

Day 3

Functions part 2 (JAVA)

- ① understanding standard library. print functions
- ② functions with No Arguments.
- ③ functions with arguments and return type
- ④ Calling a function within a function
- ⑤ Coming up with proper name of function.
- ⑥ How to decide what should be input of the function
- ⑦ Deciding proper data types for input & output from function.

Class Name should be "filename.java"

```
J Helloworld.java X
C: > java programs > J Helloworld.java
1 public class Helloworld{
2     public static void main(String[] args){
3         System.out.println("Hello,world");
4     }
5 }
6 |
```

Standard library.print func

print func

```
J Namaste.java 1 X
C: > Funtions java > J Namaste.java > Language Support for Java(TM) by Red Hat > Namaste
1 public class Namaste
2 {
3     Run main | Debug main | Run | Debug
4     public static void main(String[] args)
5     {
6         enumMadudilla(); // Function invocation
7     }
8
9     // Function definition
10    static void enumMadudilla()
11    {
12        String message = "Namaste Bharat!";
13        //PrintMessage("Namaste Bharat!");
14        PrintMessage(message);
15    }
16
17    static String PrintMessage(String message)
18    {
19        System.out.println(message);
20        return message;
21    }
}
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```

function with arguments

Output

③ functions with arguments & Return type

```
J WithArguments.java 1 X
C: > Funtions.java > J WithArguments.java > ...
1  public class WithArguments {
2      // Function with arguments
3      static void addNumbers(int a, int b) {
4          int sum = a + b;
5          System.out.println("Sum: " + sum);
6      }
7
8      Run main | Debug main | Run | Debug
9      public static void main(String[] args) {
10         // Calling the function with arguments
11         addNumbers(a:5, b:10);
12         addNumbers(a:20, b:30);
13     }
14 }
```

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```
PS C:\Users\raghu> & 'C:\Users\raghu\AppData\Local\Programs\Eclipse Adoptium\jdk-21.0.8>ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\raghu\AppData\Local\Temp\vscodews_644\WithArguments.jar'
Sum: 15
Sum: 50
PS C:\Users\raghu>
```

functions with
argument &
without Return
type

```
J Multiply.java 1 X
C: > Funtions.java > J Multiply.java > ...
1  public class Multiply {
2      // Function with arguments and return type
3      static int multiply(int a, int b) {
4          return a * b;
5      }
6
7      Run main | Debug main | Run | Debug
8      public static void main(String[] args) {
9          int result = multiply(a:4, b:5);
10         System.out.println("Result: " + result);
11     }
12 }
```

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```
PS C:\Users\raghu> & 'C:\Users\raghu\AppData\Local\Programs\Eclipse Adoptium\jdk-21.0.8>ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\raghu\AppData\Local\Temp\vscodews_644\Multiply.jar'
Result: 20
PS C:\Users\raghu>
```

functions with
return type &
Arguments

```
J FunctionCall.java 1 X
C: > Funtions.java > J FunctionCall.java > ...
1  public class FunctionCall {
2      // Function 1
3      static int square(int x) {
4          return x * x;
5      }
6
7      // Function 2 (calls Function 1)
8      static void printSquare(int num) {
9          int result = square(num); // calling square() inside printsquare()
10         System.out.println("Square of " + num + " = " + result);
11     }
12
13     Run main | Debug main | Run | Debug
14     public static void main(String[] args) {
15         printSquare(num:5);
16     }
17 }
```

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> < TERMINAL

```
PS C:\Users\raghu> & 'C:\Users\raghu\AppData\Local\Programs\Eclipse Adoptium\jdk-21.0.8>ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\raghu\AppData\Local\Temp\vscodews_644\FunctionCall.jar'
Square of 5 = 25
PS C:\Users\raghu>
```

calling another
function in or
function

Coming up with proper Name for a function

Function Naming & structure?

Focused on naming functions based on what they do
example calculate sever, getStudentName

How to decide input and output?

Based on the problem

what data do I need → Becomes parameters

what result should I produce → Becomes return type

Choose appropriate data types (ex: int, double, string etc)

