TASK ONE: BASIC EXERCISE

1. **Swap two numbers using third variable as result name and do the same task without using any third variable.**

Answer:With third variable

```
A: public class swap {

	public static void main(String[] args) {
		// TODO Auto-generated method stub
		int a=4;
		int b=5;
		int temp;

		temp=a;
		a=b;
		b=temp;

		System.out.println(a);

		System.out.println(b);

}

}
```

Alternate solution:

```
public class swap {

	public static void main(String[] args) {


	  int a=10;
	 int b=15;
	  int x=a+b;
	  a=x-a;
	  b=x-b;


	System.out.println("print the value of a after swapping:"+ ""+ a);

	System.out.println("print the value of b after swapping:"+ ""+b);


	}

}
```

Without Third variable:

```
int a=2;
		int b=3;
		a=a+b;
```

```
            b=a-b;
            a=a-b;
            System.out.println("The value of a is :" +a);
            System.out.println("The value of b is :" +b);


      }

}
```

2. **Write a program to print the value given by the user.**

```
import java.util.Scanner;

public class scannerDemo {

      public static void main(String[] args) {

            Scanner sc = new Scanner (System.in);
            int age= sc.nextInt();
            System.out.println("print the age as:" +" "+ age);


      }

}
```

3. Write a program to complete the task given below:

- **Ask the user to enter any 2 numbers in between 1-10 and add both of them to another variable call z.**
- **Use z for adding 30 into it and print the final result by using variable results.**

```
import java.util.Scanner;

public class scannerDemo {

public static void main(String[] args) {
// TODO Auto-generated method stub

Scanner sc = new Scanner(System.in);
int a= sc.nextInt();
int b=sc.nextInt();
int z;
z=a+b;
System.out.println("print the age as:" +" "+ z);

int result=z+30;
System.out.println("print the final result: " + result);
```

```
}

}
```

TASK TWO: OPERATORS AND DECISION MAKING STATEMENT

1. Write a program in JAVA to perform the following operation:

- **If a number is divisible by 3 it should print "Consultadd" as a string**
- **If a number is divisible by 5 it should print "JAVA Training" as a string**
- **If a number is divisible by both 3 and 5 it should print "Consultadd JAVA Training" as a string.**

```
import java.util.Scanner;

public class Divisible {

	public static void main(String[] args) {
		// TODO Auto-generated method stub
		Scanner sc=new Scanner(System.in);
				int i= sc.nextInt();
		//int i=2;
		if(i%3==0)
		{
			System.out.println("consultadd");

		}if(i%5==0){

			System.out.println("Java training");

		}if (i%3==0 && i%5==0)
		{
			System.out.println("Consulta add Java training");
}
}
}
```

2. Write a program in JAVA to perform the following operator based task:

- Ask user to choose the following option first:
  - If User Enter 1 - Addition
  - If User Enter 2 - Subtraction
  - If User Enter 3 - Division
  - If User Enter 4 - Multiplication
  - If User Enter 5 - Average
- Ask user to enter the 2 numbers in a variable for first and second(first and second are variable names) for the first 4 options mentioned above and print the result.
- Ask user to enter two more numbers as first1 and second2 for calculating the average as soon as user choose an option 5.

- At the end if the answer of any operation is Negative print a statement saying "Oops option X(1/2/3/4/5/) is returning the negative number"
- NOTE: At a time user can perform one action at a time.

```
package practiceDemo;

import java.util.Scanner;

public class demo3 {

	public static void main(String[] args) {
		Scanner sc = new Scanner(System.in);
		System.out.println("enter two values");

		double first = sc.nextDouble();
		double second = sc.nextDouble();
		// int first1=sc.nextInt();
		// int second2=sc.nextInt();
		double result1 = 0;
		// int result2;
		// int n;
		// int result;

		System.out.println("choose the option");
		// int n= sc.nextInt();
		char n = sc.next().charAt(0);

		switch (n) {
		case '1':

		{
			result1 = first + second;
			System.out.println(result1);

			break;
		}

		case '2': {
			result1 = first - second;
			System.out.println(result1);

			break;
		}

		case '3':

		{
			result1 = first / second;
			System.out.println(result1);
		}
			break;
		case '4': {

			result1 = first * second;
			System.out.println(result1);
```

