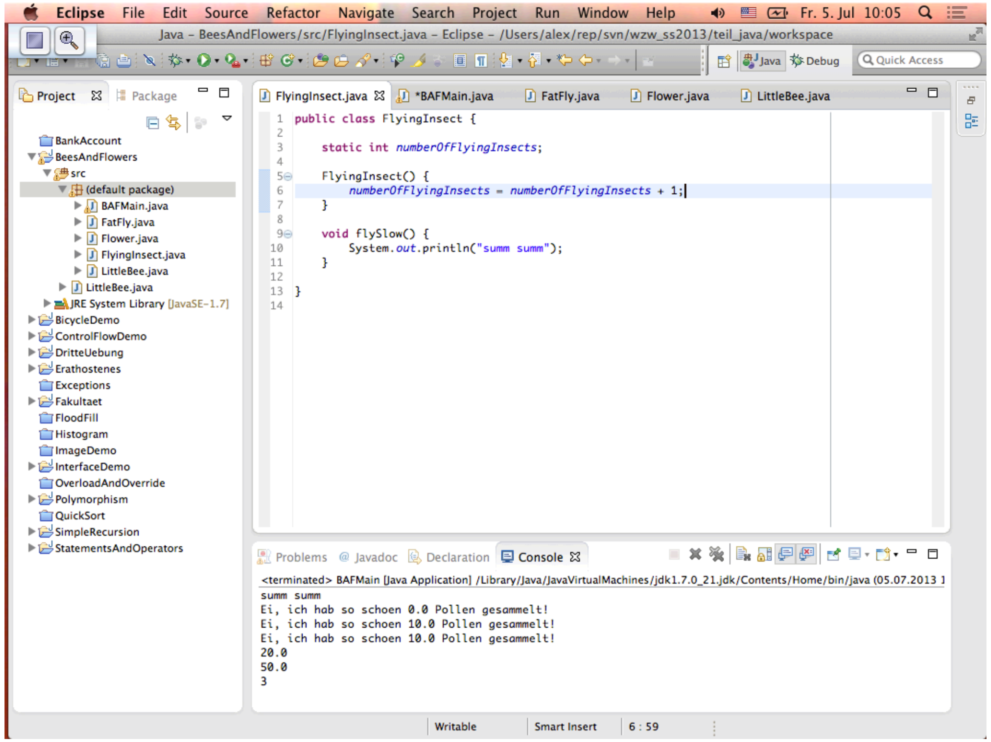


Java – BeesAndFlowers/src/BAFMain.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

```java

        Flower f = new Flower(42);
        System.out.println(f.getAmountOfPollen());

        double howMuchDidIGet;

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        LittleBee maya = new LittleBee();
        maya.flySlow();
        maya.collectPollen(f);

        Flower f2 = new Flower();
        maya.collectPollen(f2);
        maya.collectPollen(f2);
        System.out.println(maya.getAmountOfCollectedPollen());

        //f.amountOfPollen = -1000000000;
        f.giessen();
        System.out.println(f.getAmountOfPollen());

        System.out.println(fi.numberOfFlyingInsects);
    }
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
summ summ
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
3
```

Writable | Smart Insert | 38 : 30

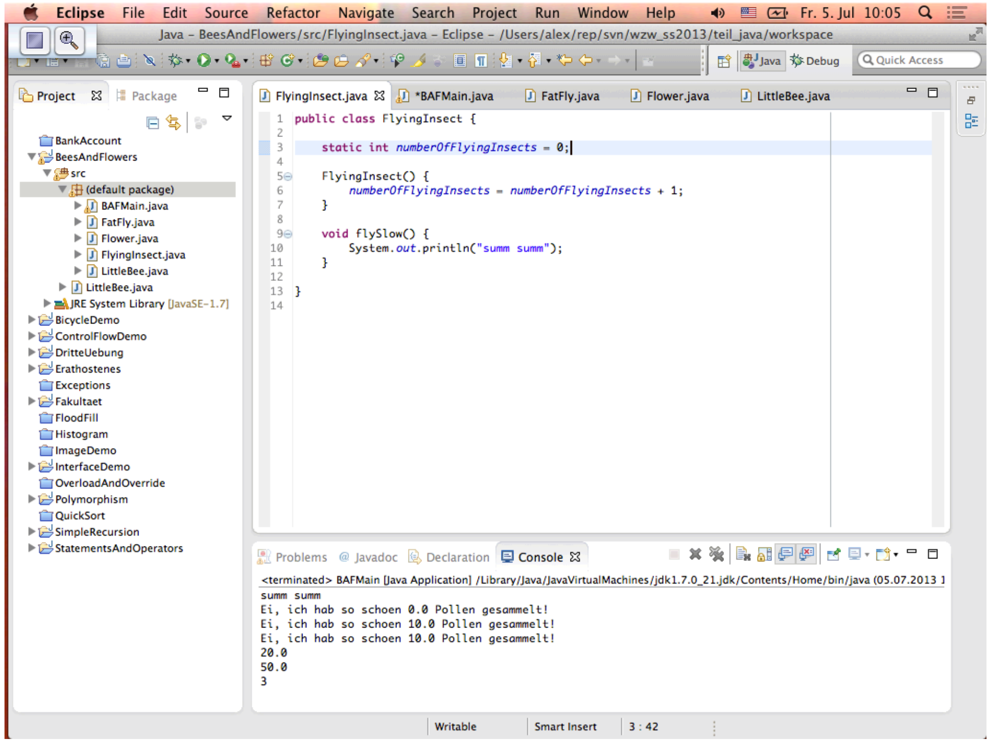


Java – BeesAndFlowers/src/FlyingInsect.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

```java
public class FlyingInsect {

    static int numberOfFlyingInsects;

    FlyingInsect() {
        numberOfFlyingInsects = numberOfFlyingInsects + 1;
    }

    void flySlow() {
        System.out.println("summ summ");
    }

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
summ summ
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
3
```

Writable | Smart Insert | 6 : 59

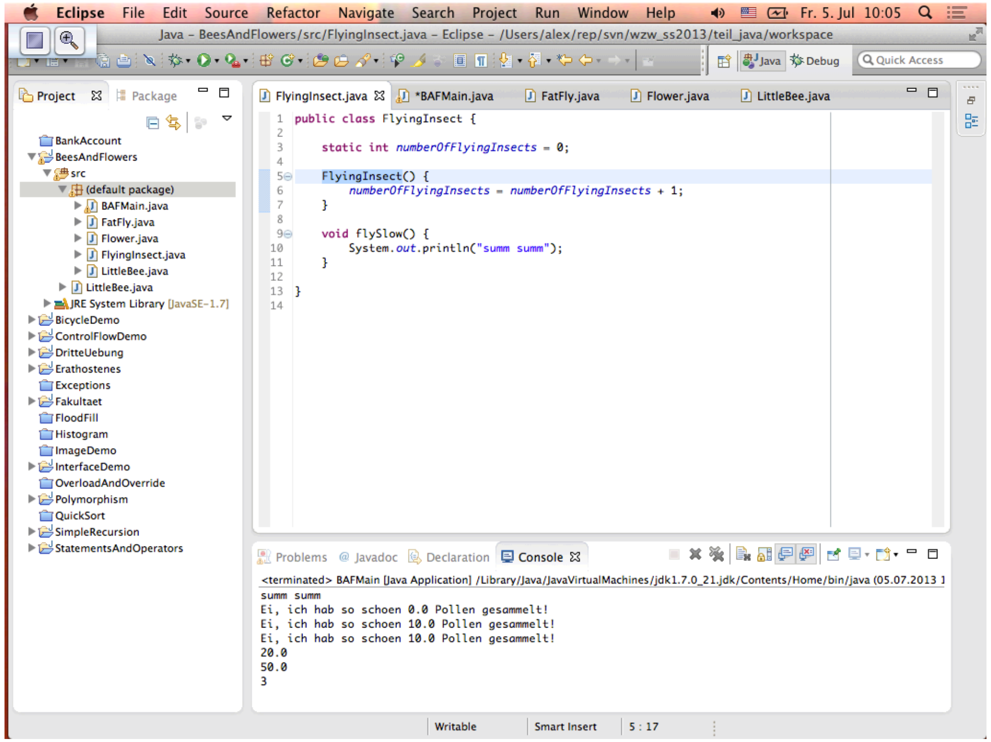


Java – BeesAndFlowers/src/FlyingInsect.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

```java
public class FlyingInsect {

    static int numberOfFlyingInsects = 0;

    FlyingInsect() {
        numberOfFlyingInsects = numberOfFlyingInsects + 1;
    }

    void flySlow() {
        System.out.println("summ summ");
    }

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
summ summ
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
3
```

Writable | Smart Insert | 3 : 42

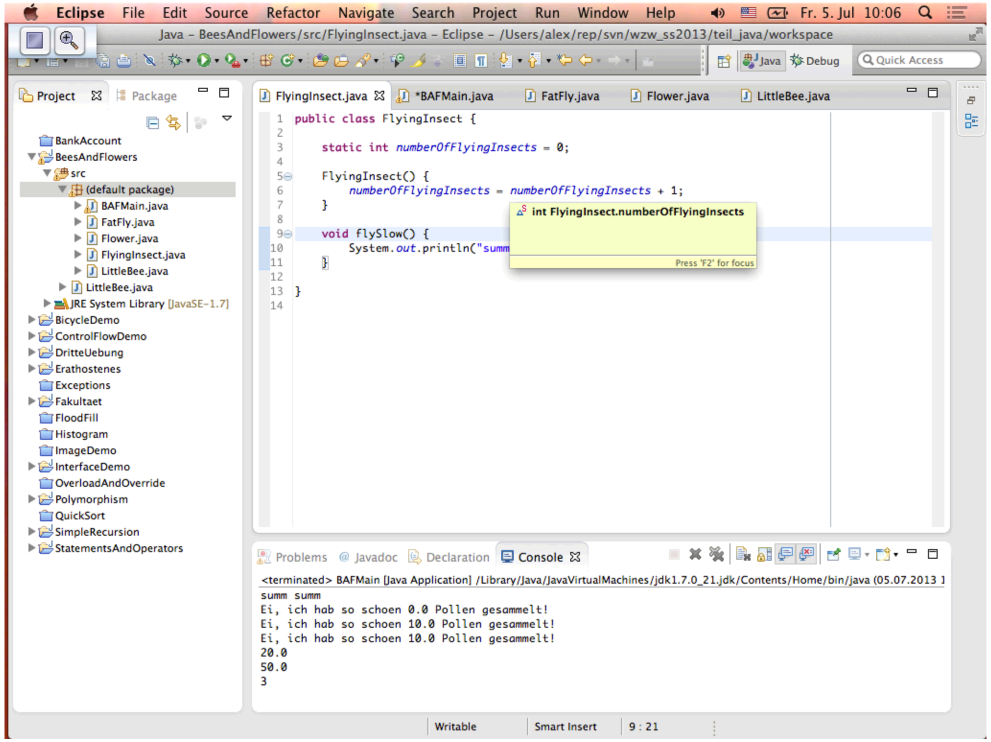


Java – BeesAndFlowers/src/FlyingInsect.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

```java
public class FlyingInsect {

    static int numberOfFlyingInsects = 0;

    FlyingInsect() {
        numberOfFlyingInsects = numberOfFlyingInsects + 1;
    }

    void flySlow() {
        System.out.println("summ summ");
    }

}
```

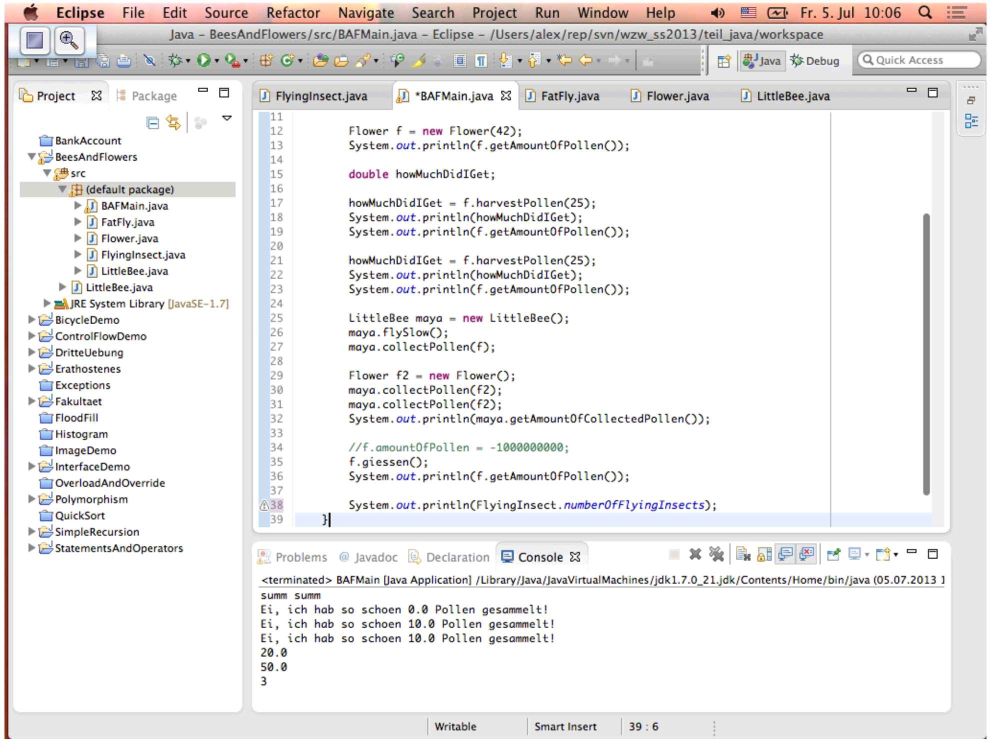
```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
summ summ
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
3
```

Writable | Smart Insert | 5 : 17



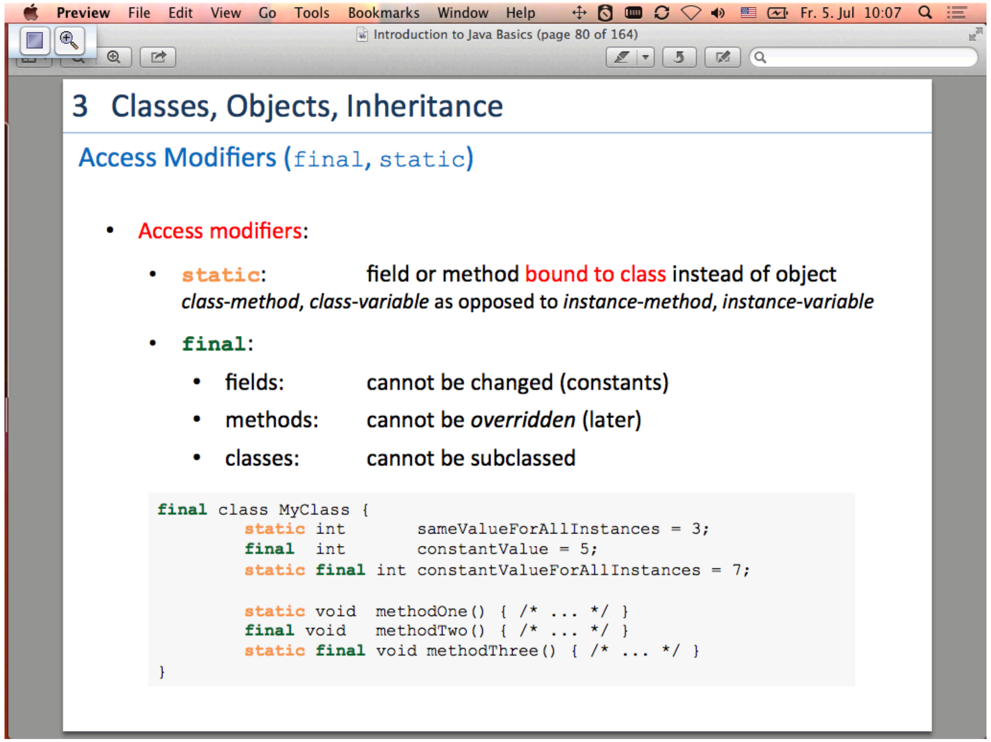
```java
public class FlyingInsect {

    static int numberOfFlyingInsects = 0;

    FlyingInsect() {
        numberOfFlyingInsects = numberOfFlyingInsects + 1;
    }

    void flySlow() {
        System.out.println("summ
    }

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
summ summ
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
3
```



```java

        Flower f = new Flower(42);
        System.out.println(f.getAmountOfPollen());

        double howMuchDidIGet;

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        LittleBee maya = new LittleBee();
        maya.flySlow();
        maya.collectPollen(f);

        Flower f2 = new Flower();
        maya.collectPollen(f2);
        maya.collectPollen(f2);
        System.out.println(maya.getAmountOfCollectedPollen());

        //f.amountOfPollen = -1000000000;
        f.giessen();
        System.out.println(f.getAmountOfPollen());

        System.out.println(FlyingInsect.numberOfFlyingInsects);
    }
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
summ summ
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
3
```

