METHODS-1 IN JAVA

Velocity

Methods In Java

-Method is a block of statement that are used to perform some tasks.

Why we need method?

- Writing methods avoids rewriting same code again and again.
- Suppose you have a block of statement in your program that will calculate sum of numbers and perform some operation on it, but later you want to calculate sum and average of number in another program at same time, so you need to write the program again and again.

  So, it will increase your efforts and time also. If you define a method and write logic to calculate sum of numbers into it and now if you want to use the same logic in another program you can do it by calling the method. So, it will help you to save time and efforts in write code again and again in future.

Note: Writing all the codes into one method is not a good programmer practice.
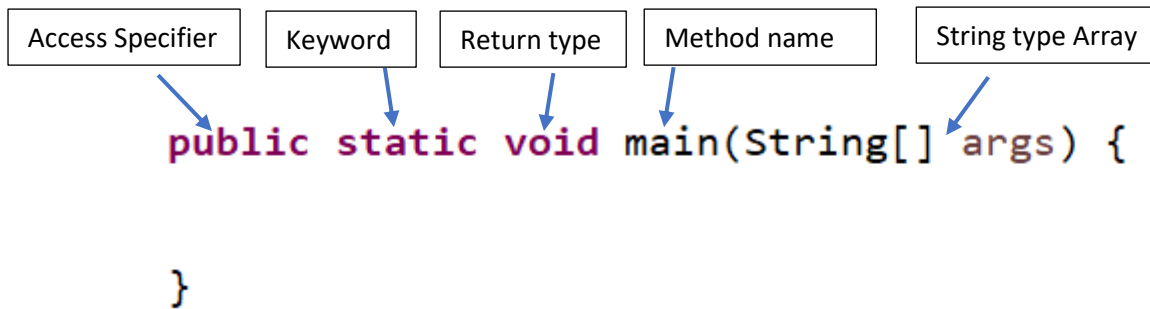
Syntax for method

<Access Specifier><Return type>**method name** (argument1,……, argument n)

{

Statement-1;

Statement-2;

}

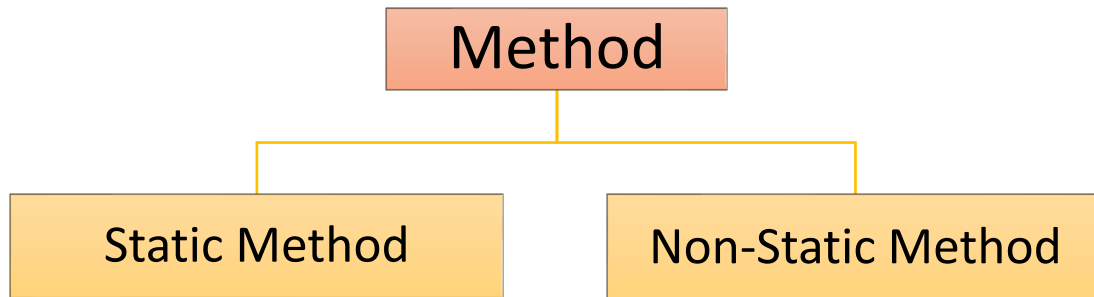Note: Method arguments are optional things.

Rules for writing method

a) Method name should be verb or verb-noun combination.
b) If method name is single word, then its first letter should be small
c) If method name is more than a single word the it should be camel case
   addEmployee() ----> Correct.
   AddEmployee() ----> Wrong.
   Addemployee() ----> Wrong

d) Method name should be some meaning full name
e) Method body should always be in curly braces {}

Understanding Main method of java

Access Specifier	Keyword	Return type	Method name	String type Array

```java
public static void main(String[] args) {

}
```
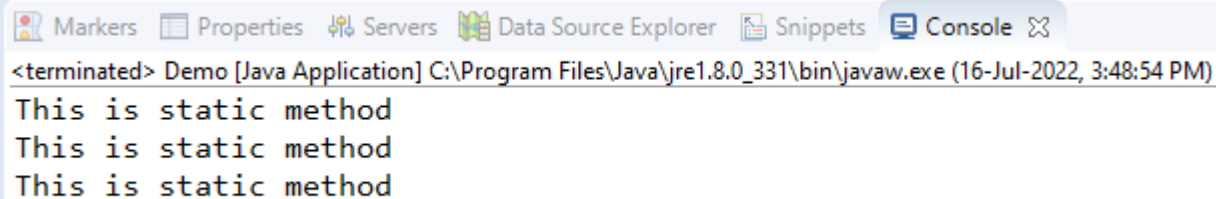
There are two types of methods

1. Static Method

-When you define a method in a class by using static keyword it is called as static method.

-A static method belongs to the class rather than the object of a class.

-A static method can access static data member and can change the value of it.

We can call this method by using 3 ways

  I.   By using class name. //Recommended
 II.   By creating object of class. //Not recommended
III.   Direct calling {Only allowed in same program}. //Recommended

```java
public class Demo {

    public static void staticMethod() {
        System.out.println("This is static method");
    }

    public static void main(String[] args) {
        // calling static method
        // 1st way: by class name
        Demo.staticMethod();

        // 2nd way: by object creation
        Demo demo = new Demo();
        demo.staticMethod();

        // 3rd way: by direct calling
        staticMethod();
    }

}
```

```
This is static method
This is static method
This is static method
```

Restrictions for Static method

I.   The static method cannot use non static data member or call non-static method directly.
II. this and super cannot be used in static context.

Q) Why is the Java main method static?

Ans) It is because the object is not required to call a static method. If it were a non-static method, JVM creates an object first then call main () method that will lead the problem of extra memory allocation.

2. Non-Static Method

-When you define a method in a class without using static keyword then it is called as non-static method.
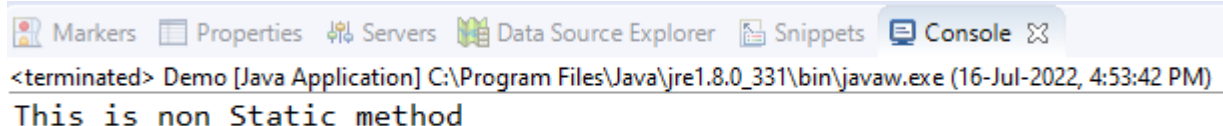
-A non-static method belongs to an object of the class and you have to create an instance of the class to access it.

-Non-static methods can access any static method and any static variable without creating an instance of the class.

We can call this method by creating objects of class only.

```java
public class Demo {

    public void nonStaticMethod() {
        System.out.println("This is non Static method");
    }

    public static void main(String[] args) {
        //Calling non-static method
        Demo demo = new Demo();
        demo.nonStaticMethod();

    }

}
```

```
This is non Static method
```