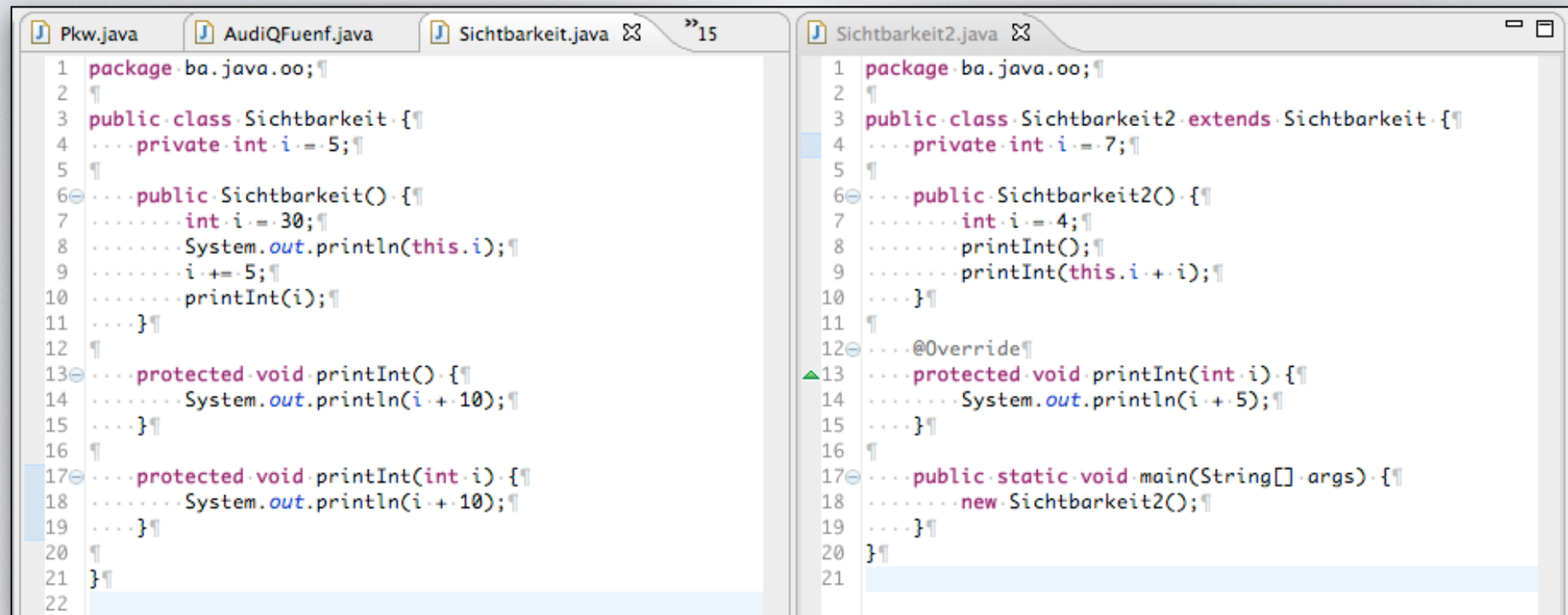




PROGRAMMIEREN IN **Java**

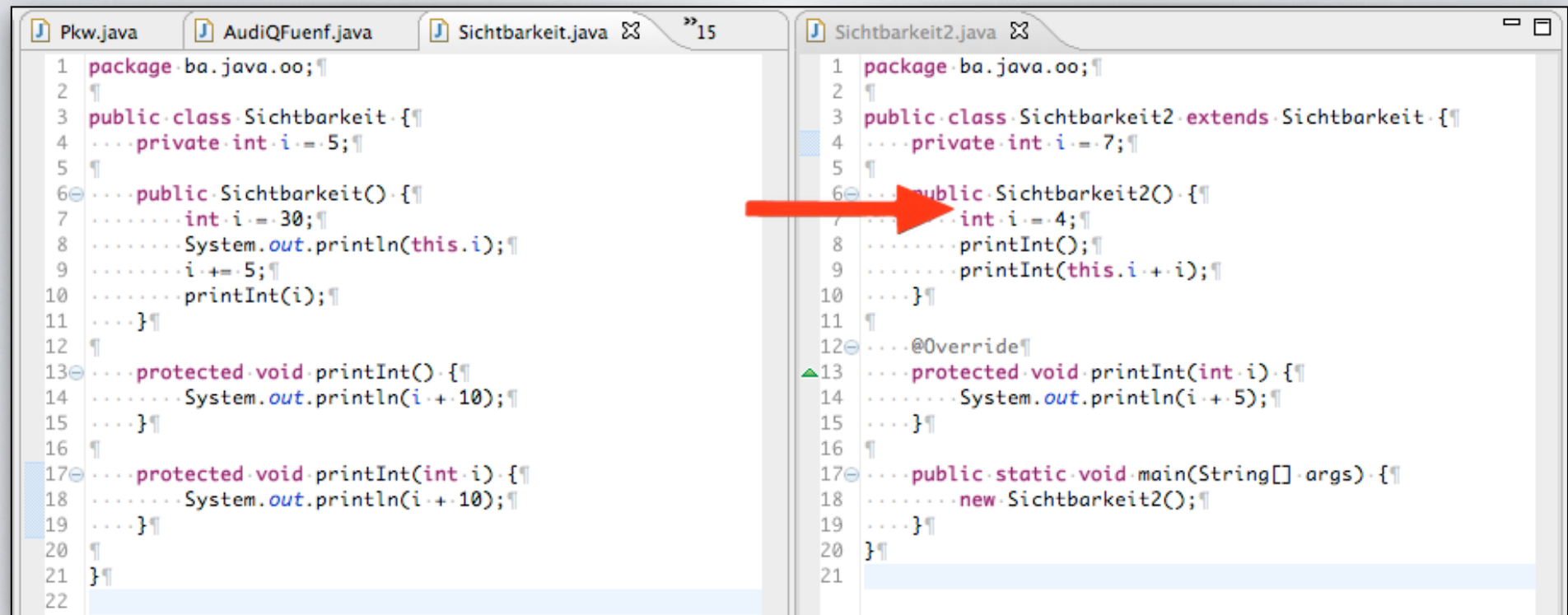
TINF15 - Sommersemester 2016

von Johannes Unterstein - unterstein@me.com



```
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
```

```
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);
15    }
16
17    ... public static void main(String[] args) {
18        ... new Sichtbarkeit2();
19    }
20 }
21
```



```

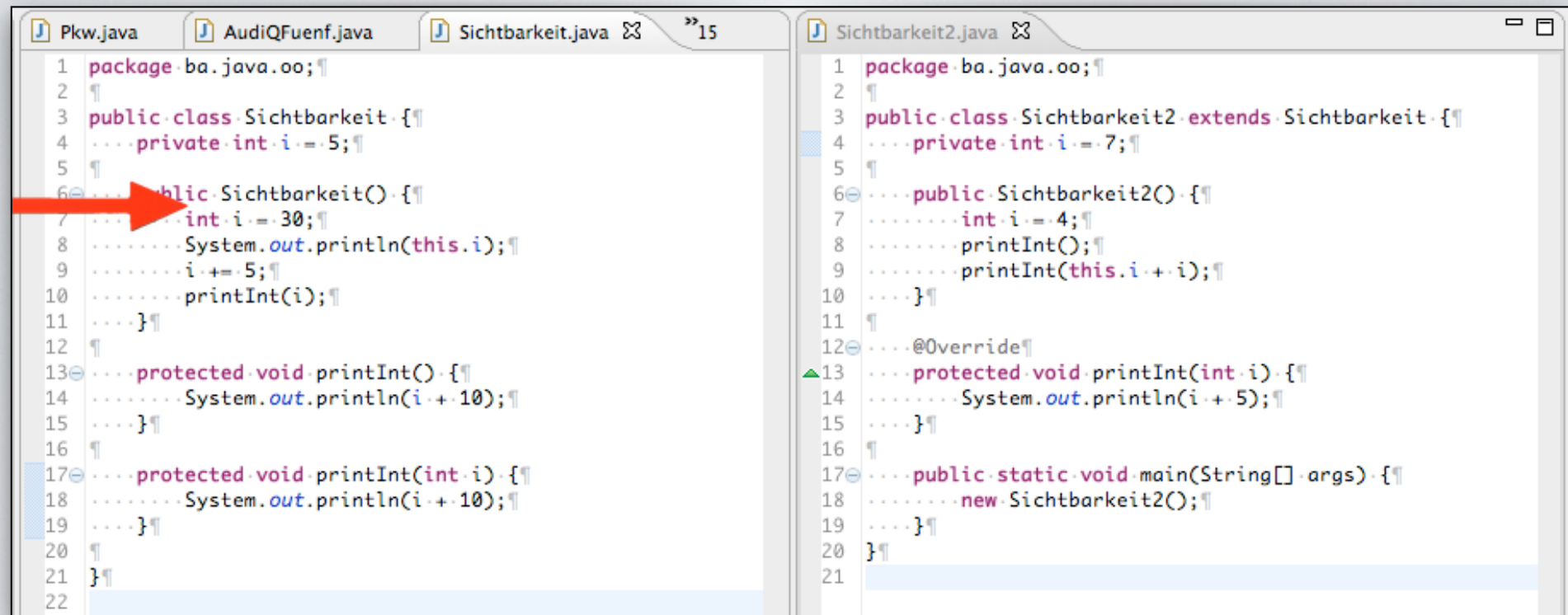
1 package ba.java.oo;
2
3 public class Sichtbarkeit {
4     ... private int i = 5;
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6     ... public Sichtbarkeit() {