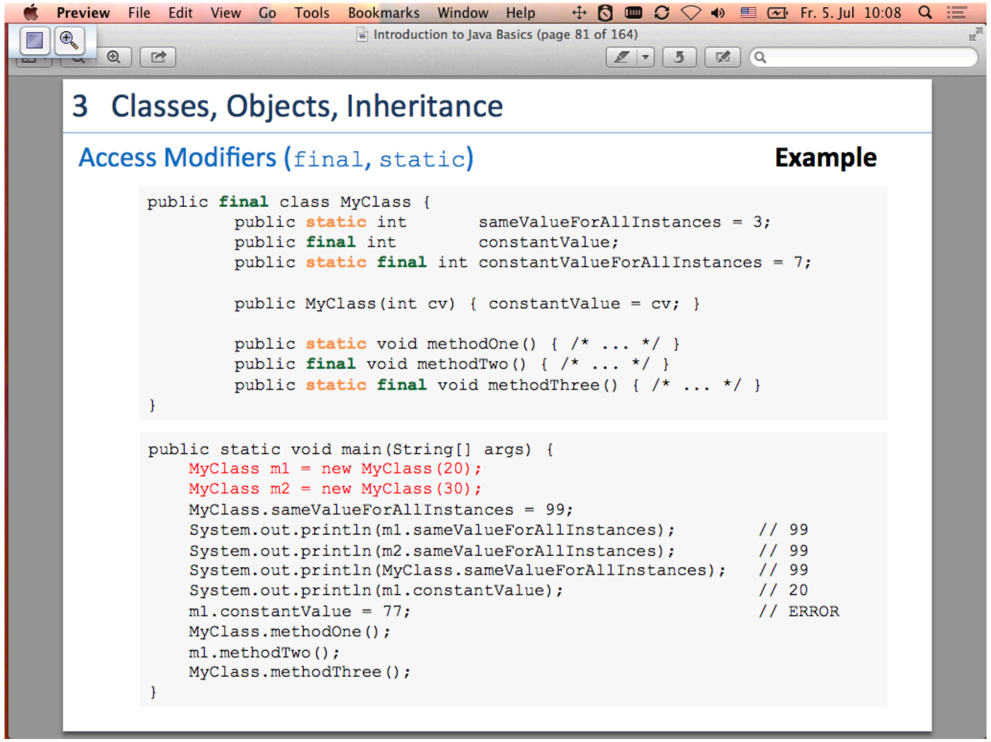

Preview File Edit View Go Tools Bookmarks Window Help
Fr. 5. Jul 10:07
Introduction to Java Basics (page 80 of 164)

3 Classes, Objects, Inheritance

Access Modifiers (final, static)

- Access modifiers:
  - static: field or method bound to class instead of object *class-method*, *class-variable* as opposed to *instance-method*, *instance-variable*
  - final:
    - fields: cannot be changed (constants)
    - methods: cannot be *overridden* (later)
    - classes: cannot be subclassed

```java
final class MyClass {
        static int       sameValueForAllInstances = 3;
        final  int       constantValue = 5;
        static final int constantValueForAllInstances = 7;

        static void  methodOne() { /* ... */ }
        final  void  methodTwo() { /* ... */ }
        static final void methodThree() { /* ... */ }
}
```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Fr. 5. Jul 10:08
Introduction to Java Basics (page 81 of 164)

3 Classes, Objects, Inheritance

Access Modifiers (final, static)

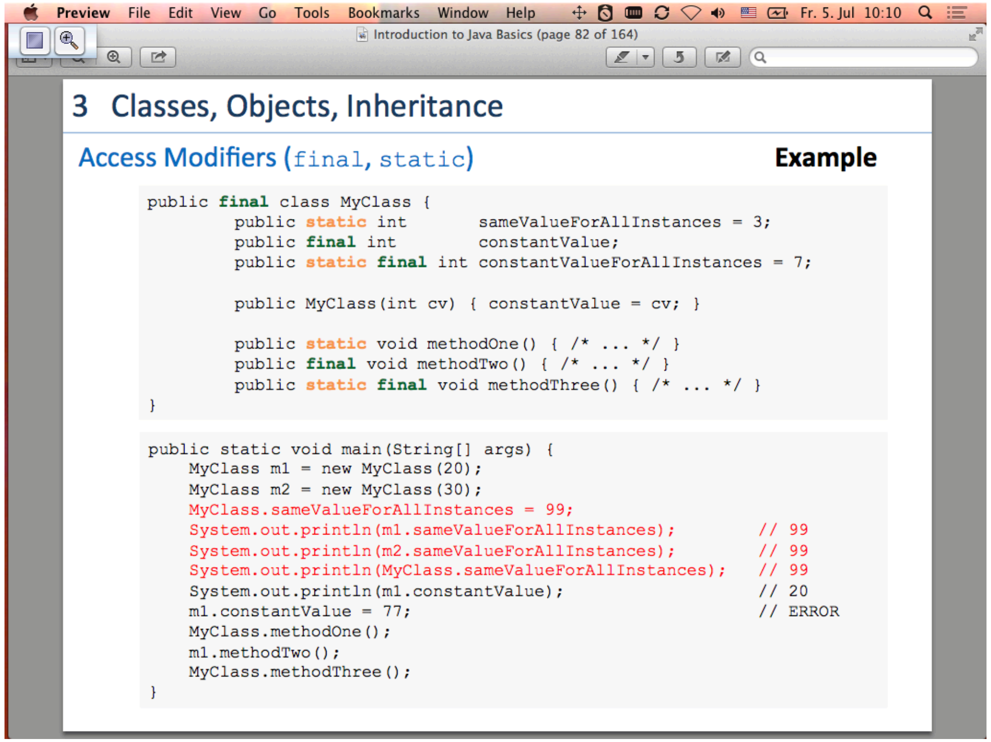
Example

```java
public final class MyClass {
        public static int       sameValueForAllInstances = 3;
        public final int        constantValue;
        public static final int constantValueForAllInstances = 7;

        public MyClass(int cv) { constantValue = cv; }

        public static void methodOne() { /* ... */ }
        public final void methodTwo() { /* ... */ }
        public static final void methodThree() { /* ... */ }
}
```

```java
public static void main(String[] args) {
    MyClass m1 = new MyClass(20);
    MyClass m2 = new MyClass(30);
    MyClass.sameValueForAllInstances = 99;
    System.out.println(m1.sameValueForAllInstances);          // 99
    System.out.println(m2.sameValueForAllInstances);          // 99
    System.out.println(MyClass.sameValueForAllInstances);     // 99
    System.out.println(m1.constantValue);                     // 20
    m1.constantValue = 77;                                    // ERROR
    MyClass.methodOne();
    m1.methodTwo();
    MyClass.methodThree();
}
```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Fr. 5. Jul 10:10
Introduction to Java Basics (page 82 of 164)

3 Classes, Objects, Inheritance

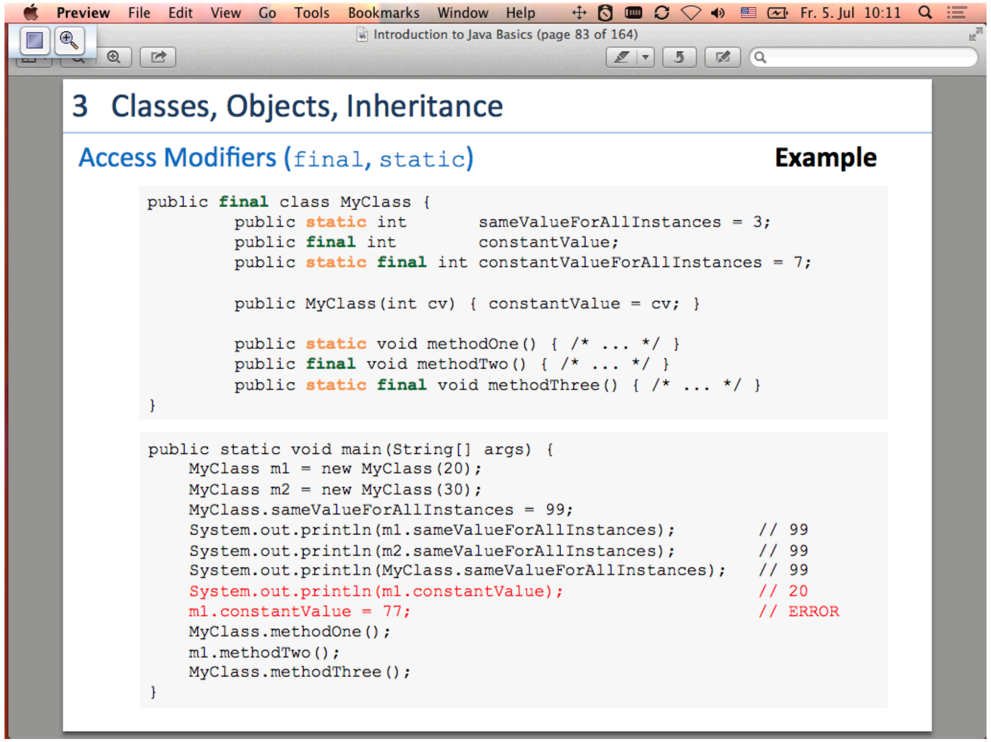
Access Modifiers (final, static) **Example**

```
public final class MyClass {
        public static int       sameValueForAllInstances = 3;
        public final int        constantValue;
        public static final int constantValueForAllInstances = 7;

        public MyClass(int cv) { constantValue = cv; }

        public static void methodOne() { /* ... */ }
        public final void methodTwo() { /* ... */ }
        public static final void methodThree() { /* ... */ }
}
```

```
public static void main(String[] args) {
    MyClass m1 = new MyClass(20);
    MyClass m2 = new MyClass(30);
    MyClass.sameValueForAllInstances = 99;
    System.out.println(m1.sameValueForAllInstances);          // 99
    System.out.println(m2.sameValueForAllInstances);          // 99
    System.out.println(MyClass.sameValueForAllInstances);     // 99
    System.out.println(m1.constantValue);                     // 20
    m1.constantValue = 77;                                    // ERROR
    MyClass.methodOne();
    m1.methodTwo();
    MyClass.methodThree();
}
```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Fr. 5. Jul 10:11
Introduction to Java Basics (page 83 of 164)

3 Classes, Objects, Inheritance

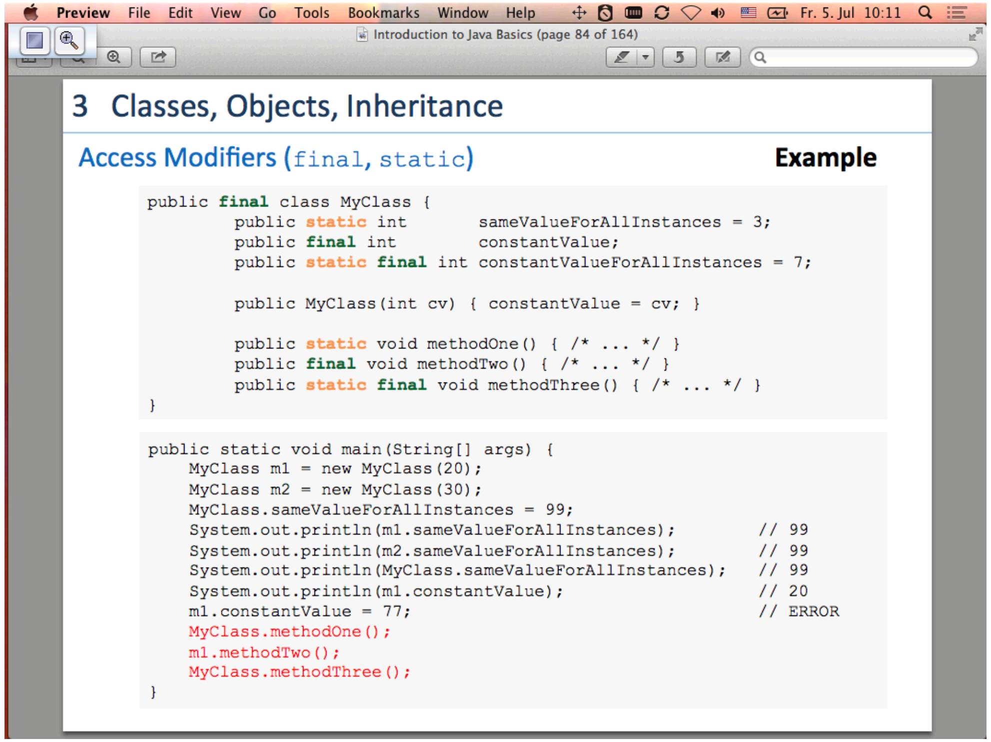
Access Modifiers (final, static) Example

```
public final class MyClass {
        public static int       sameValueForAllInstances = 3;
        public final int        constantValue;
        public static final int constantValueForAllInstances = 7;

        public MyClass(int cv) { constantValue = cv; }

        public static void methodOne() { /* ... */ }
        public final void methodTwo() { /* ... */ }
        public static final void methodThree() { /* ... */ }
}
```

```
public static void main(String[] args) {
    MyClass m1 = new MyClass(20);
    MyClass m2 = new MyClass(30);
    MyClass.sameValueForAllInstances = 99;
    System.out.println(m1.sameValueForAllInstances);          // 99
    System.out.println(m2.sameValueForAllInstances);          // 99
    System.out.println(MyClass.sameValueForAllInstances);     // 99
    System.out.println(m1.constantValue);                     // 20
    m1.constantValue = 77;                                    // ERROR
    MyClass.methodOne();
    m1.methodTwo();
    MyClass.methodThree();
}
```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Fr. 5. Jul 10:11
Introduction to Java Basics (page 84 of 164)

3 Classes, Objects, Inheritance

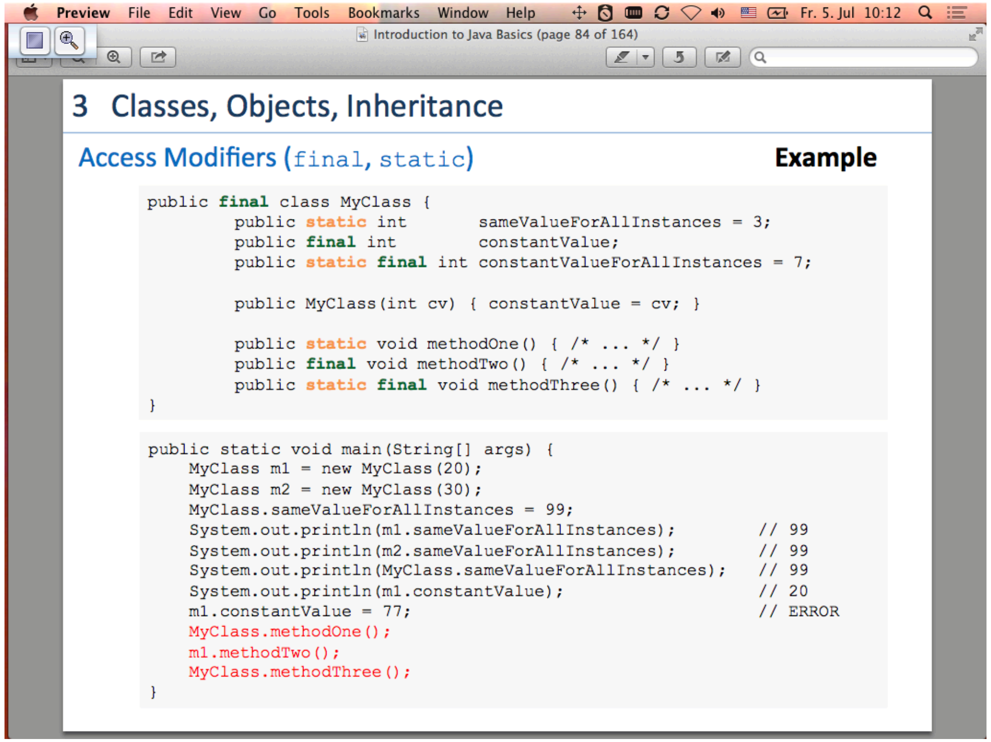
Access Modifiers (final, static) Example

```
public final class MyClass {
        public static int       sameValueForAllInstances = 3;
        public final int        constantValue;
        public static final int constantValueForAllInstances = 7;

        public MyClass(int cv) { constantValue = cv; }

        public static void methodOne() { /* ... */ }
        public final void methodTwo() { /* ... */ }
        public static final void methodThree() { /* ... */ }
}
```

```
public static void main(String[] args) {
    MyClass m1 = new MyClass(20);
    MyClass m2 = new MyClass(30);
    MyClass.sameValueForAllInstances = 99;
    System.out.println(m1.sameValueForAllInstances);          // 99
    System.out.println(m2.sameValueForAllInstances);          // 99
    System.out.println(MyClass.sameValueForAllInstances);     // 99
    System.out.println(m1.constantValue);                     // 20
    m1.constantValue = 77;                                    // ERROR
    MyClass.methodOne();
    m1.methodTwo();
    MyClass.methodThree();
}
```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Fr. 5. Jul 10:12
Introduction to Java Basics (page 84 of 164)

