Homework 3

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a. getRandomNumber()

i. No argument
ii. Return int
iii. Output randomly an integer from 1 - 100

Method

```
public static int getRandomNumber(){
    int number = (int)(Math.random()*100);
    return number;
}
```

Main

```
public static void main(String[] args) {
    System.out.println(getRandomNumber());
}
```

Output

```
46
PS C:\Users\themi\Downloads\java-prak-asd\third-meet\activity-3> c:; cd 'c:\Users\themi\Downloads\java-prak-
 'C:\Users\themi\Downloads\java-prak-asd\third-meet\activity-3\bin' 'Activity'
15
PS C:\Users\themi\Downloads\java-prak-asd\third-meet\activity-3> c:; cd 'c:\Users\themi\Downloads\java-prak-
 'C:\Users\themi\Downloads\java-prak-asd\third-meet\activity-3\bin' 'Activity'
84
PS C:\Users\themi\Downloads\java-prak-asd\third-meet\activity-3> c:; cd 'c:\Users\themi\Downloads\java-prak-
 'C:\Users\themi\Downloads\java-prak-asd\third-meet\activity-3\bin' 'Activity'
8
PS C:\Users\themi\Downloads\java-prak-asd\third-meet\activity-3> c:; cd 'c:\Users\themi\Downloads\java-prak-
 'C:\Users\themi\Downloads\java-prak-asd\third-meet\activity-3\bin' 'Activity'
9
PS C:\Users\themi\Downloads\java-prak-asd\third-meet\activity-3> c:; cd 'c:\Users\themi\Downloads\java-prak-
 'C:\Users\themi\Downloads\java-prak-asd\third-meet\activity-3\bin' 'Activity'
7
PS C:\Users\themi\Downloads\java-prak-asd\third-meet\activity-3> c:; cd 'c:\Users\themi\Downloads\java-prak-
 'C:\Users\themi\Downloads\java-prak-asd\third-meet\activity-3\bin' 'Activity'
50
PS C:\Users\themi\Downloads\java-prak-asd\third-meet\activity-3> c:; cd 'c:\Users\themi\Downloads\java-prak-
```

b. getAbsoluteValue(int double)

i. Argument : double
ii. Return double
iii. Output absolute value of the input number

Method

```
public static double getAbsoluteValue(double value){
    double absNum = Math.abs(value);
    return absNum;
}
```

Main

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

        System.out.println(getAbsoluteValue(-193.347));
        System.out.println(getAbsoluteValue(-13.34547));
        System.out.println(getAbsoluteValue(17.4674));
        System.out.println(getAbsoluteValue(-1));
        System.out.println(getAbsoluteValue(-4.45876345));
        System.out.println(getAbsoluteValue(0.37383912734));

    }
```

Output

```
PS C:\Users\themi\Downloads\java-prak-asd\third-meet\activity-3>
activity-3'; & 'C:\Program Files\Java\jdk-18\bin\java.exe' '-XX:+
ownloads\java-prak-asd\third-meet\activity-3\bin' 'Activity'
193.347
13.34547
17.4674
1.0
4.45876345
0.37383912734
PS C:\Users\themi\Downloads\java-prak-asd\third-meet\activity-3>
```

c. getFactorial(int n)

i. Arguments: integer n
ii. Return int
iii. Output value of n!

Method

```
    public static int getFactorial(int n){
        int numFact = 1;
        for(int i = 1; i <= n;i++){
            numFact = numFact * i;
        }
        return numFact;
    }
```

Main

```
    public static void main(String[] args) {
        System.out.println(getFactorial(1));
        System.out.println(getFactorial(2));
        System.out.println(getFactorial(3));
        System.out.println(getFactorial(4));
        System.out.println(getFactorial(5));
    }
```

Output

```
1
2
6
24
120
PS C:\Users\themi\Downloads\java-prak-asd\third-meet\activity-3>
```

d. getWeatherForecast

i. No arguments
ii. Return String
iii. Output random weather forecast message with format (today/tomorrow/the day after tomorrow) will be (sunny/cloudy/rainy/snowy)

Method

```
public static String getWeatherForecast() {
    int dayDetermine = (int)(Math.random() * 4);
    int weatherDetermine = (int)(Math.random() * 5);
    String day, weather;

    if (dayDetermine == 1)
        day =  "Today ";
    else if  (dayDetermine == 2)
        day = "Tomorrow ";
    else
        day = "The day after Tomorrow ";

    if (weatherDetermine == 1)
        weather =  "Sunny ";
    else if  (weatherDetermine == 2)
        weather =  "Cloudy ";
    else if  (weatherDetermine == 3)
        weather  = "Rainy ";
    else
        weather =  "Snowy ";

    return day + "would be " + weather;
}
```

Main

```
public static void main(String[] args) {
    System.out.println(getWeatherForecast());
}
```

Output