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16
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19    }
20
21 }
22

```

```

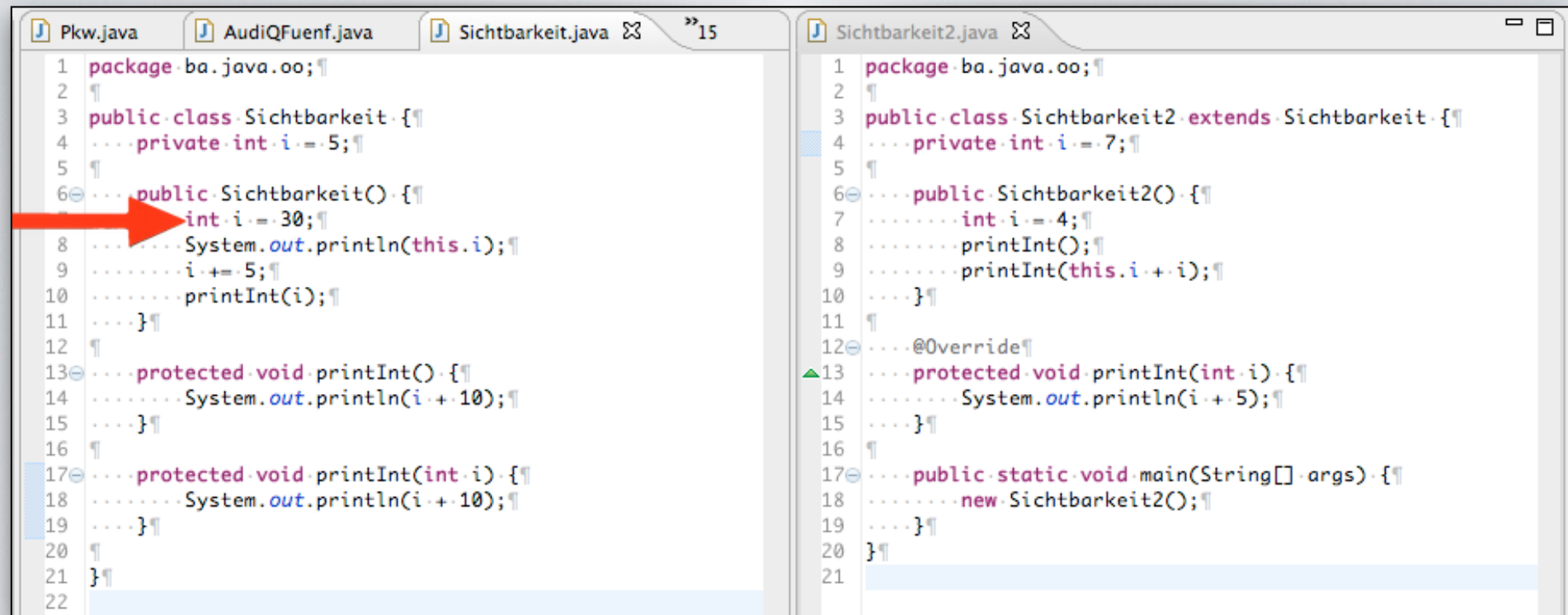
1 package ba.java.oo;
2
3 public class Sichtbarkeit2 extends Sichtbarkeit {
4     ... private int i = 7;
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6     ... public Sichtbarkeit2() {
7         ... int i = 4;
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14        ... System.out.println(i + 5);
15    }
16
17    ... public static void main(String[] args) {
18        ... new Sichtbarkeit2();
19    }
20 }
21