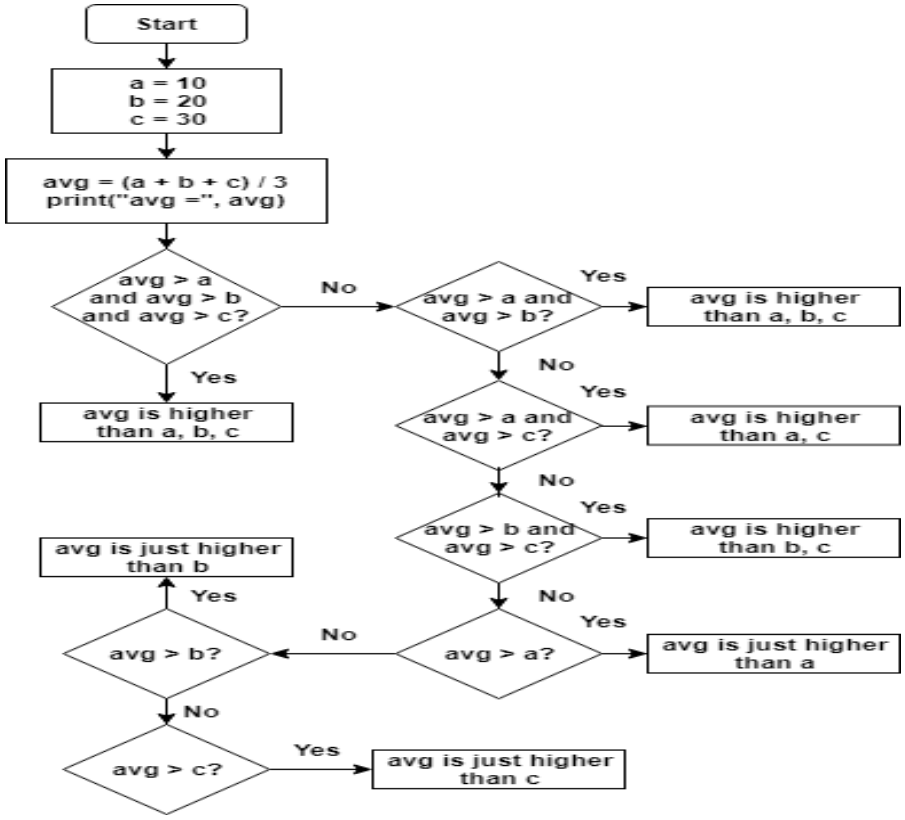
```
		}
			break;

		case '5': {
			result = (first + second) / 2;
			System.out.println(result1);

			// break;
		}
		}
		if (result1 < 0) {
			System.out.println("oops option" + " " + n + "" + " is returning
the negative value");

		}
	}
}
```

3. Write a program in JAVA to implement the given flowchart:




```
package practiceDemo;

public class demo3
{

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

```
		int a=10;
		int b=20;
		int c=30;
		int avg=(a+b+c)/3;
		System.out.println("avg="+avg);
		if(avg>a&&avg>b&&avg>c)
		{
		System.out.println("avg is higher than a,b,c");
		}
		else if(avg>a && avg>b)
		{
		System.out.println("avg is higher than a,b,c");
		}
		else if(avg>a &&avg>c)
		{
		System.out.println("avg is higher than a,c");
		}
		else if(avg>b&& avg>c)
		{
		System.out.println("avg is higher than a,b");
		}
		else if(avg>a)
		{
		System.out.println("avg is just higher than a");
		}
		else if(avg>b)
		{
		System.out.println("avg is just higher than b");
		}
		else if(avg>c)
		{
		System.out.println("avg is just higher than b");
		}
	}
}
```

Output:

```
avg=20
avg is just higher than a
```

4. Write a program in JAVA to break and continue if the following cases occurs:

- **If user enters a negative number just break the loop and print "It's Over"**
- **If user enters a positive number just continue in the loop and print "Good Going"**

```
import java.util.Scanner;

public class demo3 {
	public static void main(String[] args) {
		int number;
		Scanner scan = new Scanner(System.in);
```

```
		boolean b = true;
		while (b) {
		number = scan.nextInt();
			if (number < 0) {
				System.out.println(" Its over");

				break;

			} else {
				System.out.println("Good Going");
			}

		}
	}
}
```

5. Write a program that prints all the numbers from 0 to 6 except 3 and 6.

Expected output: 0 1 2 4 5

```
public class demoContinue {

	public static void main(String[] args) {
		// TODO Auto-generated method stub

		for (int i=0; i<6;i++)
		{
			if(i==3)
			{
				continue;

			}
			else if(i==6)
			{
				continue;
			}
			System.out.println(i);
		}

	}


}
```

6. Given an integer , perform the following conditional actions:

- **If is odd, print NEW**
- **If is even and in the inclusive range of 2 to 5 , print OLD**
- **If is even and in the inclusive range of 6 to 30, print NEW**
- **If is even and greater than 30, print OLD**

Complete the stub code provided in your editor to print whether or not is weird.

Answer:

```
public class demoClass {

	public static void main(String[] args) {
		// TODO Auto-generated method stub
		int i = 46;
		if (i % 2 != 0) {
			System.out.println("NEW");
		} else if (i % 2 == 0 && (i > 2 && i < 5)) {
			System.out.println("OLD");
		} else if (i % 2 == 0 && (i > 6 && i < 30)) {
			System.out.println("NEW1");
		} else if (i % 2 == 0 && i > 30) {
			System.out.println("old");
		} else {
			System.out.println("weird");

		}

	}


}
```

7. Write a Java program that reads a floating-point number and prints "zero" if the number is zero. Otherwise, print "positive" or "negative". Add "small" if the absolute value of the number is less than 1, or "large" if it exceeds 1,000,000.

