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Experiment 1

Greeting.java > Greeting > main(String[])

```java
public class Greeting
{
    static void giveGreeting()
    {
        System.out.println(x: "Hello! Good morning");
    }

    Run | Debug
    public static void main (String[] args)
    {
        giveGreeting();
    }
}
```

```
D:\hiya kuliah\P_Daspro\java>javac Greeting.java && java Greeting
Hello! Good morning
```

Experiment 2

```java
public class Greeting
{
    static void giveGreeting()
    {
        System.out.println(x: "Hello! Good morning");
    }

    static void saySomething(String expression)
    {
        System.out.println(expression);
    }

    Run | Debug
    public static void main (String[] args)
    {
        giveGreeting();
        String exp = "Welcome to Java Programming";
        saySomething(exp);
    }
}
```

```
D:\hiya kuliah\P_Daspro\java>javac Greeting.java && java Greeting
Hello! Good morning
Welcome to Java Programming
```

Experiment 3

Square2.java > Square2

```java
public class Square2
{
    static int squareArea(int side)
    {
        int area = side * side;
        return area;
    }

    Run | Debug
    public static void main(String[] args)
    {
        int a = squareArea(side: 5);
        System.out.println("Area of a square with side = 5 is " + a);
    }
}
```

```
D:\hiya kuliah\P_Daspro\java>javac Square2.java && java Square2
Area of a square with side = 5 is 25
```

Experiment 4

ArithmeticOperation.java > ArithmeticOperation > mulitplication(int, int)

```java
import java.util.Scanner;
public class ArithmeticOperation
{
    static int mulitplication(int C, int D)
    {
        int H;
        H = (C + 10) % (D + 19);
        return H;
    }

    static int substraction(int A, int B)
    {
        int X;
        A = A + 7;
        B = B + 4;
        X = mulitplication(A, B);
        return X;
    }

    Run | Debug
    public static void main(String[] args)
    {
        int value1, value2;
        Scanner input = new Scanner (System.in);
        System.out.print(s: "Input value 1: ");
        value1 = input.nextInt();
        System.out.print(s: "Input value 2: ");
        value2 = input.nextInt();
        int result = substraction(value1, value2);
        System.out.println("The result is " + result);
    }
}
```

```
D:\hiya kuliah\P_Daspro\java>javac ArithmeticOperation.java && java ArithmeticOperation
Input value 1: 23
Input value 2: 76
The result is 40
```

Experiment 5

Multiparameter.java > Multiparameter > main(String[])

```java
public class Multiparameter
{
    static void Print(String str, int... a)
    {
        System.out.println("String: " + str);
        System.out.println("Number of parameters: " + a.length);
        for (int i : a)
        {
            System.out.print(i + " ");
        }
        System.out.println(x: "");
    }

    Run | Debug
    public static void main(String[] args)
    {
        Print(str: "Basic Programming", ...a: 85, 90);
        Print(str: "Information Technology", ...a: 1, 2, 3, 4, 5);
        Print(str: "Politeknik Negeri Malang");
    }
}
```

```
D:\hiya kuliah\P_Daspro\java>javac Multiparameter.java && java Multiparameter
String: Basic Programming
Number of parameters: 2
85 90
String: Information Technology
Number of parameters: 5
1 2 3 4 5
String: Politeknik Negeri Malang
Number of parameters: 0
```

Experiment 6

```java
import java.util.Scanner;
public class Geometry1
{
    Run | Debug
    public static void main(String[] args)
    {
        Scanner input = new Scanner (System.in);
        int length, width, height, area, volume;
        System.out.print(s: "Enter a length value: ");
        length = input.nextInt();
        System.out.print(s: "Enter a width value: ");
        width = input.nextInt();
        System.out.print(s: "Enter a heigth value: ");
        height = input.nextInt();
        area = length * width;
        System.out.println("Area of rectangle is " + area);
        volume = length * width * height;
        System.out.println("Volume of block is " + volume);
    }
}
```

```
D:\hiya kuliah\P_Daspro\java>java Geometry1
Enter a length value: 20
Enter a width value: 40
Enter a heigth value: 50
Area of rectangle is 800
Volume of block is 40000
```

Questions!