3 Classes, Objects, Inheritance

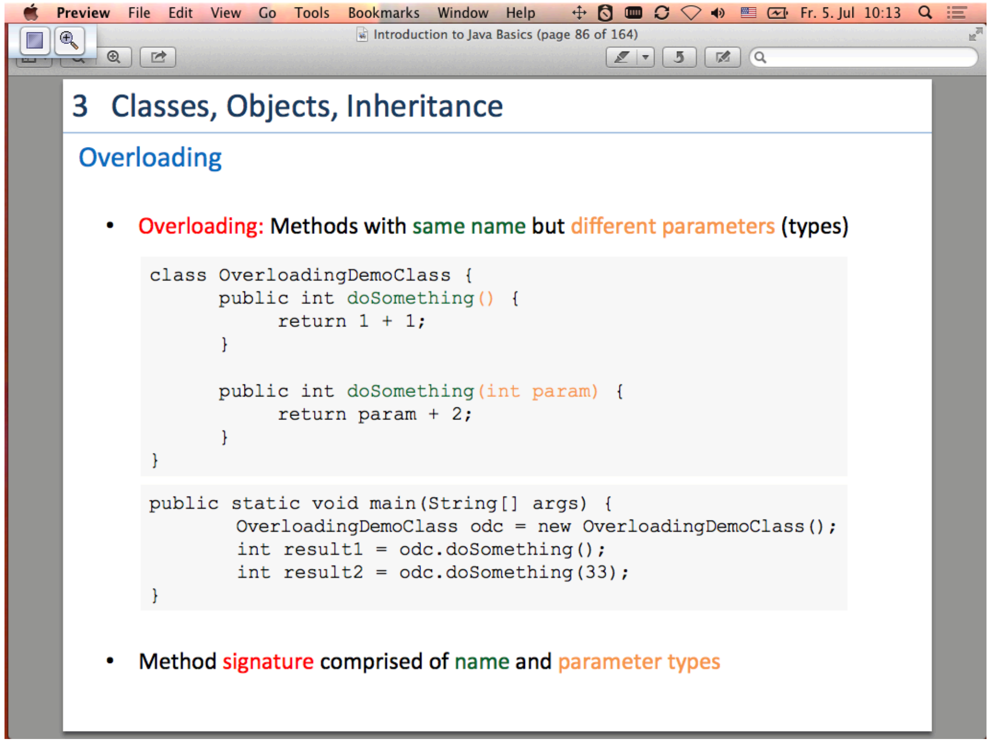
Access Modifiers (final, static) Example

```
public final class MyClass {
        public static int       sameValueForAllInstances = 3;
        public final int        constantValue;
        public static final int constantValueForAllInstances = 7;

        public MyClass(int cv) { constantValue = cv; }

        public static void methodOne() { /* ... */ }
        public final void methodTwo() { /* ... */ }
        public static final void methodThree() { /* ... */ }
}
```

```
public static void main(String[] args) {
    MyClass m1 = new MyClass(20);
    MyClass m2 = new MyClass(30);
    MyClass.sameValueForAllInstances = 99;
    System.out.println(m1.sameValueForAllInstances);          // 99
    System.out.println(m2.sameValueForAllInstances);          // 99
    System.out.println(MyClass.sameValueForAllInstances);     // 99
    System.out.println(m1.constantValue);                     // 20
    m1.constantValue = 77;                                    // ERROR
    MyClass.methodOne();
    m1.methodTwo();
    MyClass.methodThree();
}
```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Fr. 5. Jul 10:13
Introduction to Java Basics (page 86 of 164)

3 Classes, Objects, Inheritance

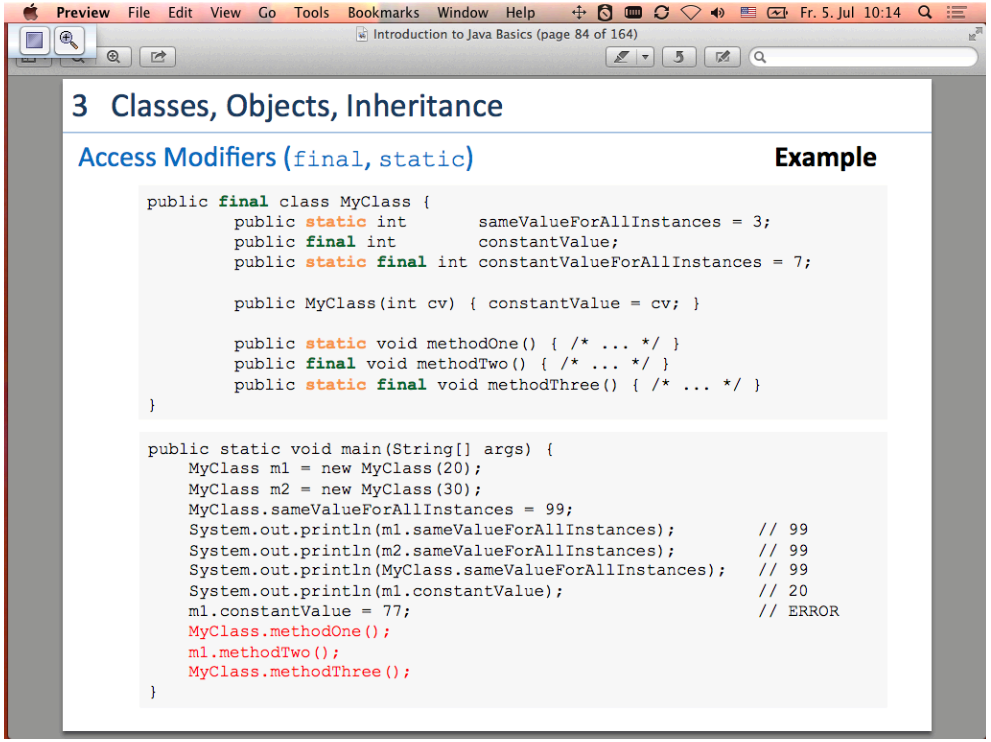
Overloading

- Overloading: Methods with same name but different parameters (types)

```
class OverloadingDemoClass {
      public int doSomething() {
            return 1 + 1;
      }

      public int doSomething(int param) {
            return param + 2;
      }
}
```

```
public static void main(String[] args) {
        OverloadingDemoClass odc = new OverloadingDemoClass();
        int result1 = odc.doSomething();
        int result2 = odc.doSomething(33);
}
```

- Method signature comprised of name and parameter types


Preview File Edit View Go Tools Bookmarks Window Help
Fr. 5. Jul 10:14
Introduction to Java Basics (page 84 of 164)

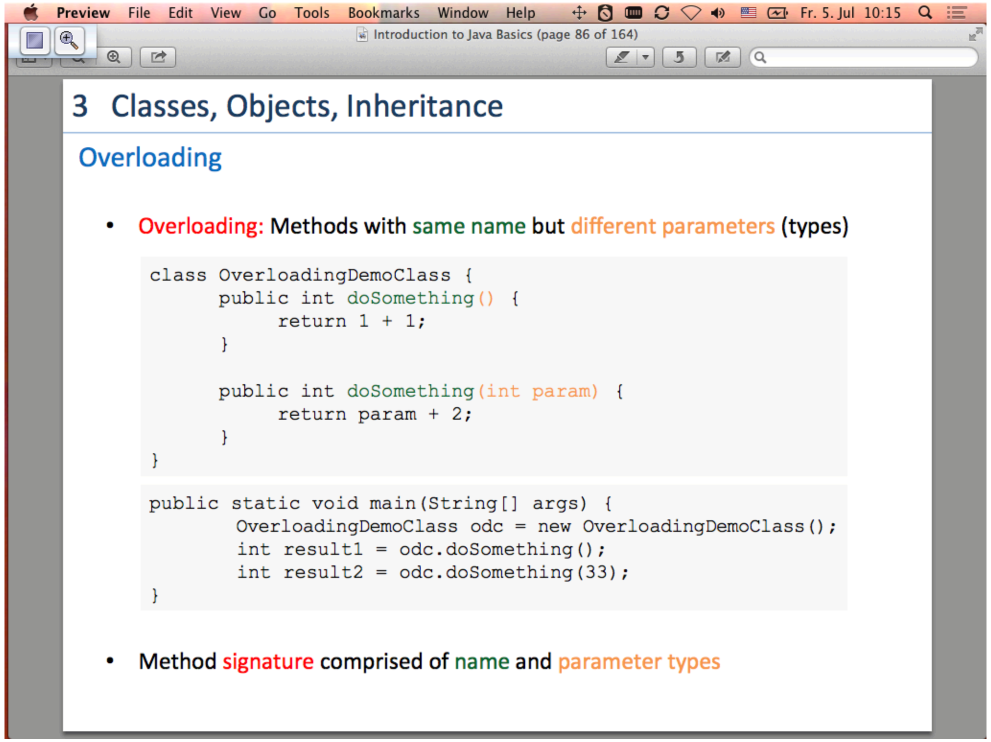
3 Classes, Objects, Inheritance

Access Modifiers (final, static)

Example

```
public final class MyClass {
        public static int       sameValueForAllInstances = 3;
        public final int        constantValue;
        public static final int constantValueForAllInstances = 7;

        public MyClass(int cv) { constantValue = cv; }

        public static void methodOne() { /* ... */ }
        public final void methodTwo() { /* ... */ }
        public static final void methodThree() { /* ... */ }
}
```

```
public static void main(String[] args) {
    MyClass m1 = new MyClass(20);
    MyClass m2 = new MyClass(30);
    MyClass.sameValueForAllInstances = 99;
    System.out.println(m1.sameValueForAllInstances);          // 99
    System.out.println(m2.sameValueForAllInstances);          // 99
    System.out.println(MyClass.sameValueForAllInstances);     // 99
    System.out.println(m1.constantValue);                     // 20
    m1.constantValue = 77;                                    // ERROR
    MyClass.methodOne();
    m1.methodTwo();
    MyClass.methodThree();
}
```


Preview File Edit View Go Tools Bookmarks Window Help
Fr. 5. Jul 10:15
Introduction to Java Basics (page 86 of 164)

3 Classes, Objects, Inheritance

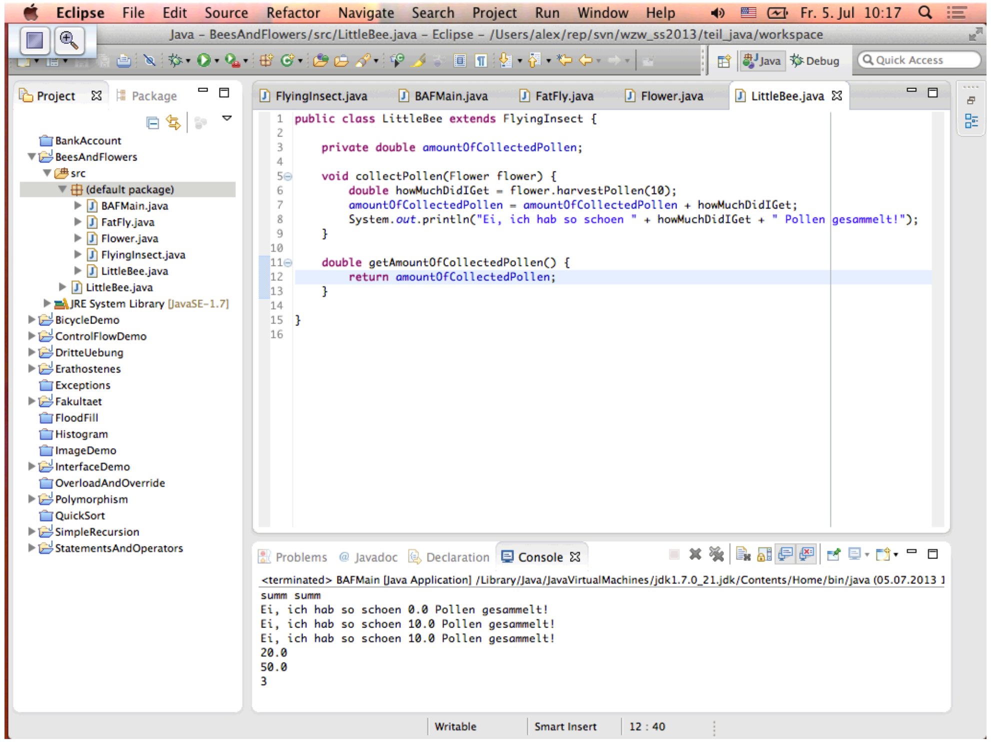
Overloading

- Overloading: Methods with same name but different parameters (types)

```
class OverloadingDemoClass {
      public int doSomething() {
            return 1 + 1;
      }

      public int doSomething(int param) {
            return param + 2;
      }
}
```

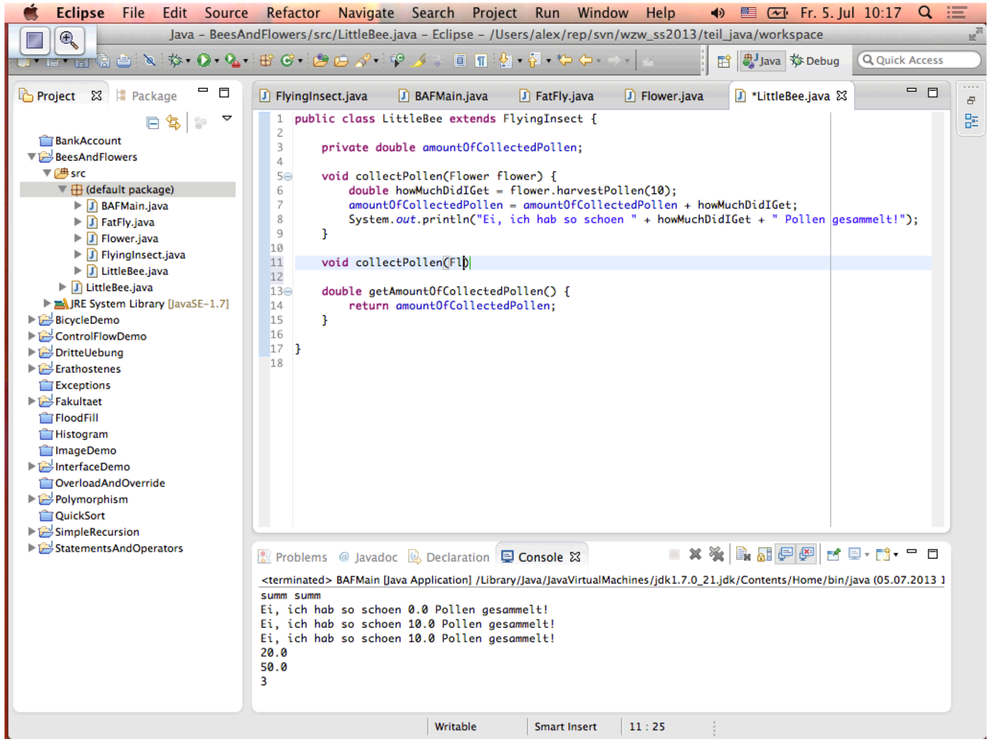
```
public static void main(String[] args) {
        OverloadingDemoClass odc = new OverloadingDemoClass();
        int result1 = odc.doSomething();
        int result2 = odc.doSomething(33);
}
```

- Method signature comprised of name and parameter types



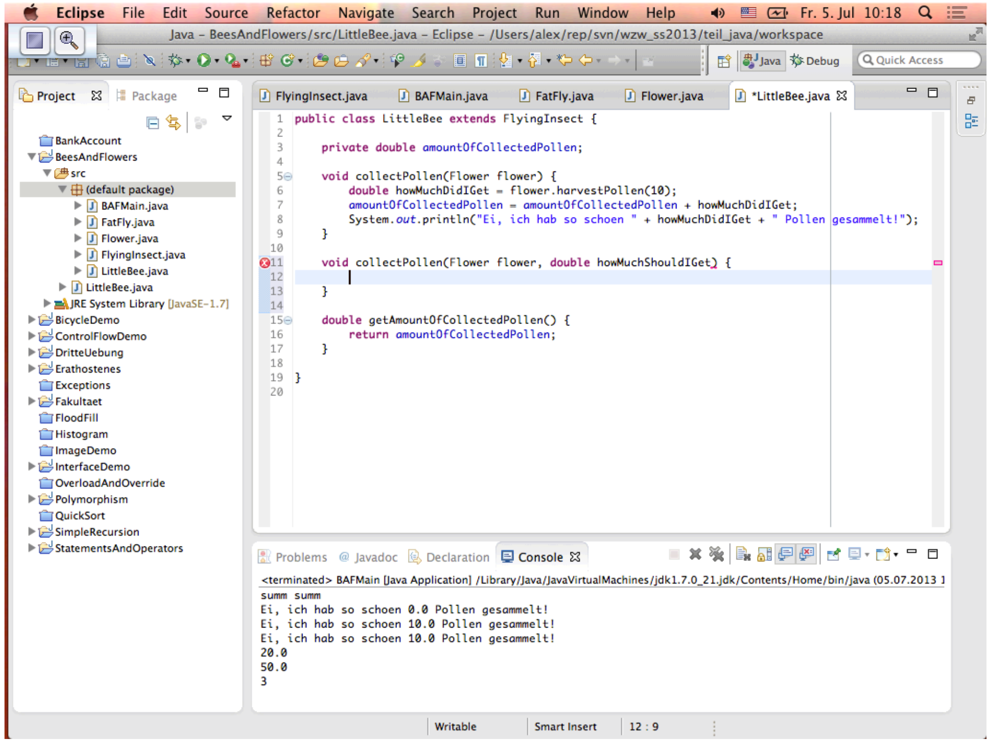
```
public class LittleBee extends FlyingInsect {

    private double amountOfCollectedPollen;

    void collectPollen(Flower flower) {
        double howMuchDidIGet = flower.harvestPollen(10);
        amountOfCollectedPollen = amountOfCollectedPollen + howMuchDidIGet;
        System.out.println("Ei, ich hab so schoen " + howMuchDidIGet + " Pollen gesammelt!");
    }

    double getAmountOfCollectedPollen() {
        return amountOfCollectedPollen;
    }

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
summ summ
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
3
```



