**Function Overloading in Java**

## **Introduction to Function Overloading in Java**

1. Function Overloading in Java occurs when there are functions having the same name but have different numbers of parameters passed to it, which can be different in data like int, double, float and used to return different values are computed inside the [**respective overloaded method**](https://www.educba.com/overloading-in-java/).
2. Function overloading is used to reduce complexity and increase the efficiency of the program by involving more functions that are segregated and can be used to distinguish among each other with respect to their individual functionality.
3. Overloaded functions are related to compile-time or [**static polymorphism**](https://www.educba.com/polymorphism-in-java/). There is also a concept of type conversion, which is basically used in overloaded functions used to calculate the conversion of type in variables.

**Syntax**

Overloaded functions have the same name but different types of arguments or parameters assigned to them. They can be used to calculate mathematical or logical operations within the number of assigned variables in the method. The syntax of the overloaded function can be given below, where there are up to N number of variables assigned.

public class OverloadedMethod

{

public int FunctionName(int x, int y) //Two parameters in the function

{

return (x + y); //Returns the sum of the two numbers

}

// This function takes three integer parameters

public int FunctionName(int x, int y, int z)

{

return (x + y + z);

}

// This function takes two double parameters

public double FunctionName(double x, double y)

{

return (x + y);

}//Many more such methods can be done with different number of parameters

// Code used to input the number and

public static void main(String args[])

{

FunctionName s = new FunctionName();

System.out.println(s.FunctionName(10, 20));

System.out.println(s. FunctionName(10, 20, 30));

System.out.println(s. FunctionName(10.5, 20.5));

}

}

### **Working of Function Overloading**

Function overloading works by calling different functions having the same name, but the different number of arguments passed to it. There are many coding examples that can be shown in order to identify the benefits and disadvantages of function overloading properly.

### **Advantage of Function Overloading**

Function overloading works with the same name. So we do not have to create methods that have the same thing as work that is done inside a respective function. The functionality not only resolves the problem of conflicting naming but also improves the readability of the program.