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Class : CSA

## Lab Works for Algorithm and Data Structures

### Homework 3

```
public class Main {
    public static void getRandomNumber() {
        int random;
        int min = 1;
        int max = 100;

        random = (int) Math.floor(Math.random() * (max - min + 1)
+ min);
        System.out.println(random);
    }

    public static void getAbsoluteValue(double x) {
        System.out.println(Math.abs(x));
    }

    public static void getFactorial(int x) {
        int result = 1;
        for (int i = x; i > 0; i--) {
            result *= i;
        }
        System.out.println(result);
    }

    public static void getWeatherForecast() {
        int timeID = (int) Math.floor(Math.random() * 3);
        int weatherID = (int) Math.floor(Math.random() * 4);
        String[] time = {"Today", "Tomorrow", "The day after
tomorrow"};
        String[] weather = {"sunny", "cloudy", "rainy", "snowy"};

        System.out.println(time[timeID] + " will be " +
weather[weatherID]);
    }

    public static void getRandomMessage(String name) {
        int id = (int) Math.floor(Math.random() * 3);
        ;
        String[] greetings = {"Good morning ", "Good afternoon ",
"Good night "};

        System.out.println(greetings[id] + name);
    }

    public static void isEvenNumber(int x) {
        if (x % 2 == 0) {
```

```

        System.out.println("True");
    } else {
        System.out.println("False");
    }
}

public static void getMinValue(double a, double b) {
    if (a < b) {
        System.out.println(a);
    } else {
        System.out.println(b);
    }
}

public static void isSameAbsoluteValue(int i, int j) {
    if (Math.abs(i) == Math.abs(j)) {
        System.out.println("True");
    } else {
        System.out.println("False");
    }
}

public static void getMessage(String name, boolean isKid) {
    if (isKid) {
        System.out.println("Halo Dek " + name);
    } else {
        System.out.println("Halo Pak " + name);
    }
}

public static void getSum(double a, double b, double c) {
    System.out.println(a + b + c);
}

public static void getAverage(double a, double b, double c) {
    System.out.println((a + b + c) / 3);
}

public static void main(String[] args) {
    getRandomNumber();
    getAbsoluteValue(-11);
    getFactorial(4);
    getWeatherForecast();
    getRandomMessage("Rafi");
    isEvenNumber(7);
    getMinValue(7, -7);
    isSameAbsoluteValue(7, -7);
    getMessage("Rafi", true);
    getSum(1, 2, 3);
    getAverage(1, 2, 3);
}
}

```

C:\Users\ASUS\.jdk\openjdk-19.0.2\bin\java.exe

74

11.0

24

Today will be snowy

Good morning Rafi

False

-7.0

True

Halo Dek Rafi

6.0

2.0

Process finished with exit code 0