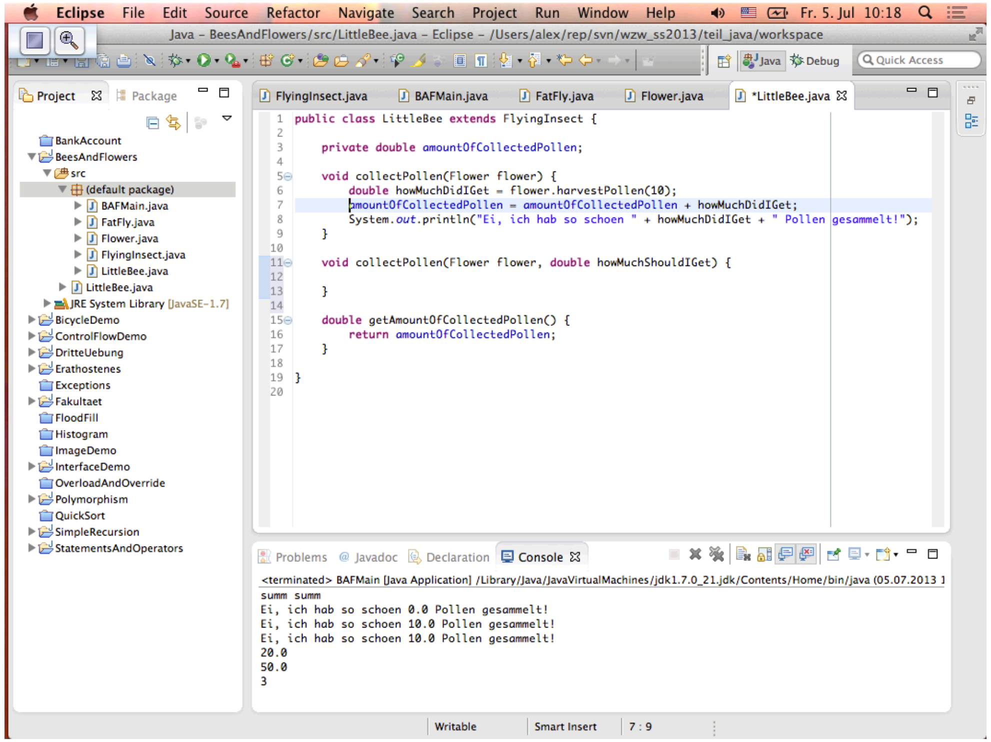
```
public class LittleBee extends FlyingInsect {

    private double amountOfCollectedPollen;

    void collectPollen(Flower flower) {
        double howMuchDidIGet = flower.harvestPollen(10);
        amountOfCollectedPollen = amountOfCollectedPollen + howMuchDidIGet;
        System.out.println("Ei, ich hab so schoen " + howMuchDidIGet + " Pollen gesammelt!");
    }

    void collectPollen(Fl)

    double getAmountOfCollectedPollen() {
        return amountOfCollectedPollen;
    }

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
summ summ
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
3
```


Eclipse File Edit Source Refactor Navigate Search Project Run Window Help
Fr. 5. Jul 10:18
Java – BeesAndFlowers/src/LittleBee.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace
Java
Debug
Quick Access
Project
Package
FlyingInsect.java
BAFMain.java
FatFly.java
Flower.java
*LittleBee.java
Problems
Javadoc
Declaration
Console
Writable
Smart Insert
12 : 9

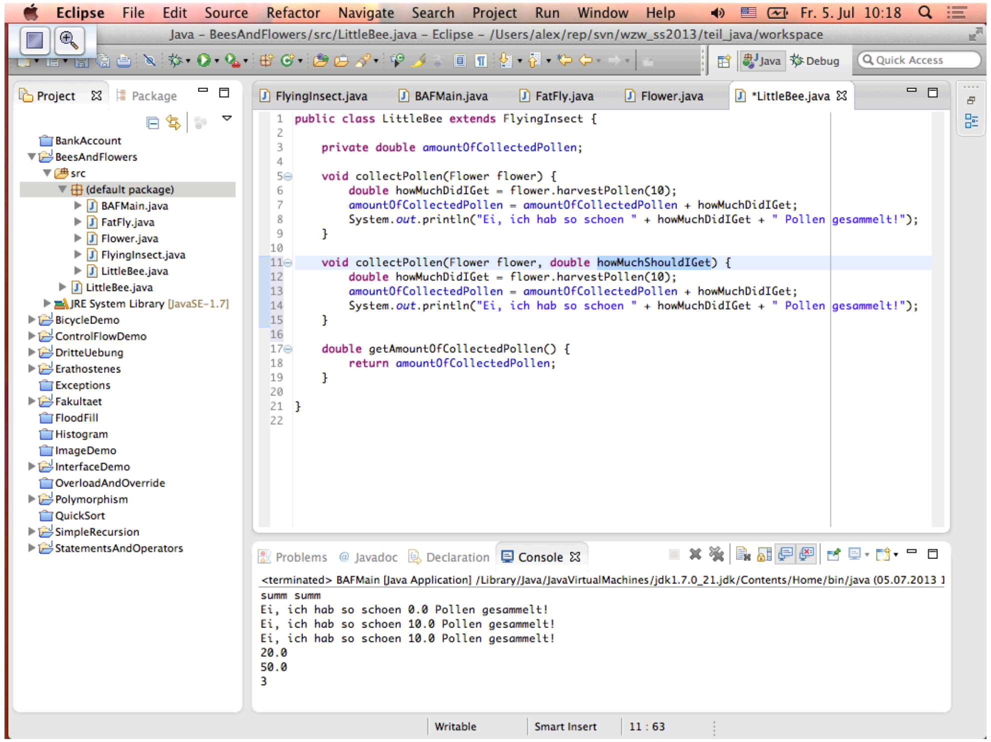
```
public class LittleBee extends FlyingInsect {

    private double amountOfCollectedPollen;

    void collectPollen(Flower flower) {
        double howMuchDidIGet = flower.harvestPollen(10);
        amountOfCollectedPollen = amountOfCollectedPollen + howMuchDidIGet;
        System.out.println("Ei, ich hab so schoen " + howMuchDidIGet + " Pollen gesammelt!");
    }

    void collectPollen(Flower flower, double howMuchShouldIGet) {
        
    }

    double getAmountOfCollectedPollen() {
        return amountOfCollectedPollen;
    }

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
summ summ
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
3
```


Eclipse File Edit Source Refactor Navigate Search Project Run Window Help
Fr. 5. Jul 10:18
Java – BeesAndFlowers/src/LittleBee.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace
Java
Debug
Quick Access
Project
Package
FlyingInsect.java
BAFMain.java
FatFly.java
Flower.java
*LittleBee.java
Problems
Javadoc
Declaration
Console
Writable
Smart Insert
7 : 9

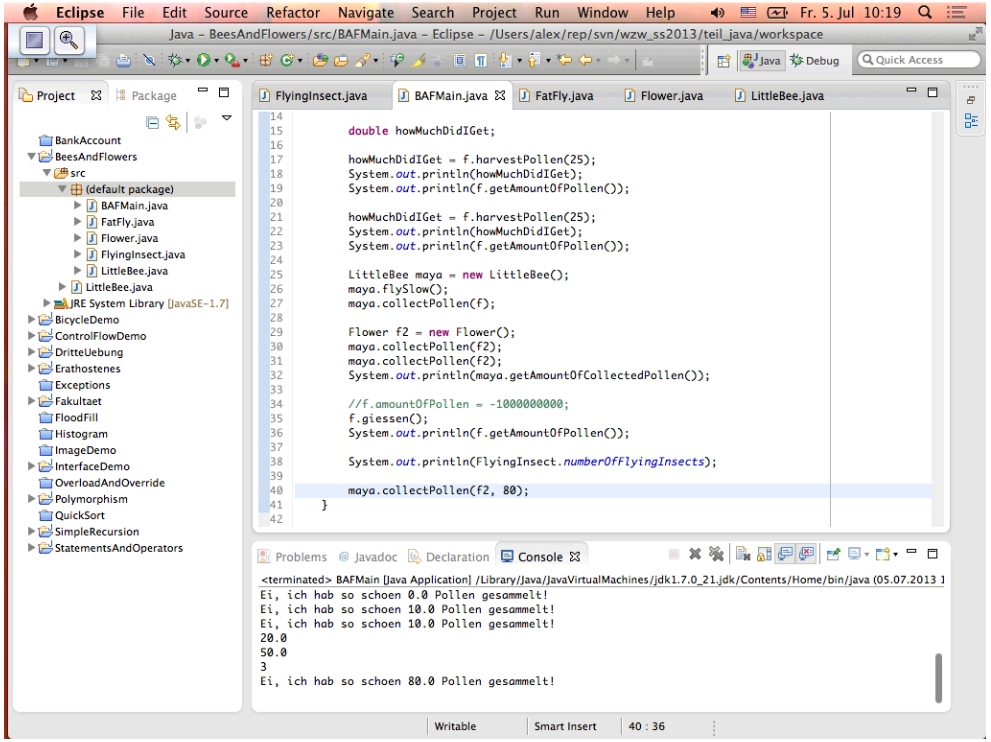
```
public class LittleBee extends FlyingInsect {

    private double amountOfCollectedPollen;

    void collectPollen(Flower flower) {
        double howMuchDidIGet = flower.harvestPollen(10);
        amountOfCollectedPollen = amountOfCollectedPollen + howMuchDidIGet;
        System.out.println("Ei, ich hab so schoen " + howMuchDidIGet + " Pollen gesammelt!");
    }

    void collectPollen(Flower flower, double howMuchShouldIGet) {

    }

    double getAmountOfCollectedPollen() {
        return amountOfCollectedPollen;
    }

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
summ summ
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
3
```



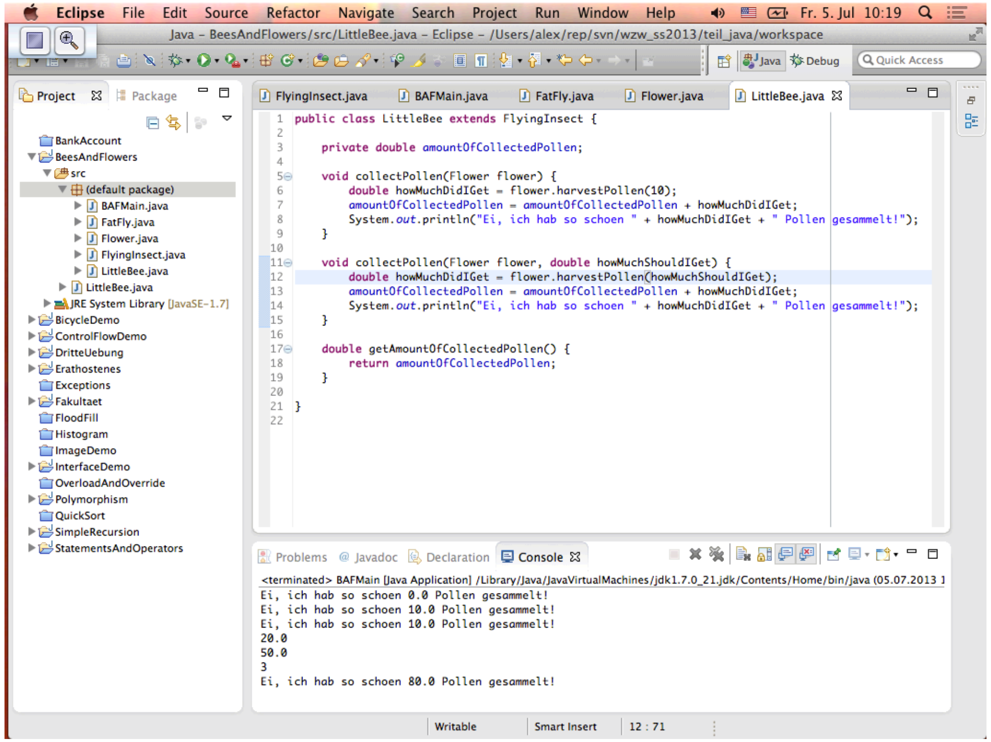
```
public class LittleBee extends FlyingInsect {

    private double amountOfCollectedPollen;

    void collectPollen(Flower flower) {
        double howMuchDidIGet = flower.harvestPollen(10);
        amountOfCollectedPollen = amountOfCollectedPollen + howMuchDidIGet;
        System.out.println("Ei, ich hab so schoen " + howMuchDidIGet + " Pollen gesammelt!");
    }

    void collectPollen(Flower flower, double howMuchShouldIGet) {
        double howMuchDidIGet = flower.harvestPollen(10);
        amountOfCollectedPollen = amountOfCollectedPollen + howMuchDidIGet;
        System.out.println("Ei, ich hab so schoen " + howMuchDidIGet + " Pollen gesammelt!");
    }

    double getAmountOfCollectedPollen() {
        return amountOfCollectedPollen;
    }

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
summ summ
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
3
```



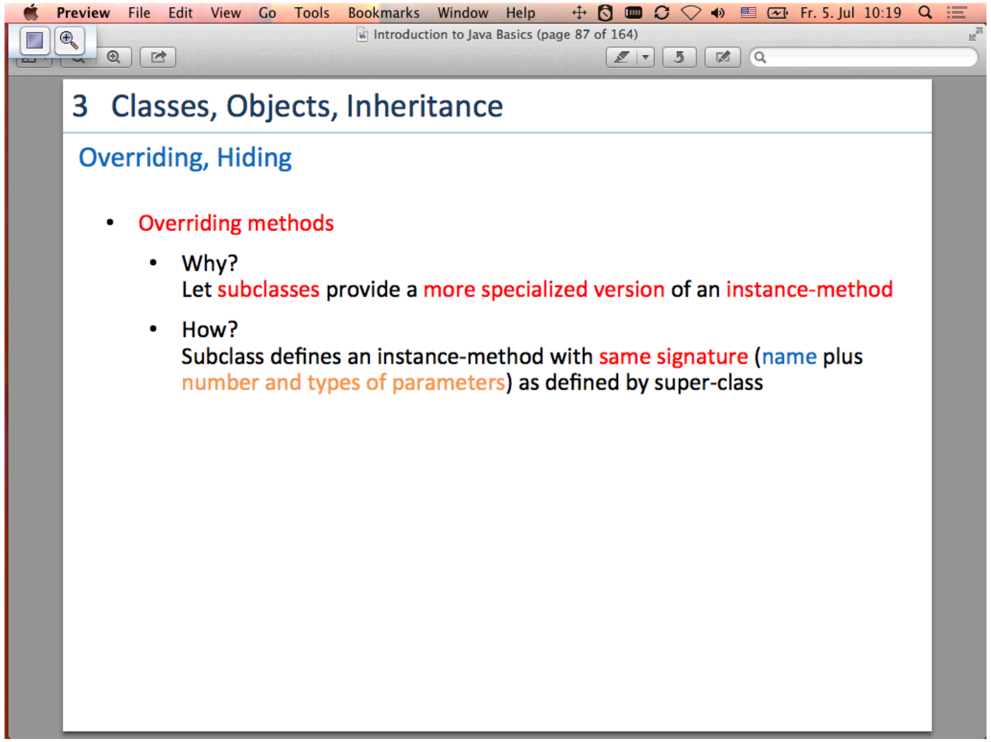
```java

        double howMuchDidIGet;

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        LittleBee maya = new LittleBee();
        maya.flySlow();
        maya.collectPollen(f);

        Flower f2 = new Flower();
        maya.collectPollen(f2);
        maya.collectPollen(f2);
        System.out.println(maya.getAmountOfCollectedPollen());

        //f.amountOfPollen = -1000000000;
        f.giessen();
        System.out.println(f.getAmountOfPollen());

        System.out.println(FlyingInsect.numberOfFlyingInsects);

        maya.collectPollen(f2, 80);
    }

```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
3
Ei, ich hab so schoen 80.0 Pollen gesammelt!
```


Eclipse File Edit Source Refactor Navigate Search Project Run Window Help
Fr. 5. Jul 10:19
Java – BeesAndFlowers/src/LittleBee.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace
Java
Debug
Quick Access
Project
Package
FlyingInsect.java
BAFMain.java
FatFly.java
Flower.java
LittleBee.java
Problems
Javadoc
Declaration
Console
Writable
Smart Insert
12 : 71

