

Understanding public static void main (String[] args) in Java

In Java programs, the point from where the program starts its execution or simply the entry point of Java programs is the **main()** method. Hence, it is one of the most important methods of Java and having proper understanding of it is very important. **Most common syntax of main() method:**

Every word in the public static void main statement has got a meaning to the JVM.

Public:

- It is an *Access modifier*, which specifies from where and who can access the method. Making the *main()* method public makes it globally available.
- It is made public so that JVM can invoke it from outside the class as it is not present in the current class.

```
Class Sample1
{
    private static void main(String[] args)
    {
        System.out.println("VIT");
    }
}
```

Main method not found in class, please define the main method as:
public static void main(String[] args)

Static: It is a *keyword* which is when associated with a method, makes it a class related method. The *main()* method is static so that JVM can invoke it without **instantiating the class**.

This also saves the unnecessary wastage of memory which would have been used by the object declared only for calling the *main()* method by the JVM.

```
Class Sample1
{
    private void main(String[] args)
    {
        System.out.println("VIT");
    }
}
```

Error: Main method is not static in class sample1 please define the main method as:
public static void main(String[] args)

Void:

- It is a keyword and used to specify that a method doesn't return anything. As *main()* method doesn't return anything, its return type is *void*. As soon as the *main()* method terminates, the java program terminates too.
- Hence, it doesn't make any sense to return from *main()* method as JVM can't do anything with the return value of it.

```
Class Sample1
{
    private static int main(String[] args)
    {
        System.out.println("VIT");
    }
}
```

Error: Main method not found in class sample1, please define the main method as:

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

main:

It is the name of Java main method. It is the identifier that the JVM looks for as the starting point of the java program. It's not a keyword.

```
Class Sample1
{
    private static void mymain(String[] args)
    {
        System.out.println("VIT");
    }
}
```

Error: Main method not found in class sample1, please define the main method as: public static void main(String[] args)

String[] args:

It stores Java *command line arguments* and is an array of type *java.lang.String* class. Here, the name of the String array is *args* but it is not fixed and user can use any name in place of it.

```
String[] args
```

EXERCISES

1. Write an application that creates an array with 5 Float arguments and display the length of the array and its elements.
2. Create an application program to calculate the compound interest using command line arguments.
3. Write a java Program to print numbers divisible by 7 in between 100 and 200. Use if and for loop control structures.
4. Write an application that accepts two Double numbers as its command line arguments and displays the square roots of the given numbers.