```



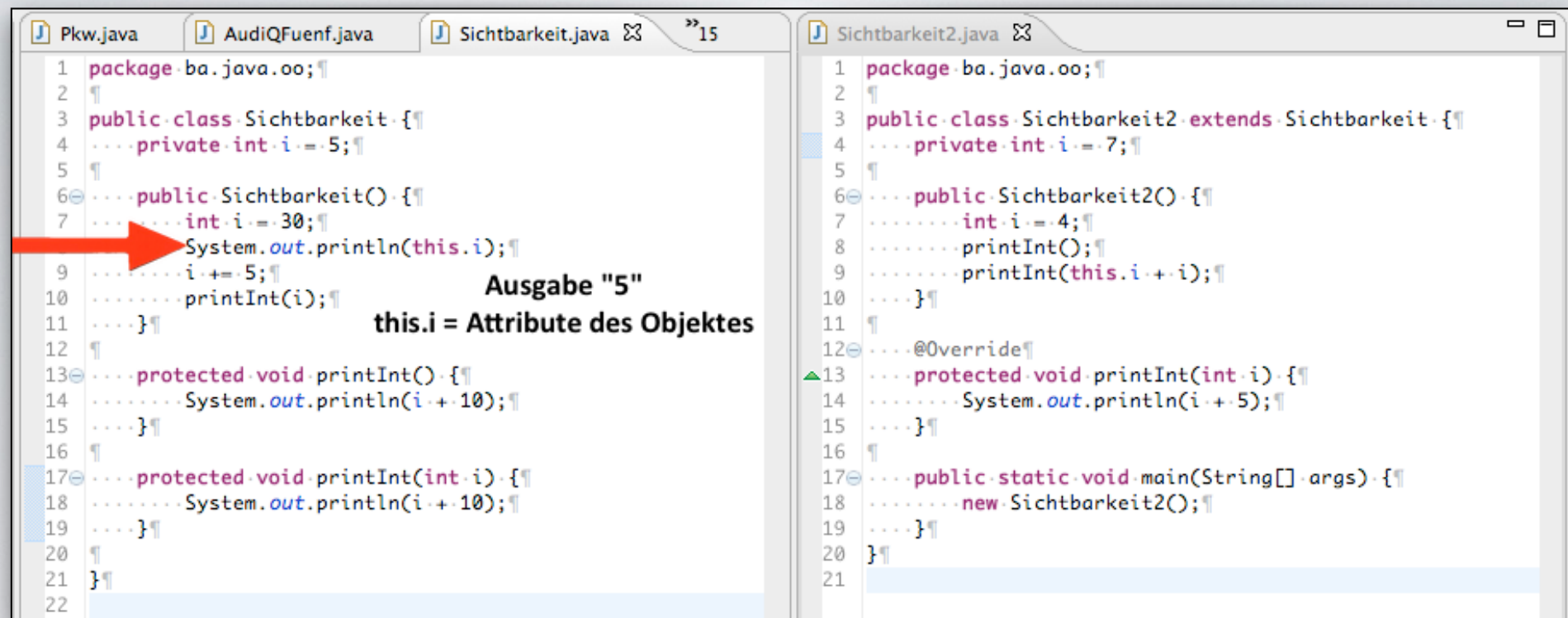
```
1 package ba.java.oo;
2
3 public class Sichtbarkeit {
4     ... private int i = 5;
5
6     ... public Sichtbarkeit() {
7         ... int i = 30;
8         ... System.out.println(this.i);
9         ... i += 5;
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19    }
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21 }
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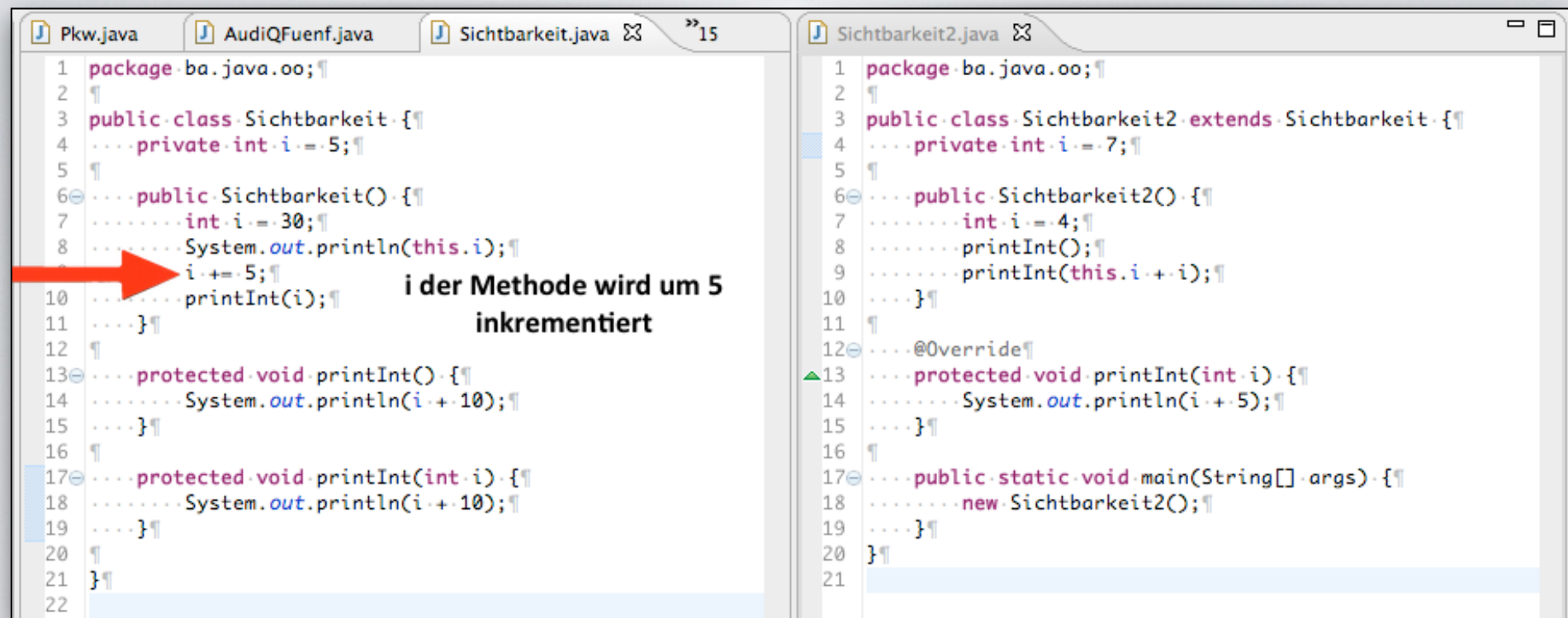
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1 package ba.java.oo;
2
3 public class Sichtbarkeit2 extends Sichtbarkeit {
4     ... private int i = 7;
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18        ... new Sichtbarkeit2();
19    }
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21
```