```java
public class LittleBee extends FlyingInsect {

    private double amountOfCollectedPollen;

    void collectPollen(Flower flower) {
        double howMuchDidIGet = flower.harvestPollen(10);
        amountOfCollectedPollen = amountOfCollectedPollen + howMuchDidIGet;
        System.out.println("Ei, ich hab so schoen " + howMuchDidIGet + " Pollen gesammelt!");
    }

    void collectPollen(Flower flower, double howMuchShouldIGet) {
        double howMuchDidIGet = flower.harvestPollen(howMuchShouldIGet);
        amountOfCollectedPollen = amountOfCollectedPollen + howMuchDidIGet;
        System.out.println("Ei, ich hab so schoen " + howMuchDidIGet + " Pollen gesammelt!");
    }

    double getAmountOfCollectedPollen() {
        return amountOfCollectedPollen;
    }

}

```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
3
Ei, ich hab so schoen 80.0 Pollen gesammelt!
```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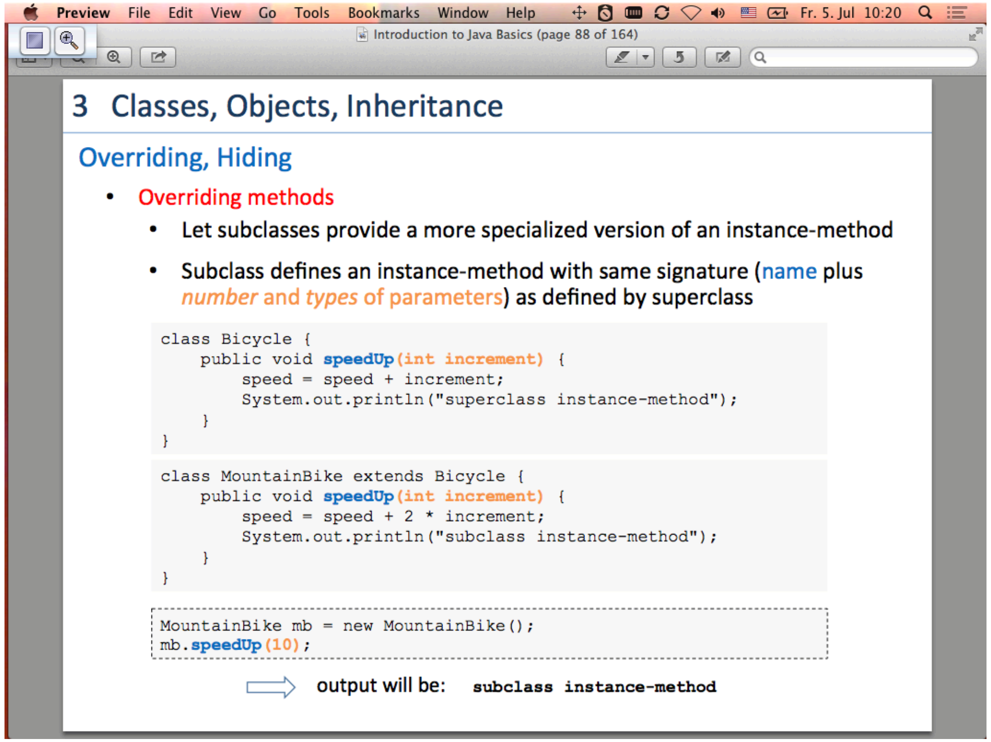
Introduction to Java Basics (page 87 of 164)

3 Classes, Objects, Inheritance

Overriding, Hiding

- Overriding methods
  - Why?
    Let subclasses provide a more specialized version of an instance-method
  - How?
    Subclass defines an instance-method with same signature (name plus number and types of parameters) as defined by super-class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Introduction to Java Basics (page 88 of 164)

3 Classes, Objects, Inheritance

Overriding, Hiding

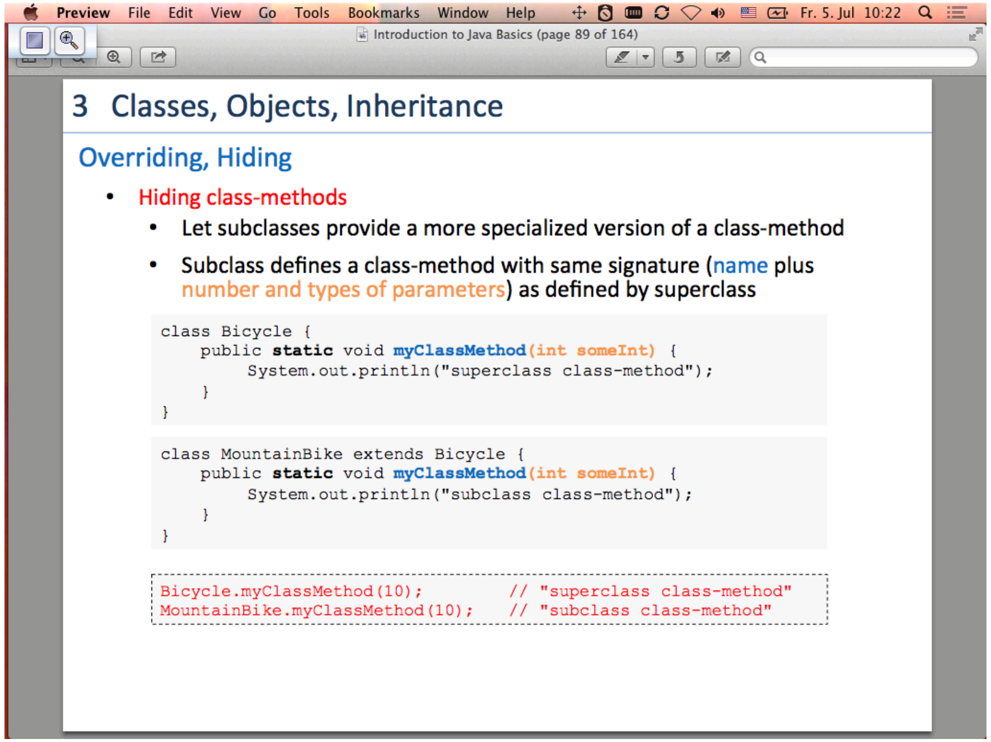
- Overriding methods
  - Let subclasses provide a more specialized version of an instance-method
  - Subclass defines an instance-method with same signature (name plus *number* and *types* of parameters) as defined by superclass

```java
class Bicycle {
    public void speedUp(int increment) {
        speed = speed + increment;
        System.out.println("superclass instance-method");
    }
}
```

```java
class MountainBike extends Bicycle {
    public void speedUp(int increment) {
        speed = speed + 2 * increment;
        System.out.println("subclass instance-method");
    }
}
```

```java
MountainBike mb = new MountainBike();
mb.speedUp(10);
```

⇨ output will be: **subclass instance-method**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Introduction to Java Basics (page 89 of 164)

3 Classes, Objects, Inheritance

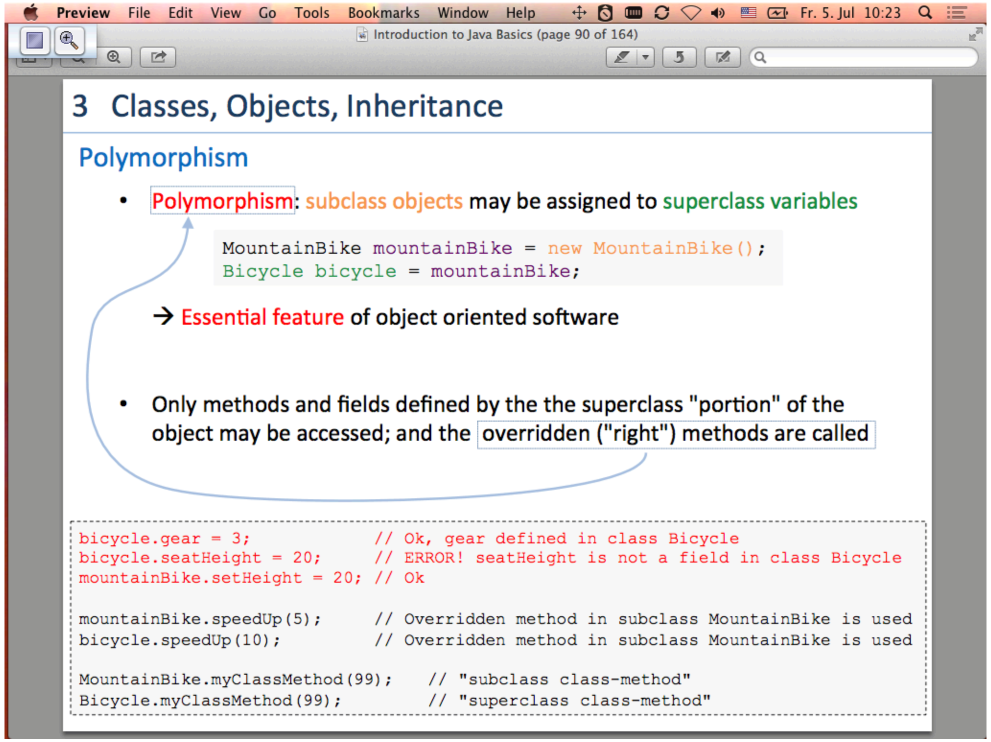
Overriding, Hiding

- Hiding class-methods
  - Let subclasses provide a more specialized version of a class-method
  - Subclass defines a class-method with same signature (name plus number and types of parameters) as defined by superclass

```
class Bicycle {
    public static void myClassMethod(int someInt) {
        System.out.println("superclass class-method");
    }
}
```

```
class MountainBike extends Bicycle {
    public static void myClassMethod(int someInt) {
        System.out.println("subclass class-method");
    }
}
```

```
Bicycle.myClassMethod(10);        // "superclass class-method"
MountainBike.myClassMethod(10);   // "subclass class-method"
```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Introduction to Java Basics (page 90 of 164)

3 Classes, Objects, Inheritance

Polymorphism

- Polymorphism: subclass objects may be assigned to superclass variables

```
MountainBike mountainBike = new MountainBike();
Bicycle bicycle = mountainBike;
```

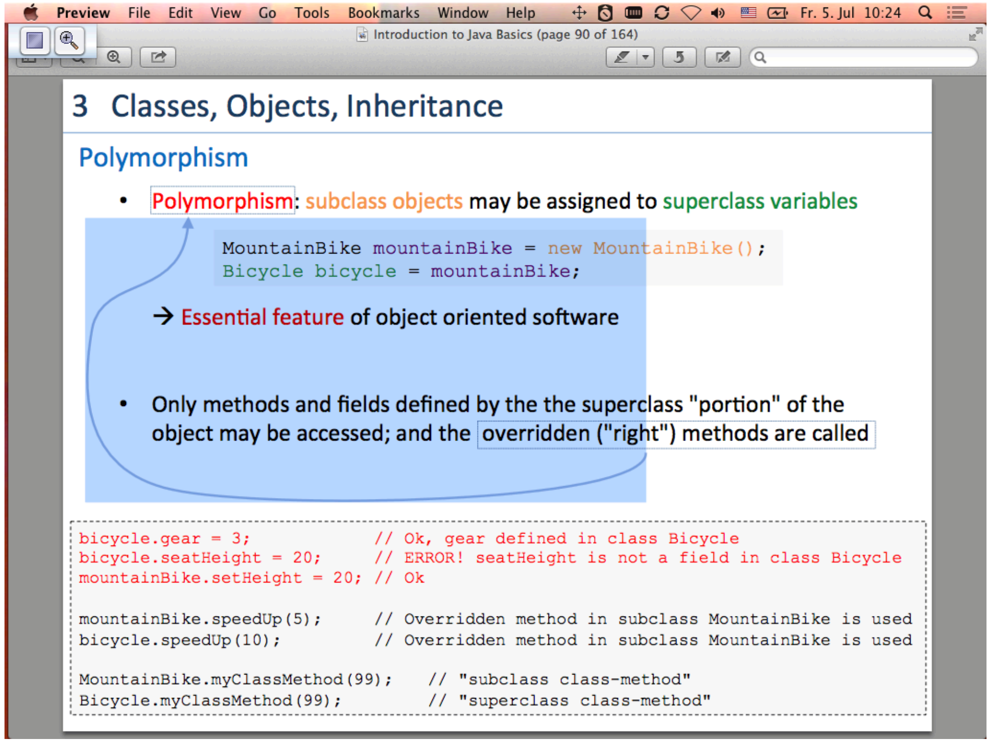
→ Essential feature of object oriented software

- Only methods and fields defined by the the superclass "portion" of the object may be accessed; and the overridden ("right") methods are called

```
bicycle.gear = 3;             // Ok, gear defined in class Bicycle
bicycle.seatHeight = 20;      // ERROR! seatHeight is not a field in class Bicycle
mountainBike.setHeight = 20;  // Ok

mountainBike.speedUp(5);      // Overridden method in subclass MountainBike is used
bicycle.speedUp(10);          // Overridden method in subclass MountainBike is used

MountainBike.myClassMethod(99);    // "subclass class-method"
Bicycle.myClassMethod(99);         // "superclass class-method"
```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Fr. 5. Jul 10:24
Introduction to Java Basics (page 90 of 164)

3 Classes, Objects, Inheritance

Polymorphism

- Polymorphism: subclass objects may be assigned to superclass variables

```
MountainBike mountainBike = new MountainBike();
Bicycle bicycle = mountainBike;
```

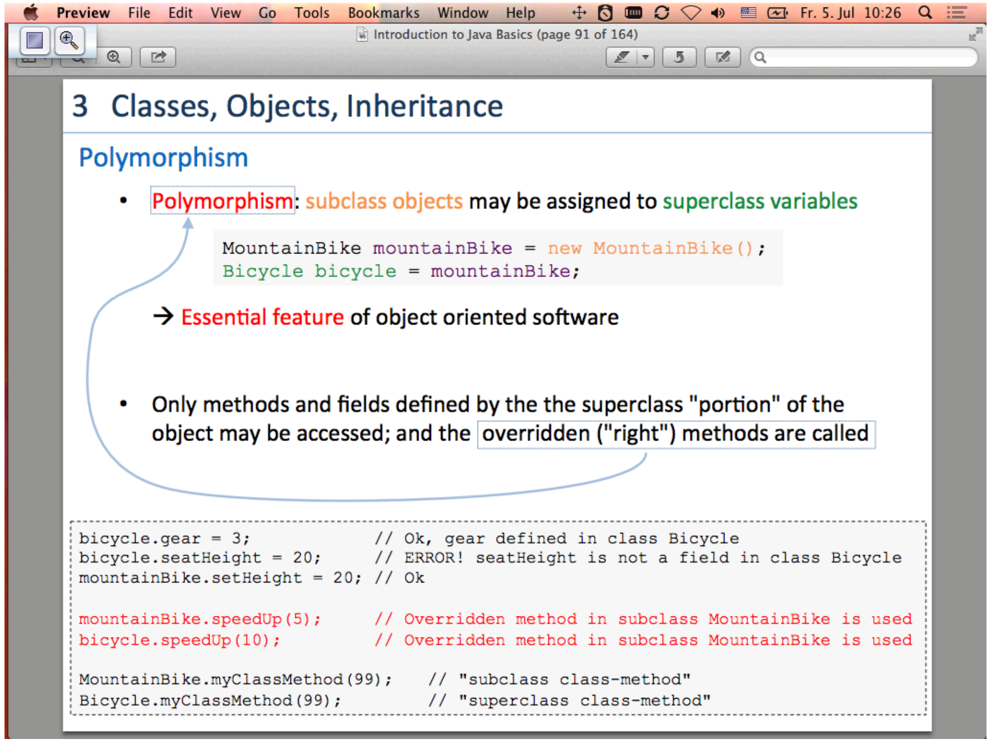
→ Essential feature of object oriented software

- Only methods and fields defined by the the superclass "portion" of the object may be accessed; and the overridden ("right") methods are called

```
bicycle.gear = 3;             // Ok, gear defined in class Bicycle
bicycle.seatHeight = 20;      // ERROR! seatHeight is not a field in class Bicycle
mountainBike.setHeight = 20;  // Ok

mountainBike.speedUp(5);      // Overridden method in subclass MountainBike is used
bicycle.speedUp(10);          // Overridden method in subclass MountainBike is used

MountainBike.myClassMethod(99);    // "subclass class-method"
Bicycle.myClassMethod(99);         // "superclass class-method"
```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Introduction to Java Basics (page 91 of 164)

3 Classes, Objects, Inheritance

Polymorphism

- Polymorphism: subclass objects may be assigned to superclass variables

```
MountainBike mountainBike = new MountainBike();
Bicycle bicycle = mountainBike;
```