```
package practiceDemo;

import java.util.Scanner;

public class demo3 {

	  public static void main(String[] args)
	    {
	        Scanner in = new Scanner(System.in);
	        System.out.print("Input value: ");
	        double input = in.nextDouble();

	        if (input > 0)
	        {
	            if (input < 1)
	            {
	                System.out.println("Positive small number");
	            }
	            else if (input > 1000000)
	            {
	                System.out.println("Positive large number");
	            }
```

```
                else
                {
                    System.out.println("Positive number");
                }
            }
            else if (input < 0)
            {
                if (Math.abs(input) < 1)
                {
                    System.out.println("Negative small number");
                }
                else if (Math.abs(input) > 1000000)
                {
                    System.out.println("Negative large number");
                }
                else
                {
                    System.out.println("Negative number");
                }
            }
            else
            {
                System.out.println("Zero");
            }
        }
    }
```

8. Write a JAVA program which takes character input from the user,

- **If the character is from r, a, n, d, o, m (consider both upper and lower cases), then print FOUND.**
- **Print NOT FOUND for all the other alphabets.**

```
import java.util.Scanner;

public class character3 {

	public static void main(String[] args) {
		// TODO Auto-generated method stub

		// char[] ch = {'r','a','n'};
		// String s= new String(ch);

		Scanner sc = new Scanner(System.in);

		char c;

		c = sc.nextLine().charAt(0);

		if (c == 'r') {
			System.out.println("found");
		}
			else if (c == 'a') {
				System.out.println("found");
```

```
                }
                        else if (c == 'n') {
                                System.out.println("found");
                        }
                                else if (c == 'd') {

                                        System.out.println("found");
                                }
                                        else if (c == 'o') {
                                                System.out.println("found");
                                        }
                                                else if (c== 'm') {
                                                        System.out.println("found");

                                                }


                else
                        System.out.println("not found");

        }
}
```

TASK THREE: LOOPING STATEMENTS

1.Write a simple program to print multiplication table of a certain number taken from user,

For eg. 2 X 1 = 2

2 X 2 = 4

and so on.

```
import java.util.Scanner;

public class multi {

        public static void main(String[] args) {
                // TODO Auto-generated method stub

                Scanner sc = new Scanner(System.in);

                int n = sc.nextInt();
                for (int i = 1; i <= 10; i++) {

                        int result = n * i;
                        System.out.println("output:" + result);

                }

        }
```

```
}
```

2. Write a program in which:
a. Take 10 values input from user using loop.
b. Print sum of all the numbers provided
c. Print the Average of those 10 values

```
import java.util.Scanner;

public class average {

	public static void main(String[] args) {

		// int i=sc.nextInt();
		double total = 0;
		int numlength = 10;
		Scanner sc = new Scanner(System.in);

		for (int i = 0; i < numlength; i++) {
			System.out.println("please enter number");

			total = total + sc.nextInt();

		}
		double result = total / numlength;

		System.out.println("Average:" + result);

	}

}
```

3.Write a JAVA program that takes user input from 1 to 12 for months, and display number of days of a particular month. (Shows “Invalid Details“ if incorrect month number will be provided).

```
package practiceDemo;

import java.util.Scanner;

public class demo3 {

	public static void main(String[] args) {


Scanner sc = new Scanner(System.in);

int month=sc.nextInt();

if(month==1||month==3||month==5||month==7||month==9||month==11)
{
```

```
        System.out.println("31 days for this month");
}
else if(month==4||month==6||month==8||month==10||month==12)
{
        System.out.println("30 days for this month");
}
else if(month==2)
{
        System.out.println("28 or 29 days for this month");
}
else {
        System.out.println("Invalid details");
}
```

4.Write a JAVA program that takes one integer input n from the user, and display all the so, print sum of n natural numbers.

```
package practiceDemo;

import java.util.Scanner;

public class demo3 {

//Sum of N natural values:

        public static void main(String[] args) {

                Scanner sc = new Scanner(System.in);

                int n;
                n = sc.nextInt();

                int total = 0;
                for (int i = 1; i < n; i++) {
                        total = total + i;
                }

                System.out.println("sum of n natural numbers:" + total);
        }
}
```

6. Write a program that accepts three numbers from the user and prints "**INCREASING**" if the numbers are in increasing order, "**DECREASING**" if the numbers are in decreasing order, and "**Neither increasing or decreasing order**" otherwise. FOR eg.

- Input first number: 1524
- Input second number: 2345
- Input third number: 3321

Output :

INCREASING

```java
package practiceDemo;

import java.util.*;
import java.util.Scanner;

public class demo3 {

	public static void main(String[] args) {
		// TODO Auto-generated method stub

		// int n = 3;
		Scanner sc = new Scanner(System.in);
		// int c=sc.nextInt();
		System.out.println("Enter three values");

		int a = sc.nextInt();
		System.out.println("Entered first value:" + a);
		int b = sc.nextInt();
		System.out.println("Entered second value:" + b);
		int c = sc.nextInt();
		System.out.println("Entered third value:" + c);

		// for (int i = 0; i < n; i++) {

		if (a >= b && b >= c) {
			System.out.println("Decreasing");

		} else if (a <= b && b <= c) {

			System.out.println("Increasing");

		} else {
			System.out.println("Neither Increasing nor decreasing");

		}
	}
```