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21 }
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```

Ausgabe "5"
this.i = Attribute des Objektes

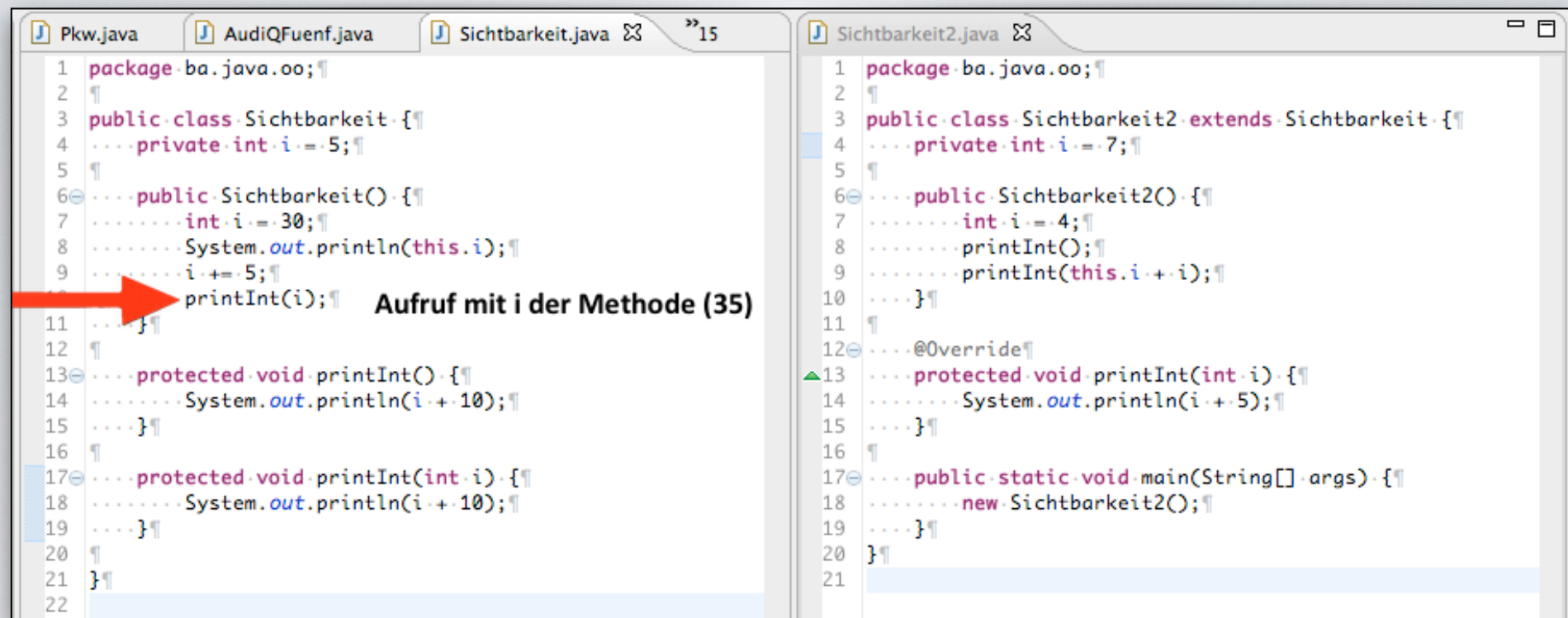
```
1 package ba.java.oo;
2
3 public class Sichtbarkeit2 extends Sichtbarkeit {
4     ... private int i = 7;
5
6     ... public Sichtbarkeit2() {
7         ... int i = 4;
8         ... printInt();
9         ... printInt(this.i + i);
10    }
11
12    ... @Override
13    ... protected void printInt(int i) {
14        ... System.out.println(i + 5);
15    }
16
17    ... public static void main(String[] args) {
18        ... new Sichtbarkeit2();
19    }
20 }
21
```



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2
3 public class Sichtbarkeit {
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7         ... int i = 30;
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15    }
16
17    ... protected void printInt(int i) {
18        ... System.out.println(i + 10);
19    }
20
21 }
22
```

i der Methode wird um 5 inkrementiert

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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);
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```



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9         ... i += 5;
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17    ... protected void printInt(int i) {
18        ... System.out.println(i + 10);
19    }
20
21 }
22
```