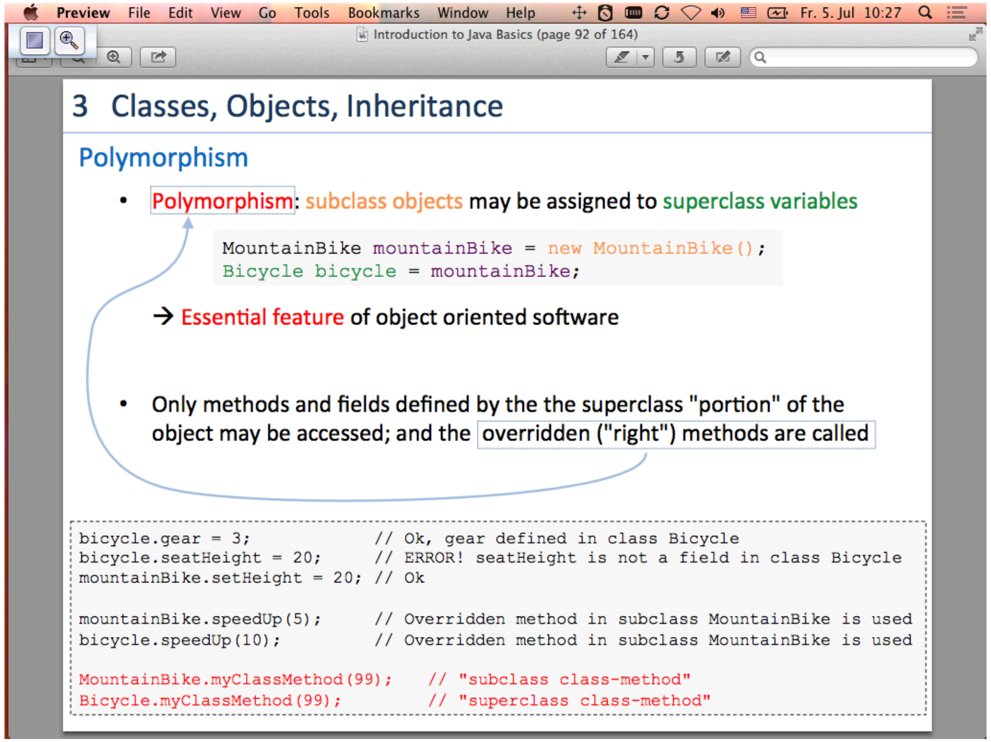
→ Essential feature of object oriented software

- Only methods and fields defined by the the superclass "portion" of the object may be accessed; and the overridden ("right") methods are called

```
bicycle.gear = 3;             // Ok, gear defined in class Bicycle
bicycle.seatHeight = 20;      // ERROR! seatHeight is not a field in class Bicycle
mountainBike.setHeight = 20;  // Ok

mountainBike.speedUp(5);      // Overridden method in subclass MountainBike is used
bicycle.speedUp(10);          // Overridden method in subclass MountainBike is used

MountainBike.myClassMethod(99);    // "subclass class-method"
Bicycle.myClassMethod(99);         // "superclass class-method"
```



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Fr. 5. Jul 10:27
Introduction to Java Basics (page 92 of 164)

3 Classes, Objects, Inheritance

Polymorphism

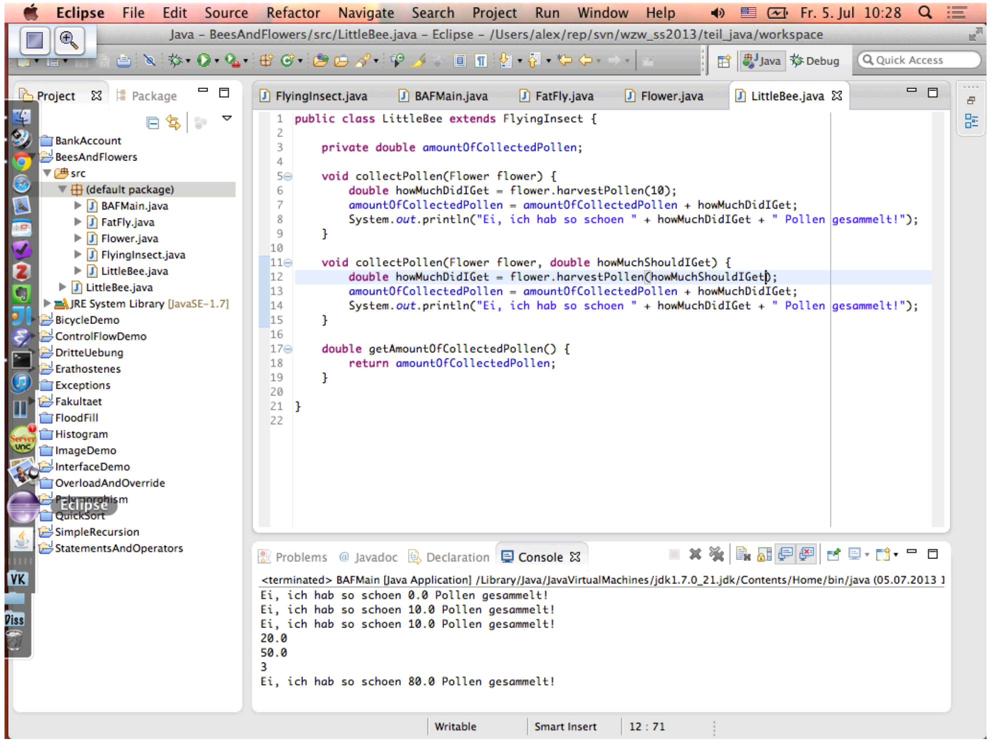
- Polymorphism: subclass objects may be assigned to superclass variables

```
MountainBike mountainBike = new MountainBike();
Bicycle bicycle = mountainBike;
```

→ Essential feature of object oriented software

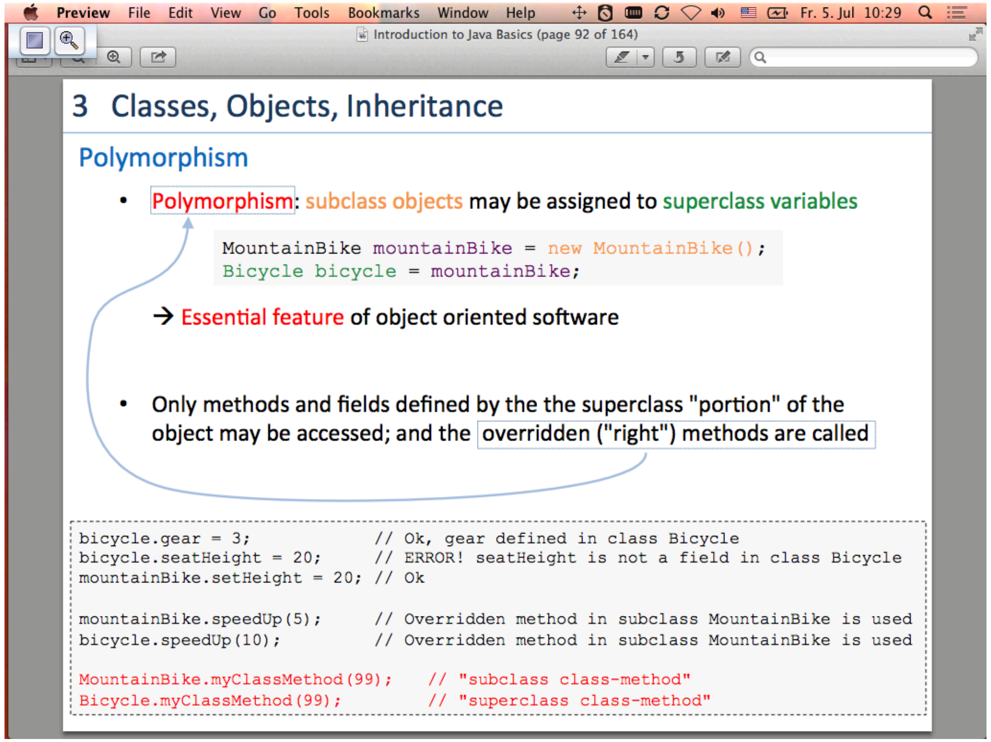
- Only methods and fields defined by the the superclass "portion" of the object may be accessed; and the overridden ("right") methods are called

```
bicycle.gear = 3;            // Ok, gear defined in class Bicycle
bicycle.seatHeight = 20;     // ERROR! seatHeight is not a field in class Bicycle
mountainBike.setHeight = 20; // Ok

mountainBike.speedUp(5);     // Overridden method in subclass MountainBike is used
bicycle.speedUp(10);         // Overridden method in subclass MountainBike is used

MountainBike.myClassMethod(99);    // "subclass class-method"
Bicycle.myClassMethod(99);         // "superclass class-method"
```



```
public class LittleBee extends FlyingInsect {

    private double amountOfCollectedPollen;

    void collectPollen(Flower flower) {
        double howMuchDidIGet = flower.harvestPollen(10);
        amountOfCollectedPollen = amountOfCollectedPollen + howMuchDidIGet;
        System.out.println("Ei, ich hab so schoen " + howMuchDidIGet + " Pollen gesammelt!");
    }

    void collectPollen(Flower flower, double howMuchShouldIGet) {
        double howMuchDidIGet = flower.harvestPollen(howMuchShouldIGet);
        amountOfCollectedPollen = amountOfCollectedPollen + howMuchDidIGet;
        System.out.println("Ei, ich hab so schoen " + howMuchDidIGet + " Pollen gesammelt!");
    }

    double getAmountOfCollectedPollen() {
        return amountOfCollectedPollen;
    }

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
3
Ei, ich hab so schoen 80.0 Pollen gesammelt!
```



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Introduction to Java Basics (page 92 of 164)

3 Classes, Objects, Inheritance

Polymorphism

- Polymorphism: subclass objects may be assigned to superclass variables

MountainBike mountainBike = new MountainBike();
Bicycle bicycle = mountainBike;

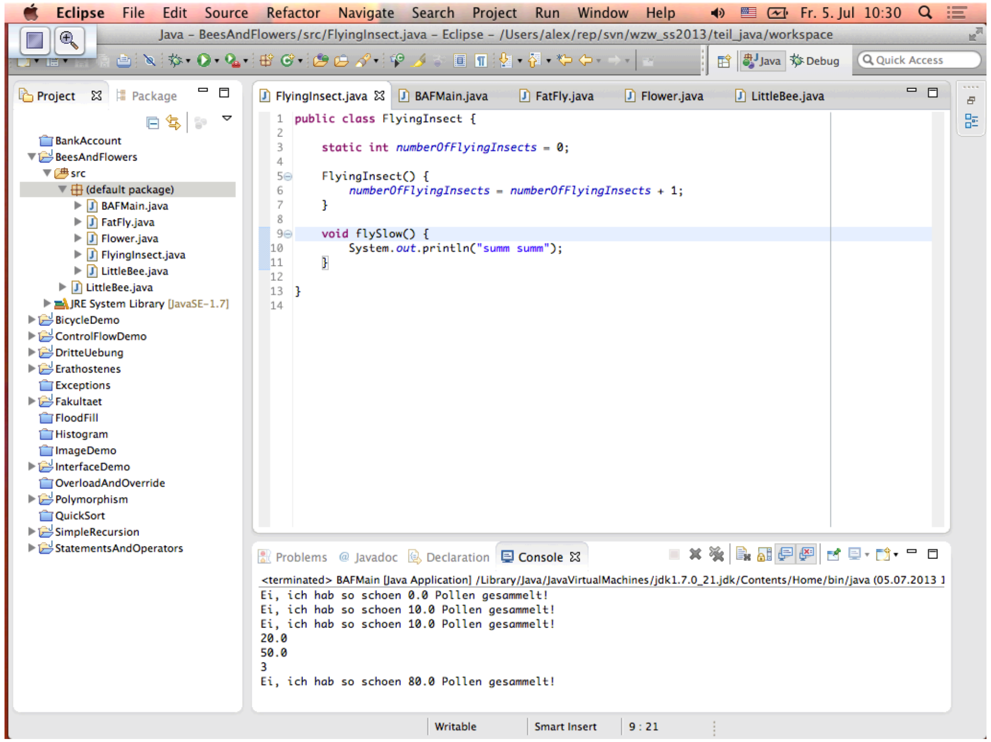
→ Essential feature of object oriented software

- Only methods and fields defined by the the superclass "portion" of the object may be accessed; and the overridden ("right") methods are called

bicycle.gear = 3;   // Ok, gear defined in class Bicycle
bicycle.seatHeight = 20;   // ERROR! seatHeight is not a field in class Bicycle
mountainBike.setHeight = 20; // Ok

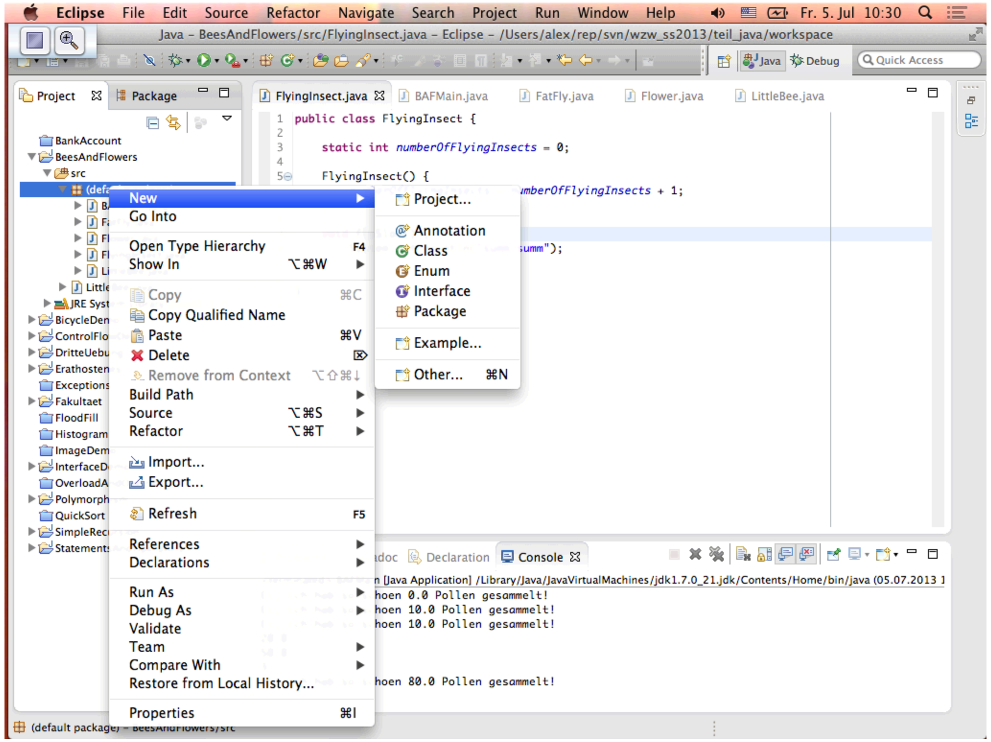
mountainBike.speedUp(5);   // Overridden method in subclass MountainBike is used
bicycle.speedUp(10);   // Overridden method in subclass MountainBike is used

MountainBike.myClassMethod(99);   // "subclass class-method"
Bicycle.myClassMethod(99);   // "superclass class-method"



```
public class FlyingInsect {

    static int numberOfFlyingInsects = 0;

    FlyingInsect() {
        numberOfFlyingInsects = numberOfFlyingInsects + 1;
    }

    void flySlow() {
        System.out.println("summ summ");
    }

}
```

<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
Ei, ich hab so schoen 0.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
3
Ei, ich hab so schoen 80.0 Pollen gesammelt!

