



# PROGRAMMIEREN IN **Java**

TINF14 - Sommersemester 2015  
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The screenshot shows a Java Integrated Development Environment (IDE) with two code editors open. The left editor contains the code for `Pkw.java`, and the right editor contains the code for `Sichtbarkeit2.java`. Both files are part of the package `ba.java.oo`.

```
1 package ba.java.oo;¶
2 ¶
3 public class Sichtbarkeit {¶
4     ...private int i = 5;¶
5     ¶
6     ...public Sichtbarkeit() {¶
7         ...    int i = 30;¶
8         ...    System.out.println(this.i);¶
9         ...    i += 5;¶
10        ...    printInt(i);¶
11    }¶
12    ¶
13    ...protected void printInt() {¶
14        ...    System.out.println(i + 10);¶
15    }¶
16    ¶
17    ...protected void printInt(int i) {¶
18        ...    System.out.println(i + 10);¶
19    }¶
20    ¶
21 }¶
22 ¶
23 ¶
24 package ba.java.oo;¶
25 ¶
26 public class Sichtbarkeit2 extends Sichtbarkeit {¶
27     ...private int i = 7;¶
28     ¶
29     ...public Sichtbarkeit2() {¶
30         ...    int i = 4;¶
31         ...    printInt();¶
32         ...    printInt(this.i + i);¶
33     }¶
34     ¶
35     ...@Override¶
36     ...protected void printInt(int i) {¶
37         ...    System.out.println(i + 5);¶
38     }¶
39     ¶
40     ...public static void main(String[] args) {¶
41         ...    new Sichtbarkeit2();¶
42     }¶
43 }¶
44 ¶
```

```

1 package ba.java.oo;
2
3 public class Sichtbarkeit {
4     private int i = 5;
5
6     public Sichtbarkeit() {
7         int i = 30;
8         System.out.println(this.i);
9         i += 5;
10        printInt();
11    }
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13     protected void printInt() {
14         System.out.println(i + 10);
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17     protected void printInt(int i) {
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19     }
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```

1 package ba.java.oo;
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3 public class Sichtbarkeit2 extends Sichtbarkeit {
4     private int i = 7;
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7         int i = 4;
8         printInt();
9         printInt(this.i + i);
10    }
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12     @Override
13     protected void printInt(int i) {
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17     public static void main(String[] args) {
18         new Sichtbarkeit2();
19     }
20 }

```

3

```

1 package ba.java.oo;
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3 public class Sichtbarkeit {
4     private int i = 5;
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6     public Sichtbarkeit() {
7         int i = 30;
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9         i += 5;
10        printInt();
11    }
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13     protected void printInt() {
14         System.out.println(i + 10);
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```

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4

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17     public static void main(String[] args) {
18         new Sichtbarkeit2();
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20 }

```

5

```

1 package ba.java.oo;
2
3 public class Sichtbarkeit {
4     private int i = 5;
5
6     public Sichtbarkeit() {
7         int i = 30;
8         System.out.println(this.i);
9         i += 5;
10        printInt();
Ausgabe "5"
this.i = Attribut des Objektes
11    }
12
13     protected void printInt() {
14         System.out.println(i + 10);
15     }
16
17     protected void printInt(int i) {
18         System.out.println(i + 10);
19     }
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21 }

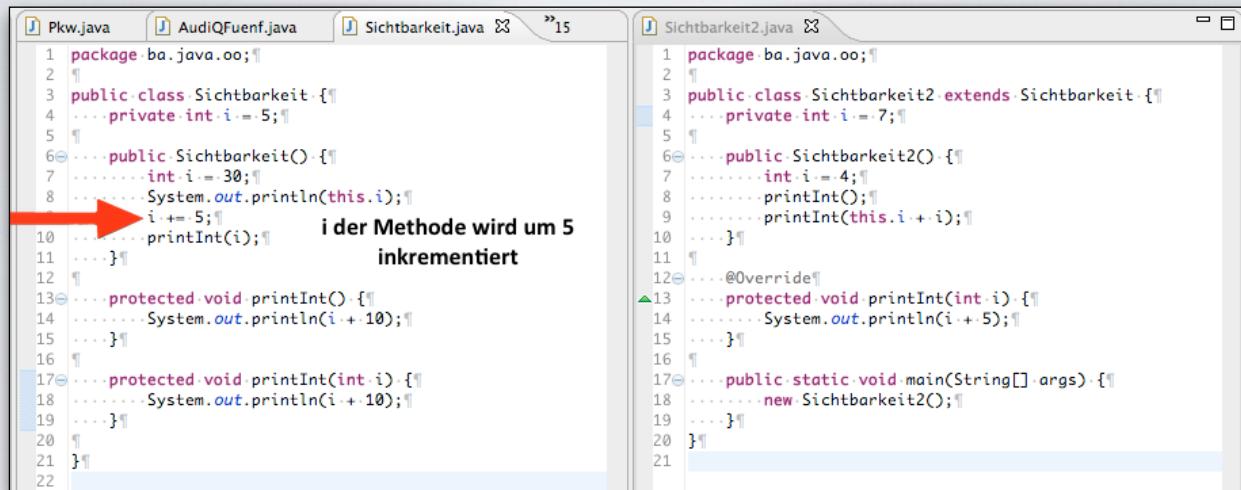
```

```

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```

6