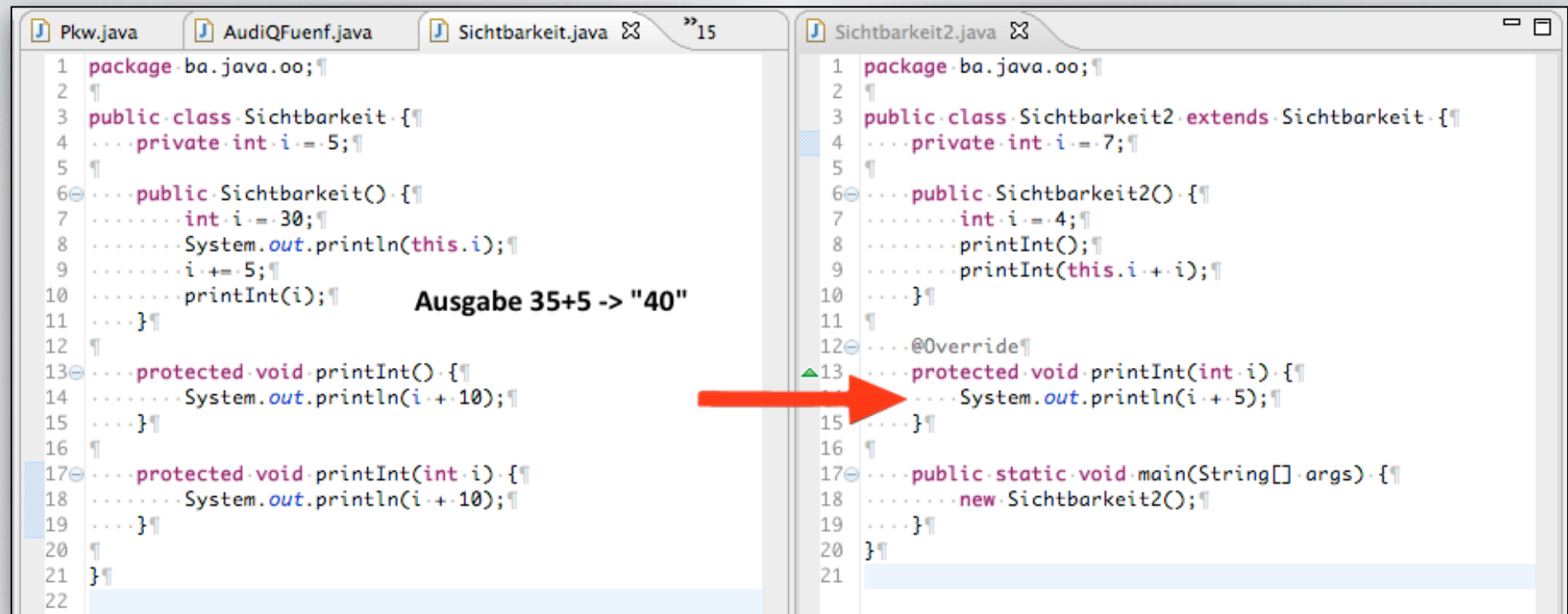
Aufruf mit i der Methode (35)

```
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);
15    }
16
17    ... public static void main(String[] args) {
18        ... new Sichtbarkeit2();
19    }
20 }
21
```


Es wird printInt(i) der konkretesten Klasse aufgerufen

```
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
```

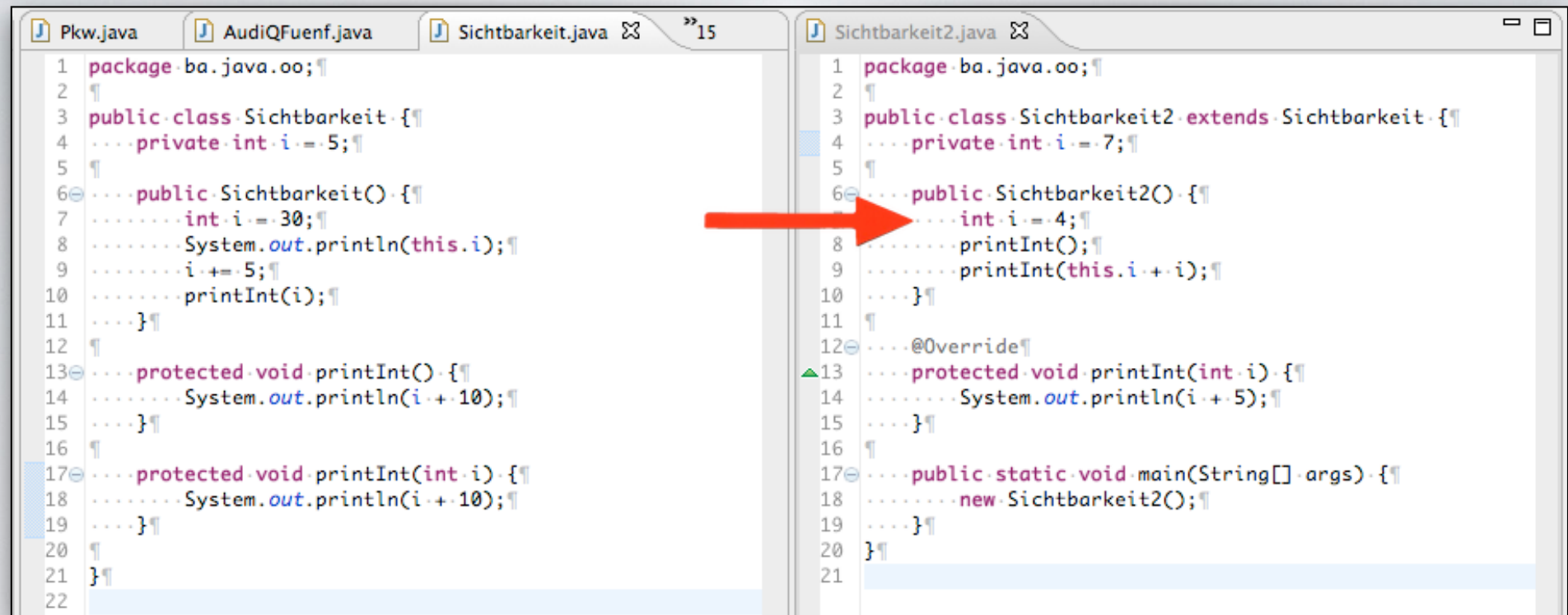
```
1 package ba.java.oo;
2
3 public class Sichtbarkeit2 extends Sichtbarkeit {
4     ... private int i = 7;
5
6     ... public Sichtbarkeit2() {
7         ... int i = 4;
8         ... printInt();
9         ... printInt(this.i + i);
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13    ... protected void printInt(int i) {
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18        ... new Sichtbarkeit2();
19    }
20 }
21
```