1. Because if we call the function, we need the value, if we didn't add the return, they will process the code but didn't give the output to the callers

```java
import java.util.Scanner;
public class ArithmeticOperation
{
    static int mulitplication(int C, int D)
    {
        int H;
        H = (C + 10) % (D + 19);
        return H;
    }

    static int substraction(int A, int B)
    {
        int X;
        A = A + 7;
        B = B + 4;
        X = mulitplication(A, B);
        return X;
    }

    static boolean validate(int value1, int value2)
    {
        return value1 >= 0 && value2 >= 0;
    }

    Run | Debug
    public static void main(String[] args)
    {
        int value1, value2;
        Scanner input = new Scanner (System.in);
        System.out.print(s: "Input value 1: ");
        value1 = input.nextInt();
        System.out.print(s: "Input value 2: ");
        value2 = input.nextInt();
        if (!validate(value1, value2))
        {
            System.out.println(x: "value 1 and value 2 must be at least 0!");
            return;
        }
        int result = substraction(value1, value2);
        System.out.println("The result is " + result);
    }
}
```

2.
```
D:\hiya kuliah\P_Daspro\java>javac ArithmeticOperation.java && java ArithmeticOperation
Input value 1: -1
Input value 2: -2
value 1 and value 2 must be at least 0!
```

3. Because in order to use array on function should be using [datatype]…
4. The output is: 1234567, the flow of the program is:
    i. first, the program determines the value of temp, total (1,1)
    ii. then, the program saves the value on function total which count as (1 + 1) equals 2
    iii. after that, the program execute printTotal(temp, 5) which saves the value to printTotal(2,5)
    iv. then, the program call the printTotal function which is printUtil(total(2,5))
    v. it goes back again to total to execute the return program, 2+5 = 7

vi. then it goes to printUtil function to loop the program until 7 times (int i replaced with int 7)
vii. lastly, the program prints the loop until the loop limit (7)
viii. so the output is 1234567

Assignment

1.

jb10assignment1.java > jb10assignment1

```java
public class jb10assignment1
{
    static int Max3(int bil1, int bil2, int bil3)
    {
        int maxNumber = bil1;
        if (bil2 > maxNumber)
        {
            maxNumber = bil2;
        }
        if (bil3 > maxNumber)
        {
            maxNumber = bil3;
        }
        return maxNumber;
    }
    Run | Debug

    public static void main(String[]args)
    {
        int maxNumber = Max3(30, 69, 42);
        System.out.print("The larges number is: " + maxNumber);
    }
}
```

```
D:\hiya kuliah\P_Daspro\java>javac jb10assignment1.java && java jb10assignment1
The larges number is: 69
D:\hiya kuliah\P_Daspro\java>
```

2.

Circle.java > Circle > circumCircle(double, double)

```
1   ublic class Circle
2
3       static double areaCircle(double pi, double r)
4       {
5           double area = pi * (r * r);
6           return area;
7       }
8       static double circumCircle(double pi, double r)
9       {
10          double circum = pi * (2 * r);
11          return circum;
12      }
13
        Run | Debug
14      public static void main(String[]args)
15      {
16          double a = (areaCircle(Math.PI, r: 7));
17          double c = (circumCircle(Math.PI, r: 7));
18          System.out.print("The area of circle is " + a + " and the circumference
19      }
20
```

```
D:\hiya kuliah\P_Daspro\java>javac Circle.java && java Circle
The area of circle is 153.93804002589985 and the circumference is 43.982297150257104
D:\hiya kuliah\P_Daspro\java>
```

3.

```java
import java.util.Scanner;
public class jb10assignment3
{
    static Scanner sc = new Scanner (System.in);
    static void testSc(int[] score)
    {
        for (int i = 0; i < score.length; i++)
        {
            System.out.print("Input the score of the student (" + (i+1) + "):
            score[i] = sc.nextInt();
        }
    }

    static double avg(int[] score)
    {
        double summary = 0;
        for (int i = 0; i < score.length; i++)
        {
            summary += score[i];
        }
        double average = summary/score.length;
        return average;
    }

    public static void main(String[]args)
    {
        Run | Debug
        int[] B = new int [10];
        testSc(B);
        System.out.printf(format: "The average score is %.2f", avg(B));
    }
}
```

```
D:\hiya kuliah\P_Daspro\java>javac jb10assignment3.java && java jb10assignment3
Input the score of the student (1): 80
Input the score of the student (2): 60
Input the score of the student (3): 70
Input the score of the student (4): 90
Input the score of the student (5): 100
Input the score of the student (6): 98
Input the score of the student (7): 78
Input the score of the student (8): 69
Input the score of the student (9): 70
Input the score of the student (10): 81
The average score is 79.60
D:\hiya kuliah\P_Daspro\java>
```