

Juniorprogrammierer.de

Java 7: Methods

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Agenda

- What are methods?
- How to call a methods simple example?
- Importing parameter
- Return methods
- Exercises

What is are methods?

- Usually you do not write all of your code in one class (or even one line :D)
- You have several classes which include several methods
- This structure makes your code easier to understand and to reuse
- Best case you don't need to understand what happens in someone else's method, the name speaks for itself and the method owner takes the responsibility of the content
- In clean coding methods are used to replace repetitive code
- **Long story short: Method = Block of code to run a certain action**

How to call methods simple example?

- myMethod()
 - Method Name
 - Can be used by simply writing down the name with “()”
- Static: Keyword which means a method is object independent => no need to initialize an object
- Void: Method is just executing and has no returning value
- Public: The method can be called by any other static method in all of your program

//First method example

Run | Debug

```
public static void main(String[] args) {  
    myMethod(); // before code was here  
}
```

```
static void myMethod() {  
    System.out.println(x:"I just got executed!");  
}
```

Importing parameter

- Inside of the round brackets you can define parameter you want to handover to the method as you already know from defining methods
- Other languages have the possibility of defining an Importing parameter as optional or assign a default value to it, in java its not possible

```
//second method example
static void myMethod(String fname, int age) {
    System.out.println(fname + " is " + age);
}
```

Run | Debug

```
public static void main(String[] args) {
    myMethod(fname:"Liam", age:5);
    myMethod(fname:"Jenny", age:8);
    myMethod(fname:"Anja", age:31);
}
```

Return methods

- Instead of the keyword “void” you write the type your returning-value is going to have (in this example “int”)
- A returning method ends with the keyword “return” and afterwards the corresponding value
- Special request: How does myMethod look if the returning value is a String[]?

```
//Return values
```

```
static int myMethod(int x, int y) {  
    return x + y;  
}
```

Run | Debug

```
public static void main(String[] args) {  
    System.out.println(myMethod(x:5, y:3));  
    System.out.println(5 + 3);  
}
```

Exercise print favorite animal (super easy level)

- Create the MethodsHomework.java-class
- Create as usual a public static void main(String[] args) method
- Create a static method
 - The method is not returning a value but simply executing an action
 - As an importing parameter you give a String value called “myFavoriteAnimalName”
 - The method is printing the corresponding animal name so give it a fitting name

Exercise calculator (super easy level)

- Work on the previous class
- Create a static method
 - The method is returning a int value
 - As an importing parameter you give two int values called “firstNumber” and “secondNumber”
 - The method is adding up both numbers and returns the value so give it a fitting name
 - Print the result in your main
- What other mathematical calculation do you know. Add corresponding methods

Exercise sum up array content (low middle level)

- Work on the previous class
- Create a static method
 - The method is returning a int value
 - As an importing parameter you and int[]
 - The method is adding up all values of the array and returns the value
 - Print the result in your main
- Also create an static method where you have an int[] as an importing parameter and you return the lowest value