main() method :

* main is a **unrestrained method** because a user is responsible to write the logic inside the main method, only the name is predefined because it is the **entry point** of our java program.

Can we write multiple methods with the same name ?

Yes, We can write multiple methods with same name but parameter MUST be different otherwise code will not compile.

Note :- We can also write multiple main methods with different parameter but JVM will always execute the main method which takes String[] (or int[] String array as a parameter as shown in the program below.

//Program: Welcome
public class Welcome
{
    public static void main(String[] args) :
    {
        System.out.println("Hello Batch 51, Welcome to Java!!");
        main();
    }
    public static void main()
    {
        System.out.println("Hello Everyone!!");
    }
}

Output : Hello Batch 51, Welcome to Java!!
         Hello Everyone!!

String[] args :

* String is a predefined class available in java.lang package (package is just like header file), args is an array variable so it can hold multiple values of type String.

Q) :

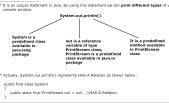
Why the main method of java accepts String array as a parameter ?

String is a collection of alpha-numeric characters so it can accept all different kind of values.

Java software people has provided String array as a parameter as it can ACCEPT MULTIPLE VALUES OF DIFFERENT TYPE, that means providing more wider scope to accept heterogeneous types of values.

System.out.println() :

* It is an output statement in java, By using this statement we can **print different types** of values on the console window.



* Actually, System.out.println() represents HAS-A Relation as shown below :

public final class System
{
    public static final PrintStream out = null; //HAS-A Relation
}

//WAP to add two numbers
public class Addition
{
    public static void main(String[] args)
    {
        int i = 100;
        int j = 200;
        int sum = i + j;
        System.out.print("Sum is ");sum;
        System.out.println();
    }
}

Note : Here we will get compilation error because in java library, there is not println() method which accept String, int as a parameter.

How to provide user friendly message with String as a parameter :

* If we want to provide user friendly message with String as a parameter then we should use a special operator called String concatenation operator (+).

Behavior of + operator :

1 + 1 = 2   [Here '+' is working as a Arithmetic Operator]

"1" + 1 = 11   [Here '+' is working as a String concatenation Operator]

"2" + "2" = 22   [Here '+' is working as a String concatenation Operator]

So, the final conclusion is, If any of the operand is String type then '+' will behave as a String concatenation operator.

//WAP to add two numbers
public class Addition
{
    public static void main(String[] args)
    {
        int i = 100;
        int j = 200;
        int sum = i + j;
        System.out.print("Sum is ");sum;
        System.out.print("Sum is ");sum;
        System.out.println();
        }
    }

//String Concatenation Operator :
public class StringConcatenationOperator
{
    public static void main(String[] args)
    {
        int i = 100;
        int j = 200;
        System.out.print("Sum is ");i+j;//100200
        System.out.print("Sum is ");i+j;//100200
        System.out.println("+++");//100200
        System.out.print("Sum is ");i+j+j;//300
        System.out.print(i+j+" is ");i+j+j;//300 //100#2100#
    }
}