Chapter 7 Method Overloading in Java by Munawar

The value from the method call (a and b) are copied to the and b of the function sum. Thus even if we modify the values a and b inside the method the value in the main method will not change.

Void Return Type

When we don't want our method to return anything we use void as the return type.

Static Keyword

Static keyword is used to associate a method of a given class with the class rather than the object. Static method in a class is shared by all the objects.

Process of method invocation in java

Consider the method logic.

```java
static  int logic(int x,int y){
    int z;
    if(x>y){
        z=x+y;
    }
    else {
        z=(x+y)*5;
    }
    return z;
}
```

main body

```java
// after using java method
    int sum=logic(20,3);
    System.out.println(sum);
```

The values 20 and 3 are copied to a and b and the + b=20+3= 23 is returned in c which is an integer.

Note: In case of Arrays the reference is passed same is the case for object passing to methods.

Method Overloading

Two or more methods can have same name but different parameters. Such methods are called methods overloaded methods.

Void foo ()

Void foo (Int, a)

Int foo (Int a, Int, b)

Methods overloading cannot be performed by changing the return type of methods.

```
static void foo(){
    System.out.println("Good morning bye");
}
static void foo( String a){
    System.out.println("Good morning "+a);
}
static void foo(String a, String b){
    System.out.println("Good morning "+a+" Good mornning "+b);
}
```

Main body

```
// first foo
foo();

// second foo
foo("Ali");

//third foo
foo("Munawar","Harry");
```

Source Code

```java
import java.util.Scanner;
public class Main {
//      static void jocke_function(){
//          System.out.println(" I invented a new word \n"+"Plagiarims ");
//      }
//      static void  change(int a){
//          a=50;
//      }
//
//      static void changeArr(int [] arr){
//          arr[0]=100;
//      }

    static void foo(){
        System.out.println("Good morning bye");
    }
    static void foo( String a){
        System.out.println("Good morning "+a);
    }
    static void foo(String a, String b){
        System.out.println("Good morning "+a+" Good mornning "+b);
    }
    public static void main(String[] args) {
//          // calling jacke_function
//          //program execution is start from main
//          jocke_function();
//
//          int [] marks={33,42,55,77,33,88,99};
//          int x=45;
//          change(x);
//          // Changing the value of integer
//          System.out.println("The value of x after running change is "+x);
//
//          // Changing the value of array
//          changeArr(marks);
//          System.out.println("Changing the value of array : "+marks[0]);


        // first foo
        foo();

        // second foo
        foo("Ali");

        //third foo
        foo("Munawar","Harry");

    }

}
```

Thank You