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3 public class Sichtbarkeit {
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13    ... protected void printInt() {
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15    }
16
17    ... protected void printInt(int i) {
18        ... System.out.println(i + 10);
19    }
20
21 }
22
```

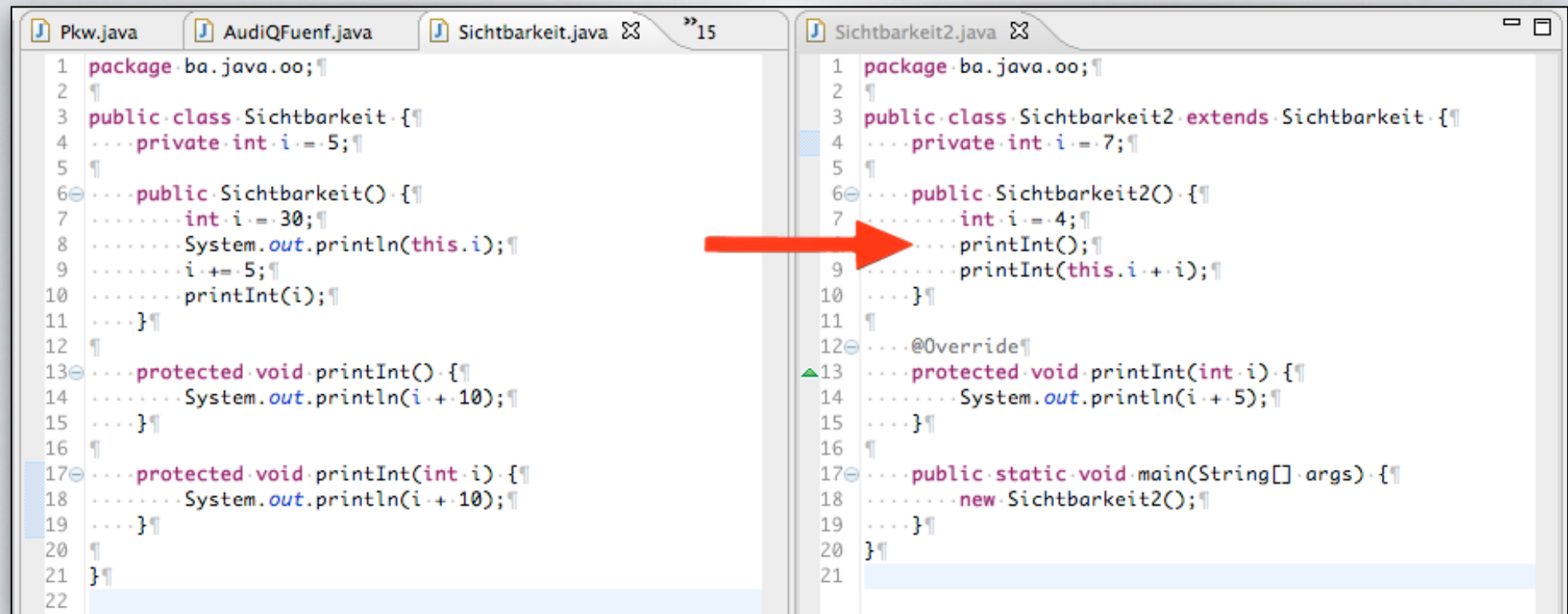
Ausgabe 35+5 -> "40"

```
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);
15    }
16
17    ... public static void main(String[] args) {
18        ... new Sichtbarkeit2();
19    }
20 }
21
```