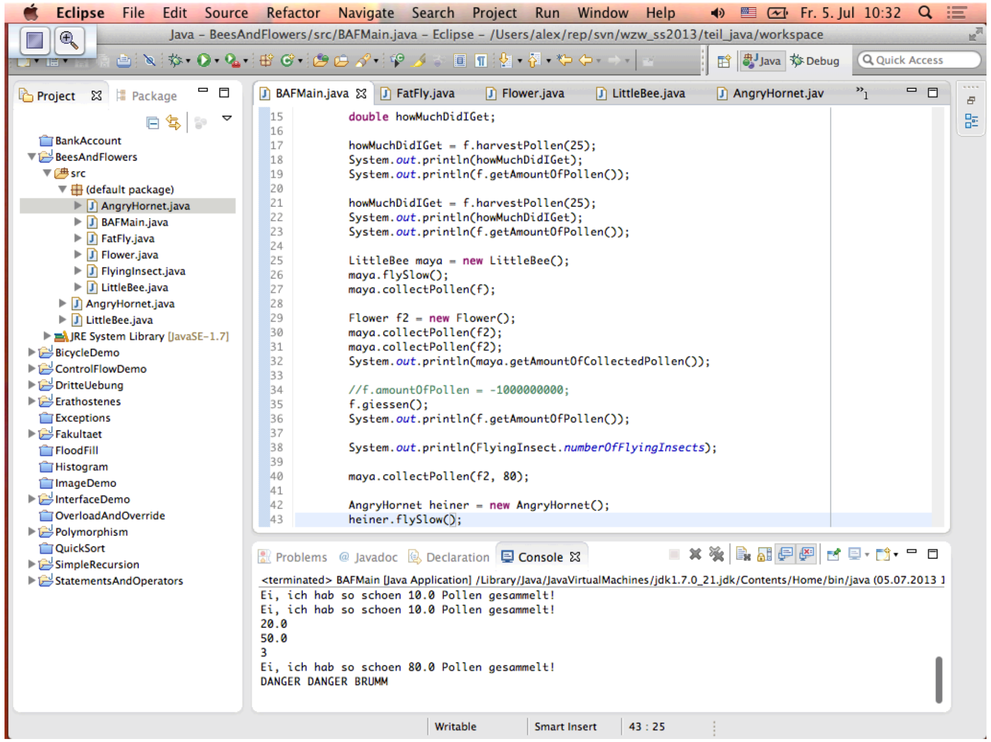


Java – BeesAndFlowers/src/FlyingInsect.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

```
public class FlyingInsect {

    static int numberOfFlyingInsects = 0;

    FlyingInsect() {
                                umberOfFlyingInsects + 1;


                                summ");
```

```
n [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
hoen 0.0 Pollen gesammelt!
hoen 10.0 Pollen gesammelt!
hoen 10.0 Pollen gesammelt!



hoen 80.0 Pollen gesammelt!
```

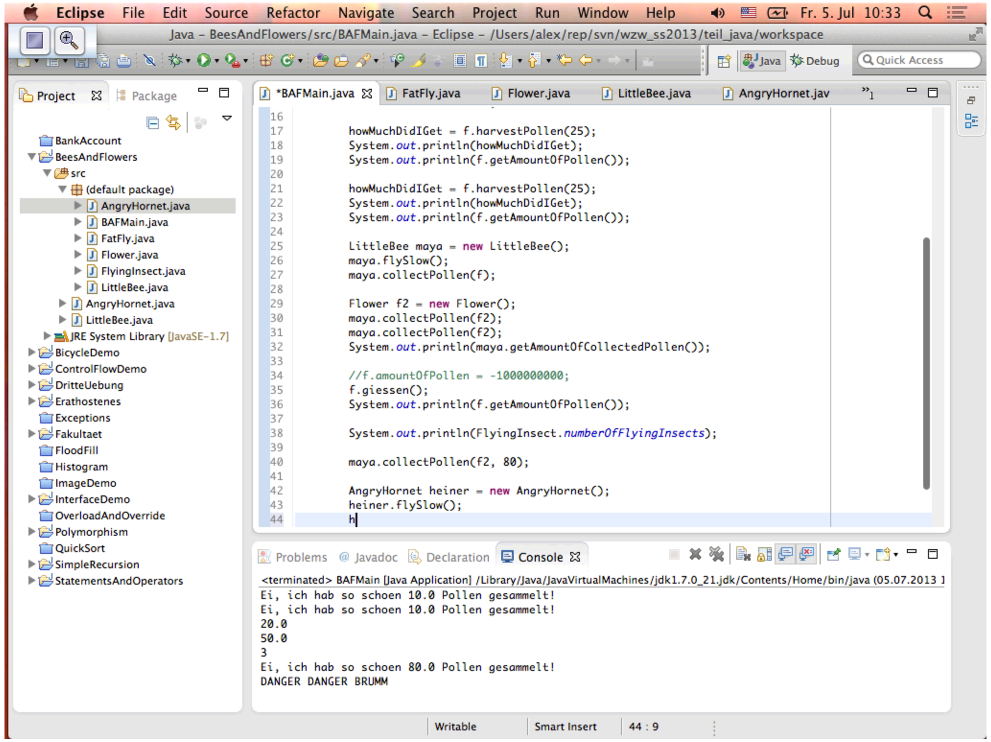
(default package) – BeesAndFlowers/src



Java – BeesAndFlowers/src/BAFMain.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

```
        double howMuchDidIGet;

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        LittleBee maya = new LittleBee();
        maya.flySlow();
        maya.collectPollen(f);

        Flower f2 = new Flower();
        maya.collectPollen(f2);
        maya.collectPollen(f2);
        System.out.println(maya.getAmountOfCollectedPollen());

        //f.amountOfPollen = -1000000000;
        f.giessen();
        System.out.println(f.getAmountOfPollen());

        System.out.println(FlyingInsect.numberOfFlyingInsects);

        maya.collectPollen(f2, 80);

        AngryHornet heiner = new AngryHornet();
        heiner.flySlow();
```

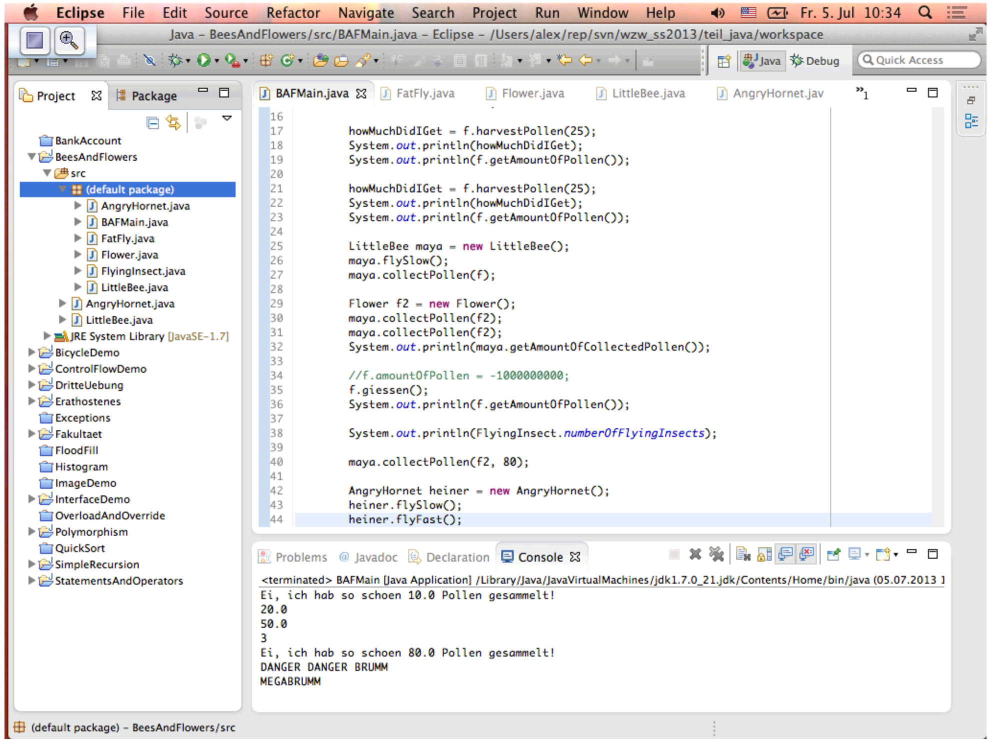
```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
3
Ei, ich hab so schoen 80.0 Pollen gesammelt!
DANGER DANGER BRUMM
```



Java – BeesAndFlowers/src/BAFMain.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

```

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        LittleBee maya = new LittleBee();
        maya.flySlow();
        maya.collectPollen(f);

        Flower f2 = new Flower();
        maya.collectPollen(f2);
        maya.collectPollen(f2);
        System.out.println(maya.getAmountOfCollectedPollen());

        //f.amountOfPollen = -1000000000;
        f.giessen();
        System.out.println(f.getAmountOfPollen());

        System.out.println(FlyingInsect.numberOfFlyingInsects);

        maya.collectPollen(f2, 80);

        AngryHornet heiner = new AngryHornet();
        heiner.flySlow();
        h
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
Ei, ich hab so schoen 10.0 Pollen gesammelt!
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
3
Ei, ich hab so schoen 80.0 Pollen gesammelt!
DANGER DANGER BRUMM
```

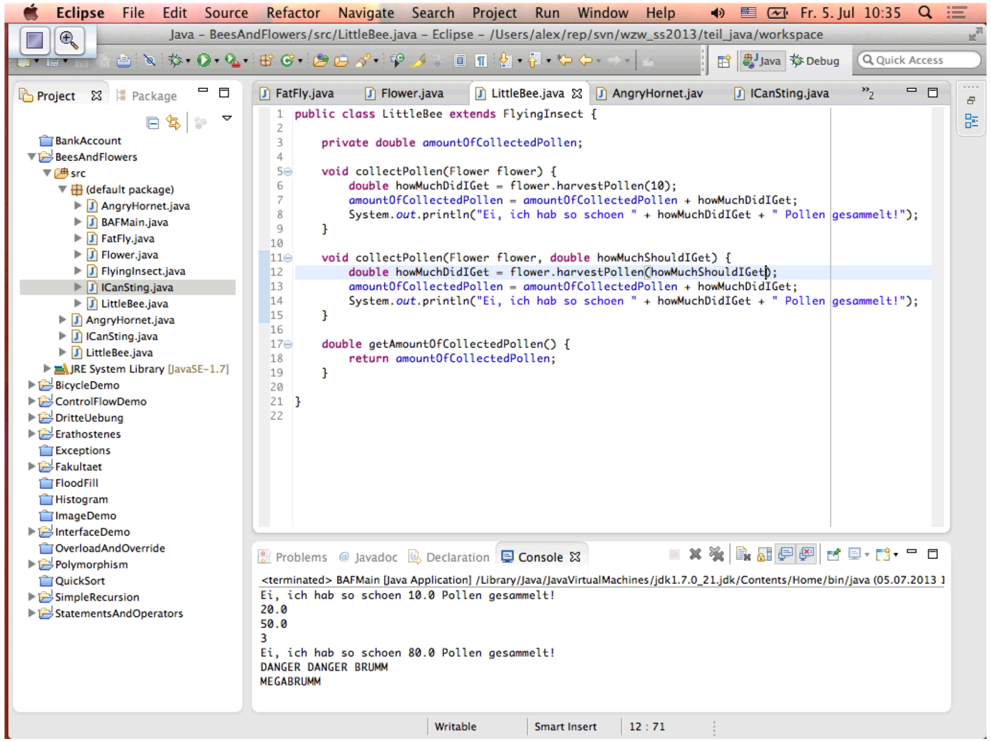


Java – BeesAndFlowers/src/BAFMain.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

```

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        howMuchDidIGet = f.harvestPollen(25);
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        LittleBee maya = new LittleBee();
        maya.flySlow();
        maya.collectPollen(f);

        Flower f2 = new Flower();
        maya.collectPollen(f2);
        maya.collectPollen(f2);
        System.out.println(maya.getAmountOfCollectedPollen());

        //f.amountOfPollen = -1000000000;
        f.giessen();
        System.out.println(f.getAmountOfPollen());

        System.out.println(FlyingInsect.numberOfFlyingInsects);

        maya.collectPollen(f2, 80);

        AngryHornet heiner = new AngryHornet();
        heiner.flySlow();
        heiner.flyFast();
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
3
Ei, ich hab so schoen 80.0 Pollen gesammelt!
DANGER DANGER BRUMM
MEGABRUMM
```

(default package) – BeesAndFlowers/src



Java – BeesAndFlowers/src/LittleBee.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

```java
public class LittleBee extends FlyingInsect {

    private double amountOfCollectedPollen;

    void collectPollen(Flower flower) {
        double howMuchDidIGet = flower.harvestPollen(10);
        amountOfCollectedPollen = amountOfCollectedPollen + howMuchDidIGet;
        System.out.println("Ei, ich hab so schoen " + howMuchDidIGet + " Pollen gesammelt!");
    }

    void collectPollen(Flower flower, double howMuchShouldIGet) {
        double howMuchDidIGet = flower.harvestPollen(howMuchShouldIGet);
        amountOfCollectedPollen = amountOfCollectedPollen + howMuchDidIGet;
        System.out.println("Ei, ich hab so schoen " + howMuchDidIGet + " Pollen gesammelt!");
    }

    double getAmountOfCollectedPollen() {
        return amountOfCollectedPollen;
    }

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
3
Ei, ich hab so schoen 80.0 Pollen gesammelt!
DANGER DANGER BRUMM
MEGABRUMM
```

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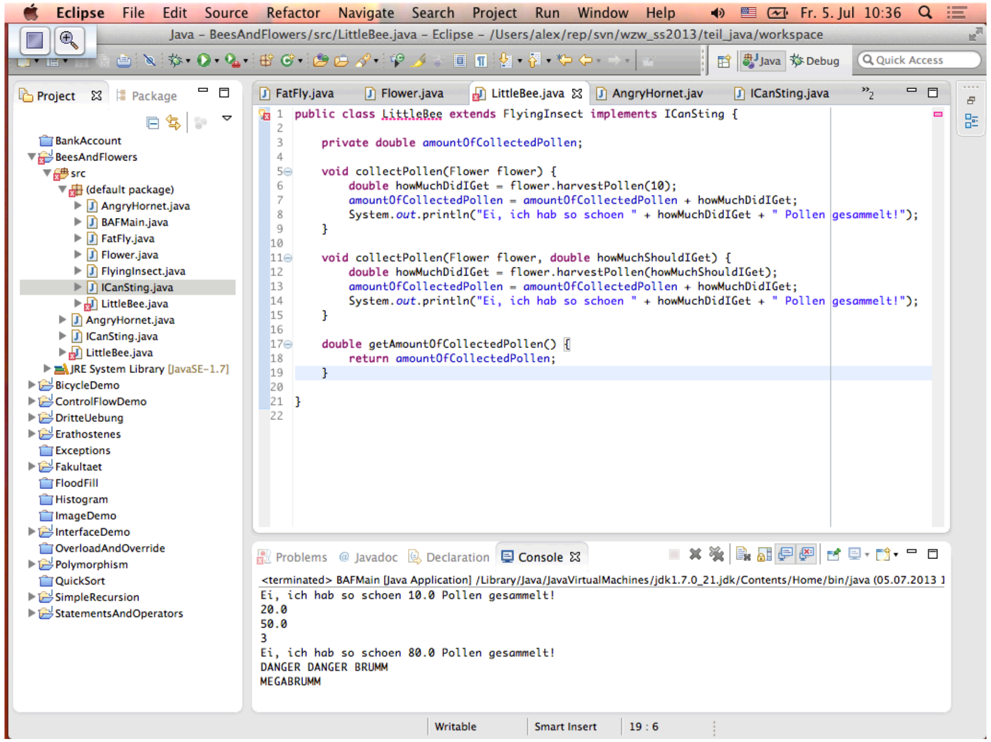

Java – BeesAndFlowers/src/LittleBee.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

```java
public class LittleBee extends FlyingInsect implements ICanSting {

    private double amountOfCollectedPollen;

    void collectPollen(Flower flower) {
        double howMuchDidIGet = flower.harvestPollen(10);
        amountOfCollectedPollen = amountOfCollectedPollen + howMuchDidIGet;
        System.out.println("Ei, ich hab so schoen " + howMuchDidIGet + " Pollen gesammelt!");
    }

    void collectPollen(Flower flower, double howMuchShouldIGet) {
        double howMuchDidIGet = flower.harvestPollen(howMuchShouldIGet);
        amountOfCollectedPollen = amountOfCollectedPollen + howMuchDidIGet;
        System.out.println("Ei, ich hab so schoen " + howMuchDidIGet + " Pollen gesammelt!");
    }

    double getAmountOfCollectedPollen() {
        return amountOfCollectedPollen;
    }

}
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
Ei, ich hab so schoen 10.0 Pollen gesammelt!
20.0
50.0
3
Ei, ich hab so schoen 80.0 Pollen gesammelt!
DANGER DANGER BRUMM
MEGABRUMM
```