```

1 package ba.java.oo;
2
3 public class Sichtbarkeit {
4     private int i = 5;
5
6     public Sichtbarkeit() {
7         int i = 30;
8         System.out.println(this.i);
9         i += 5;           i der Methode wird um 5 inkrementiert
10    printInt(i);
11 }
12
13 protected void printInt() {
14     System.out.println(i + 10);
15 }
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17 protected void printInt(int i) {
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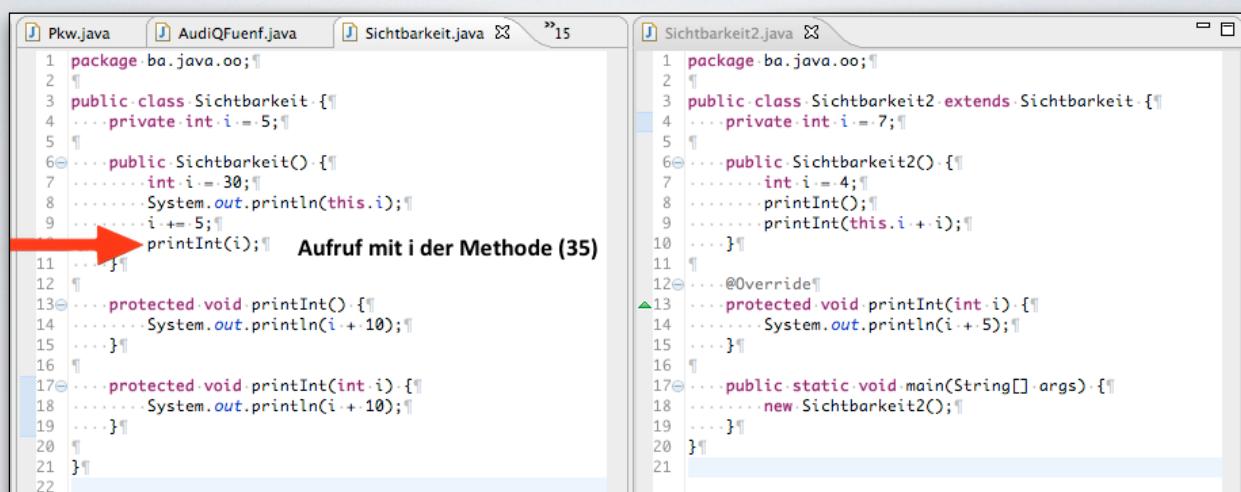
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7



```

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3 public class Sichtbarkeit {
4     private int i = 5;
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6     public Sichtbarkeit() {
7         int i = 30;
8         System.out.println(this.i);
9         i += 5;           Aufruf mit i der Methode (35)
10    printInt(i);
11 }
12
13 protected void printInt() {
14     System.out.println(i + 10);
15 }
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17 protected void printInt(int i) {
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4     private int i = 5;
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6     public Sichtbarkeit() {
7         int i = 30;
8         System.out.println(this.i);
9         i += 5;           Es wird println(i) der
10    printInt(i);      konkretesten Klasse aufgerufen
11 }
12
13 protected void printInt() {
14     System.out.println(i + 10);
15 }
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```

9

```

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3 public class Sichtbarkeit {
4     private int i = 5;
5
6     public Sichtbarkeit() {
7         int i = 30;
8         System.out.println(this.i);
9         i += 5;           Ausgabe 35+5 -> "40"
10    printInt(i);
11 }
12
13 protected void printInt() {
14     System.out.println(i + 10);
15 }
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17 protected void printInt(int i) {
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```

**Ausgabe Attribute i (5) +10  
-> "15**

```

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13

```

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```

**Aufruf mit Attribute von  
Sichtbarkeit2 (i=7) plus i aus  
Methode (4) -> printInt(11)**

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```

14

```

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13 protected void printInt() {|
14     System.out.println(i + 10);|
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17 protected void printInt(int i) {|
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21 }|
22 
```

**Ausgabe von 11 + 5 -> "16"**

```

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5 |
6     public Sichtbarkeit2() {|
7         int i = 4;|
8         printInt();|
9         printInt(this.i + i);|
10    }|
11 |
12 @Override|
13 protected void printInt(int i) {|
14     System.out.println(i + 5);|
15 }|
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17 public static void main(String[] args) {|
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```

15

```

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9         printInt(this.i + i);|
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13 protected void printInt(int i) {|
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17 public static void main(String[] args) {|
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19 }|
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```

16

The screenshot shows a Java development environment with two open files:

- Pkw.java** (tab 1):

```
1 package ba.java.oo;
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6     public Sichtbarkeit() {
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19     }
20
21 }
```
- Sichtbarkeit2.java** (tab 2):

```
1 package ba.java.oo;
2
3 public class Sichtbarkeit2 extends Sichtbarkeit {
4     private int i = 7;
5
6     public Sichtbarkeit2() {
7         int i = 4;
8         printInt();
9         printInt(this.i + i);
10    }
11
12     @Override
13     protected void printInt(int i) {
14         System.out.println(i + 5);
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17     public static void main(String[] args) {
18         new Sichtbarkeit2();
19     }
20
21 }
```

A red arrow points to the line of code in **Sichtbarkeit2.java** at line 18, which creates a new object of **Sichtbarkeit2**:

```
new Sichtbarkeit2();
```