```
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7         ... int i = 30;
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13    ... protected void printInt() {
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19    }
20
21 }
22
```

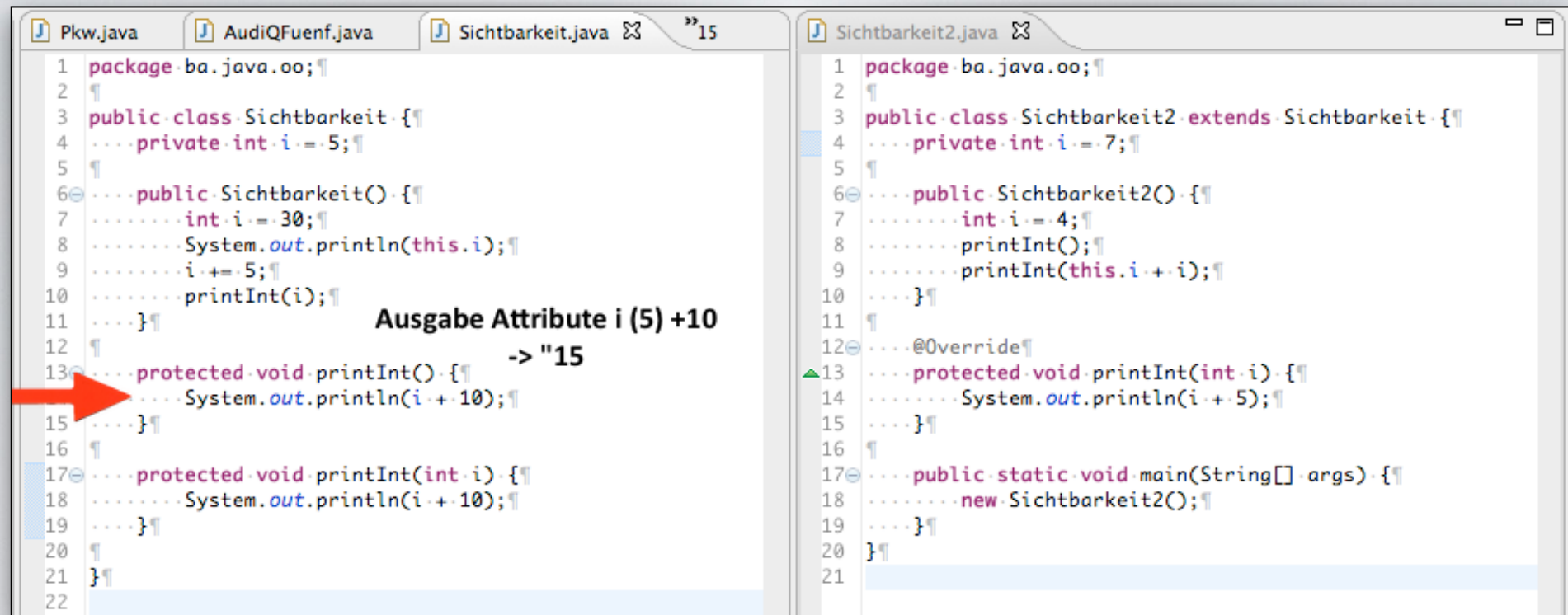
```
1 package ba.java.oo;
2
3 public class Sichtbarkeit2 extends Sichtbarkeit {
4     ... private int i = 7;
5
6     ... public Sichtbarkeit2() {
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9         ... printInt(this.i + i);
10    }
11
12    ... @Override
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14        ... System.out.println(i + 5);
15    }
16
17    ... public static void main(String[] args) {
18        ... new Sichtbarkeit2();
19    }
20 }
21
```



The image shows a code editor with two tabs: `Sichtbarkeit.java` and `Sichtbarkeit2.java`. A red arrow points from line 7 of `Sichtbarkeit.java` to line 7 of `Sichtbarkeit2.java`.

```
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);
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```

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2
3 public class Sichtbarkeit2 extends Sichtbarkeit {
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21 }
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```

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

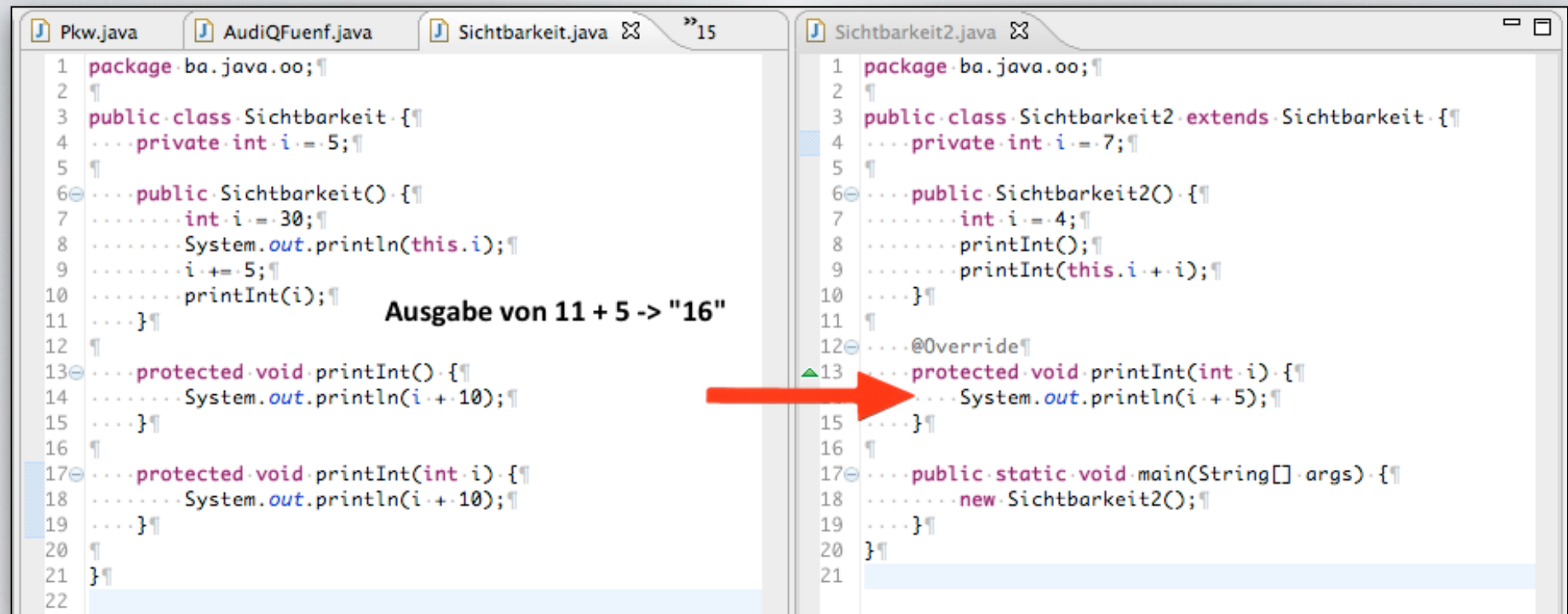
```
1 package ba.java.oo;
2
3 public class Sichtbarkeit2 extends Sichtbarkeit {
4     ... private int i = 7;
5
6     ... public Sichtbarkeit2() {
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9         ... printInt(this.i + i);
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12    ... @Override
13    ... protected void printInt(int i) {
14        ... System.out.println(i + 5);
15    }
16
17    ... public static void main(String[] args) {
18        ... new Sichtbarkeit2();
19    }
20 }
21
```