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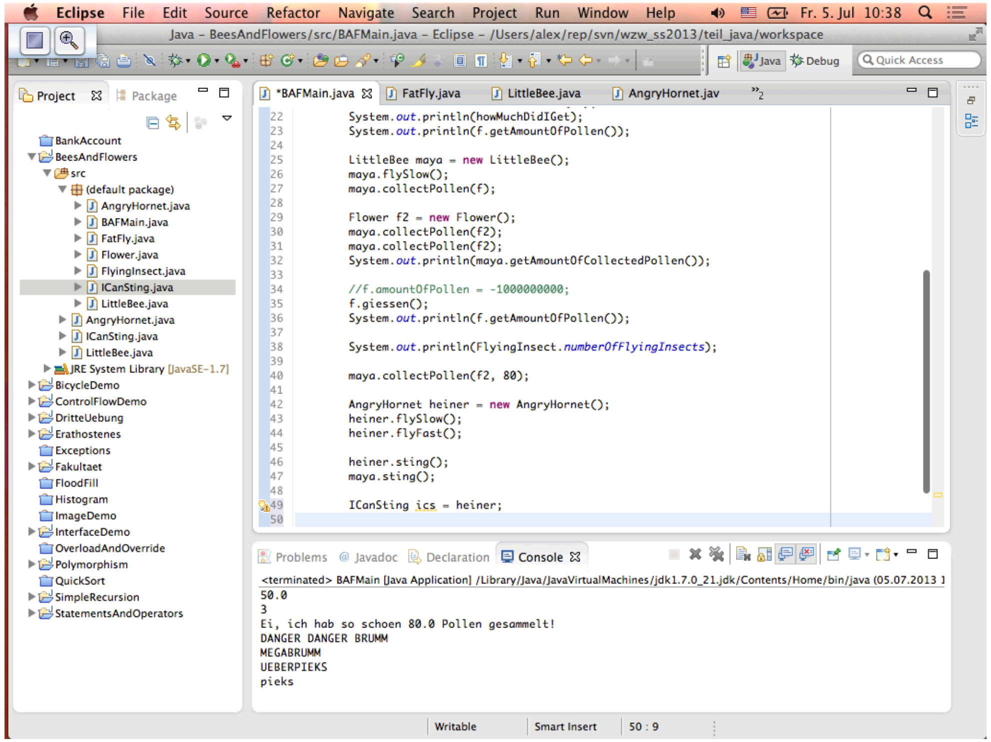
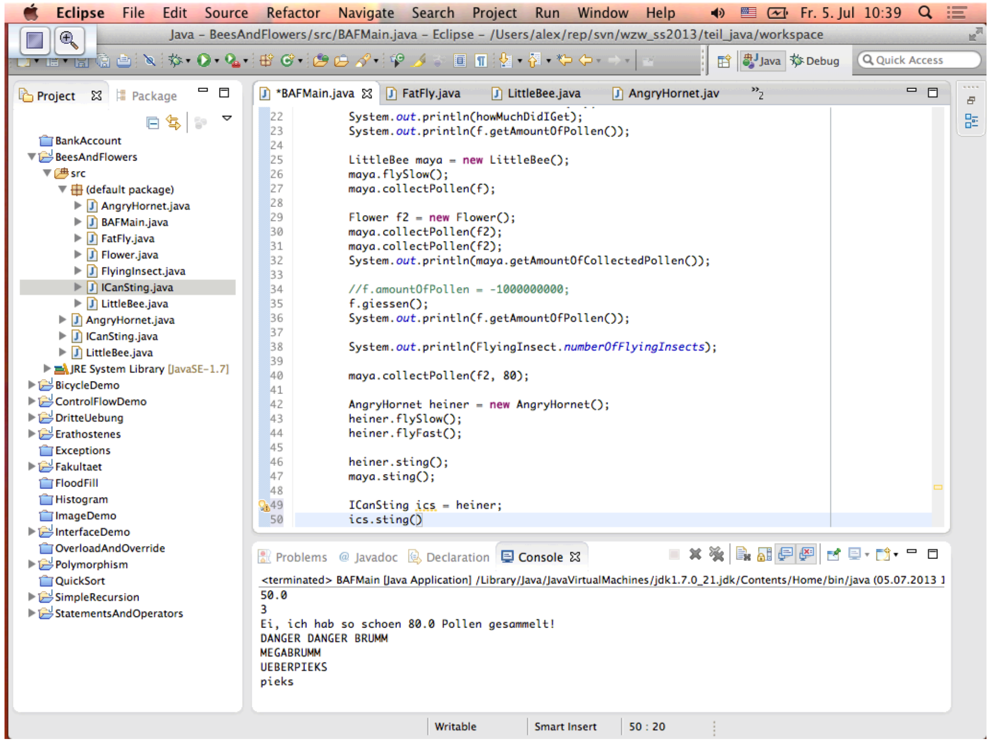


Java – BeesAndFlowers/src/BAFMain.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

```java
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        LittleBee maya = new LittleBee();
        maya.flySlow();
        maya.collectPollen(f);

        Flower f2 = new Flower();
        maya.collectPollen(f2);
        maya.collectPollen(f2);
        System.out.println(maya.getAmountOfCollectedPollen());

        //f.amountOfPollen = -1000000000;
        f.giessen();
        System.out.println(f.getAmountOfPollen());

        System.out.println(FlyingInsect.numberOfFlyingInsects);

        maya.collectPollen(f2, 80);

        AngryHornet heiner = new AngryHornet();
        heiner.flySlow();
        heiner.flyFast();

        heiner.sting();
        maya.sting();

        ICanSting ics = heiner;

```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
50.0
3
Ei, ich hab so schoen 80.0 Pollen gesammelt!
DANGER DANGER BRUMM
MEGABRUMM
UEBERPIEKS
pieks
```

Writable | Smart Insert | 50 : 9

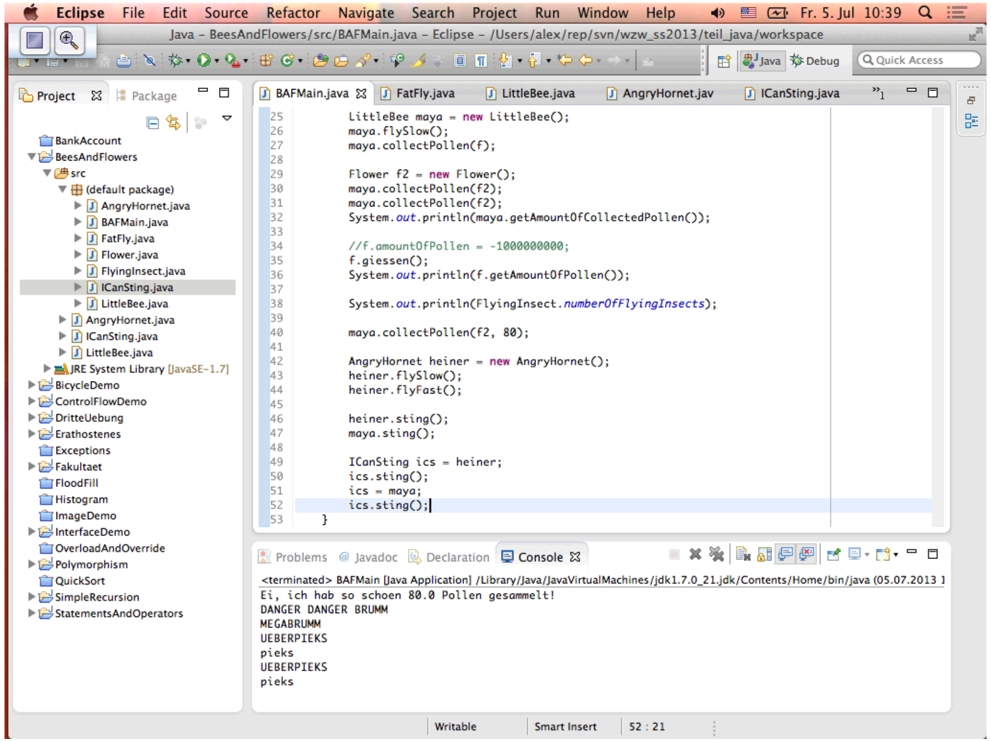


Java – BeesAndFlowers/src/BAFMain.java – Eclipse – /Users/alex/rep/svn/wzw_ss2013/teil_java/workspace

```java
        System.out.println(howMuchDidIGet);
        System.out.println(f.getAmountOfPollen());

        LittleBee maya = new LittleBee();
        maya.flySlow();
        maya.collectPollen(f);

        Flower f2 = new Flower();
        maya.collectPollen(f2);
        maya.collectPollen(f2);
        System.out.println(maya.getAmountOfCollectedPollen());

        //f.amountOfPollen = -1000000000;
        f.giessen();
        System.out.println(f.getAmountOfPollen());

        System.out.println(FlyingInsect.numberOfFlyingInsects);

        maya.collectPollen(f2, 80);

        AngryHornet heiner = new AngryHornet();
        heiner.flySlow();
        heiner.flyFast();

        heiner.sting();
        maya.sting();

        ICanSting ics = heiner;
        ics.sting()
```

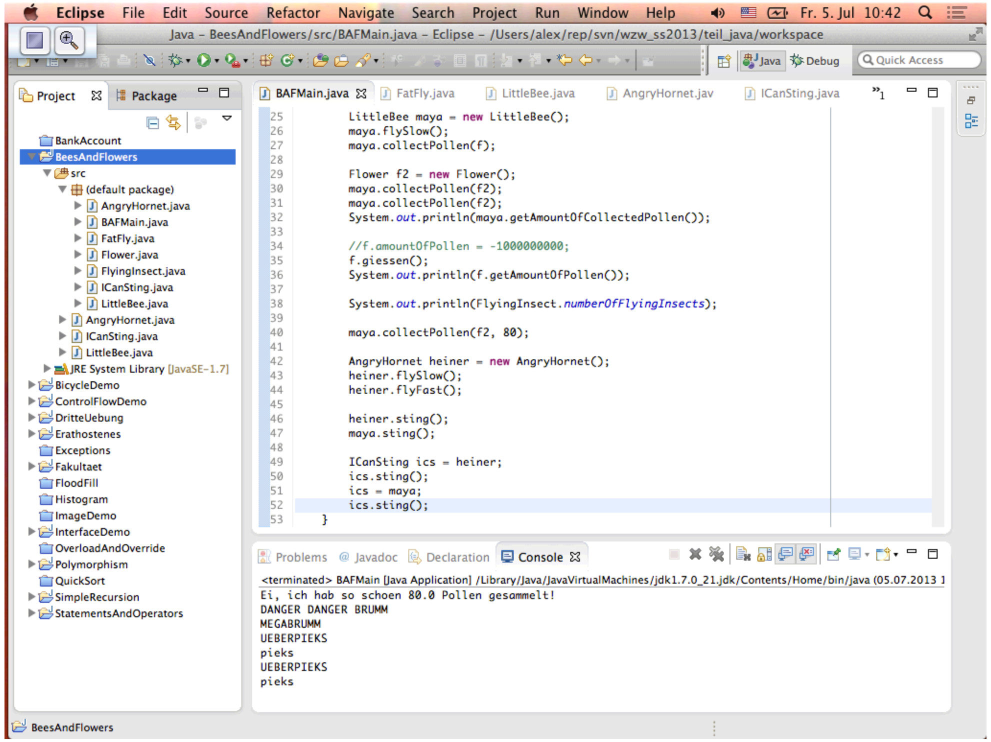
```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
50.0
3
Ei, ich hab so schoen 80.0 Pollen gesammelt!
DANGER DANGER BRUMM
MEGABRUMM
UEBERPIEKS
pieks
```

Writable | Smart Insert | 50 : 20



```
        LittleBee maya = new LittleBee();
        maya.flySlow();
        maya.collectPollen(f);

        Flower f2 = new Flower();
        maya.collectPollen(f2);
        maya.collectPollen(f2);
        System.out.println(maya.getAmountOfCollectedPollen());

        //f.amountOfPollen = -1000000000;
        f.giessen();
        System.out.println(f.getAmountOfPollen());

        System.out.println(FlyingInsect.numberOfFlyingInsects);

        maya.collectPollen(f2, 80);

        AngryHornet heiner = new AngryHornet();
        heiner.flySlow();
        heiner.flyFast();

        heiner.sting();
        maya.sting();

        ICanSting ics = heiner;
        ics.sting();
        ics = maya;
        ics.sting();
    }
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
Ei, ich hab so schoen 80.0 Pollen gesammelt!
DANGER DANGER BRUMM
MEGABRUMM
UEBERPIEKS
pieks
UEBERPIEKS
pieks
```



```
        LittleBee maya = new LittleBee();
        maya.flySlow();
        maya.collectPollen(f);

        Flower f2 = new Flower();
        maya.collectPollen(f2);
        maya.collectPollen(f2);
        System.out.println(maya.getAmountOfCollectedPollen());

        //f.amountOfPollen = -1000000000;
        f.giessen();
        System.out.println(f.getAmountOfPollen());

        System.out.println(FlyingInsect.numberOfFlyingInsects);

        maya.collectPollen(f2, 80);

        AngryHornet heiner = new AngryHornet();
        heiner.flySlow();
        heiner.flyFast();

        heiner.sting();
        maya.sting();

        ICanSting ics = heiner;
        ics.sting();
        ics = maya;
        ics.sting();
    }
```

```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
Ei, ich hab so schoen 80.0 Pollen gesammelt!
DANGER DANGER BRUMM
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UEBERPIEKS
pieks
UEBERPIEKS
pieks
```
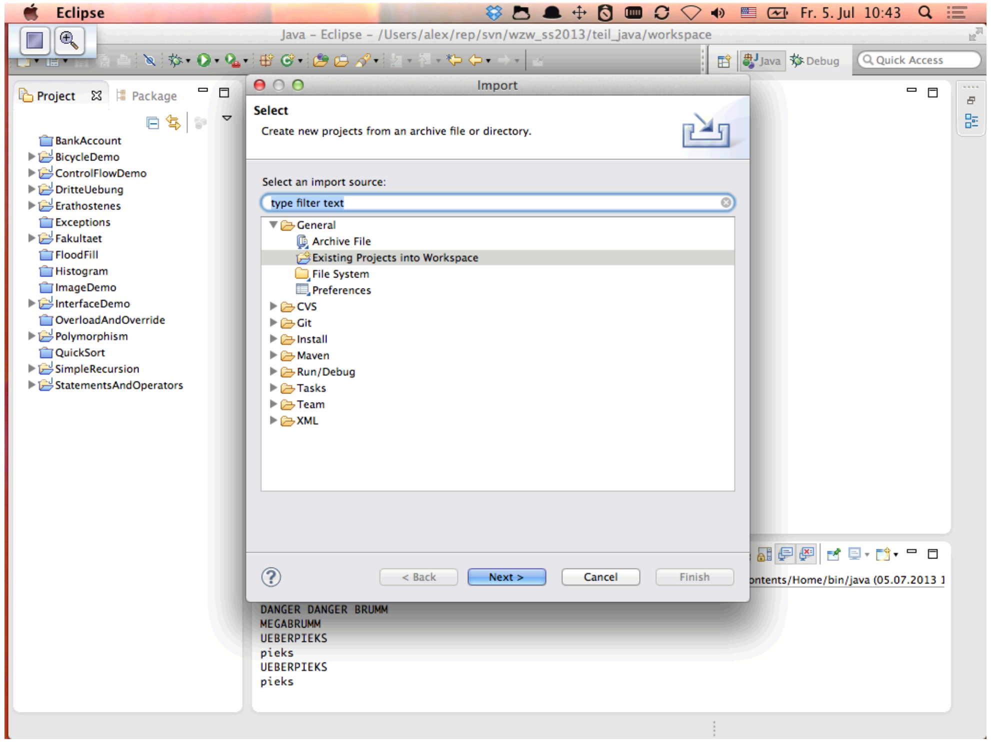



Import

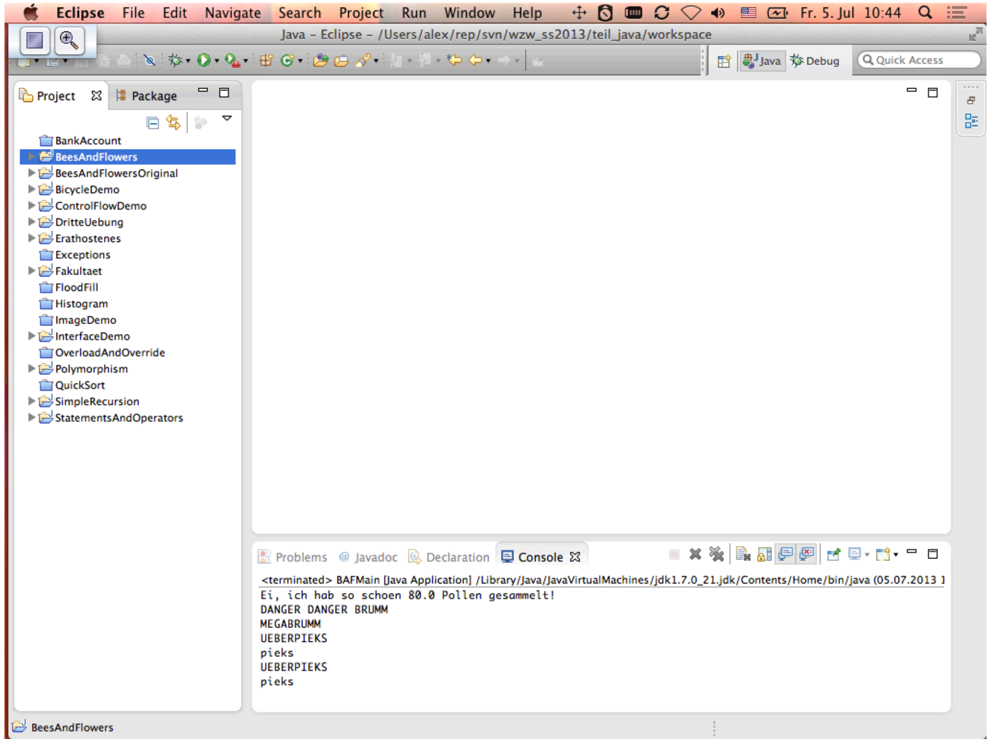
Select

Create new projects from an archive file or directory.

Select an import source:

type filter text

```
ntents/Home/bin/java (05.07.2013 1
DANGER DANGER BRUMM
MEGABRUMM
UEBERPIEKS
pieks
UEBERPIEKS
pieks
```



```
<terminated> BAFMain [Java Application] /Library/Java/JavaVirtualMachines/jdk1.7.0_21.jdk/Contents/Home/bin/java (05.07.2013 1
Ei, ich hab so schoen 80.0 Pollen gesammelt!
DANGER DANGER BRUMM
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```