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

```

1 package ba.java.oo;
2
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;
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14        ... System.out.println(i + 10);
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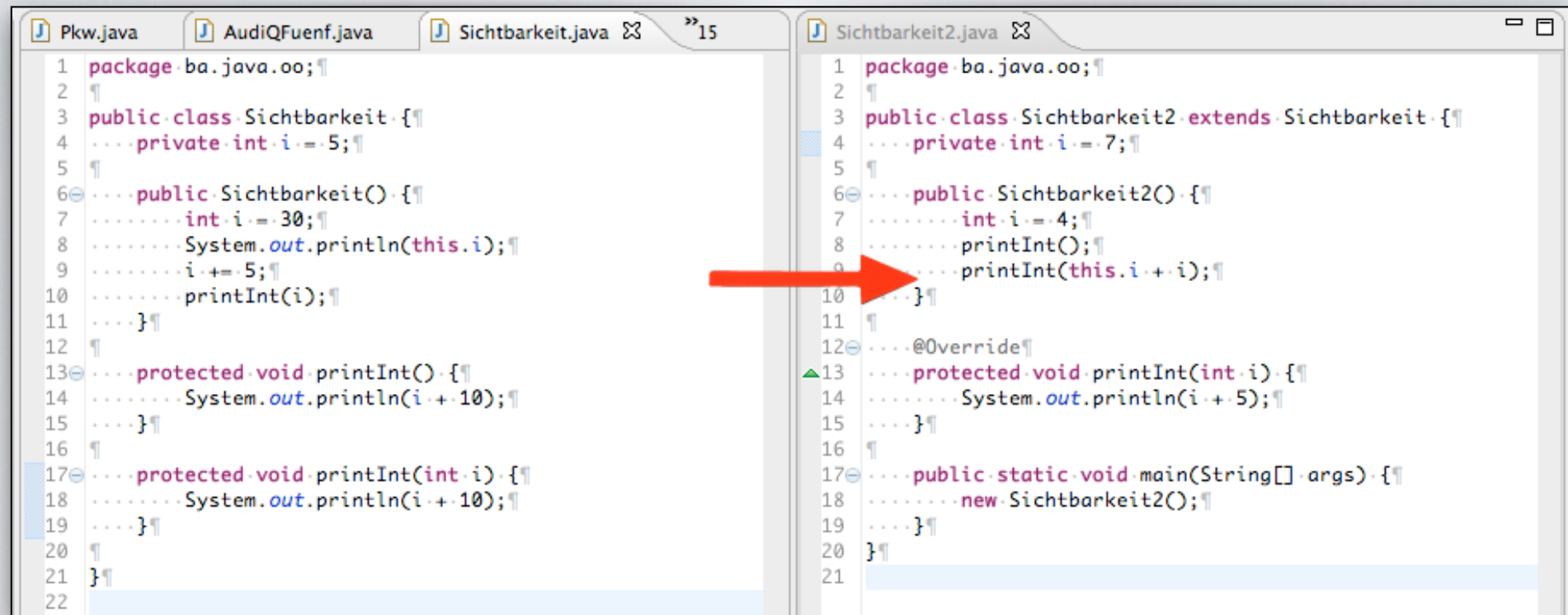
```



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1 package ba.java.oo;
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3 public class Sichtbarkeit {
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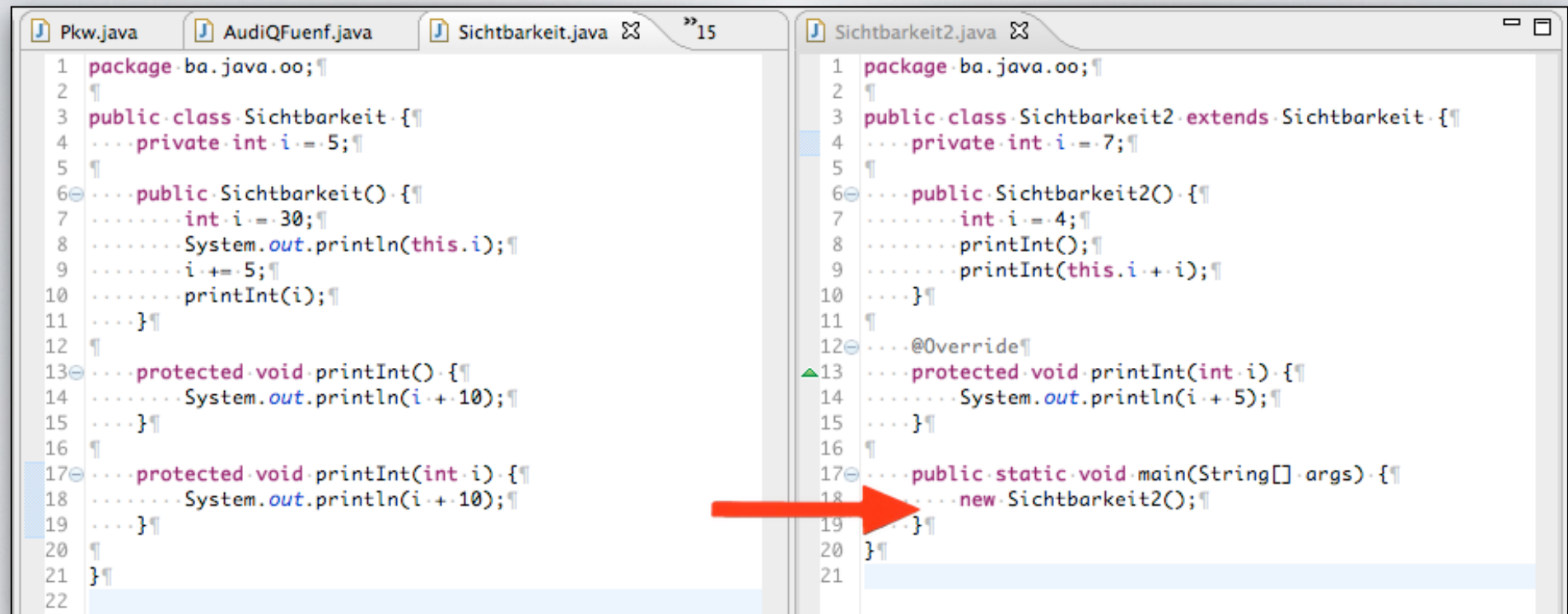
Ausgabe von 11 + 5 -> "16"

```
1 package ba.java.oo;
2
3 public class Sichtbarkeit2 extends Sichtbarkeit {
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