```
PS C:\Users\themi\Downloads\java-prak-asd\third-meet\activity-3>
deDetailsInExceptionMessages' '-cp' 'C:\Users\themi\Downloads\jav
The day after Tomorrow would be Sunny
Today would be Snowy
Tomorrow would be Sunny
The day after Tomorrow would be Cloudy
Today would be Snowy
The day after Tomorrow would be Snowy
PS C:\Users\themi\Downloads\java-prak-asd\third-meet\activity-3>
```

e. getRandomMessage(String name)

i. Argument : String name
ii. Return string
iii. Output Good (morning/afternoon/night) + name

Method

```
public static String getRandomMessage(String name){
    int determine = (int) (Math.random() * 3);
    String message;
    if (determine == 1) {
        message = "Good Morning ";
    }
    else if (determine == 2) {
        message = "Good Afternoon ";
    }
    else {
        message = "Good Night ";
    }

    return message + name;
}
```

Main

```
public static void main(String[] args) {
    System.out.println(getRandomMessage("Ramzy"));
    System.out.println(getRandomMessage("Ahmad"));
    System.out.println(getRandomMessage("Dani"));
    System.out.println(getRandomMessage("Bani"));
    System.out.println(getRandomMessage("Fam"));
    System.out.println(getRandomMessage("Kat"));
}
```

Output

```
ownloads\java-prak-asd\third-meet\activity-3\bin' 'Activity'
Good Afternoon Ramzy
Good Night Ahmad
Good Morning Dani
Good Afternoon Bani
Good Night Fam
Good Morning Kat
PS C:\Users\themi\Downloads\java-prak-asd\third-meet\activity-3>
```

f. isEvenNumber(int value)

i. Argument: int value
ii. Return boolean
iii. Output true if the value is even, otherwise output false if odd

Method

```
public static boolean isEvenNumber(int value){
    boolean check;
    if (value % 2 == 0){
        check = true;
    }
    else {
        check = false;
    }
    return check;
}
```

Main

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

    System.out.println(isEvenNumber(10));
    System.out.println(isEvenNumber(1));
    System.out.println(isEvenNumber(2));
    System.out.println(isEvenNumber(47567));
    System.out.println(isEvenNumber(239));
    System.out.println(isEvenNumber(-292));
}
```

Output

```
ownloads\java-prak-asd\third-meet\activity-3\bin' 'Activity'
true
false
true
false
false
true
PS C:\Users\themi\Downloads\java-prak-asd\third-meet\activity-3>
```

g. isSameAbsoluteValue(int i, int j)

i. Argument: int i, int j
ii. Return boolean
iii. Return true if the absolute value is the same otherwise, return false

Method

```
    public static boolean isSameAbsoluteValue(int i, int j){
        int num1 = Math.abs(i);
        int num2 = Math.abs(j);
        boolean check;
        if(num1 == num2){
            check = true;
        }
        else{
            check = false;
        }
        return check;
    }
```

Main

```
public static void main(String[] args) {
        System.out.println(isSameAbsoluteValue(-5, 5));
        System.out.println(isSameAbsoluteValue(1, 1));
        System.out.println(isSameAbsoluteValue(-2, -2));
        System.out.println(isSameAbsoluteValue(6, -6));
        System.out.println(isSameAbsoluteValue(7,-8));
        System.out.println(isSameAbsoluteValue(-1, 0));
}
```

Output

```
ownloads\java-prak-asd\third-meet\activity-3\bin' 'Activity'
true
true
true
true
false
false
PS C:\Users\themi\Downloads\java-prak-asd\third-meet\activity-3>
```

h. getMessage(String name, boolean isKid)

i. Argument : String name, boolean isKid
ii. Return void
iii. Output “Halo Pak name” if not isKid otherwise, “Halo dek name” if isKid

Method

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

Main

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

    getMessage("Ramzy", false);
    getMessage("Ferdieo", true);
    getMessage("Haikal", true);
    getMessage("Henzel", true);
    getMessage("William", false);
}
```

Output

```
ownloads\java-prak-asd\third-meet\activity-3\bin' 'Activity'
Halo Pak Ramzy
Halo Dek Ferdieo
Halo Dek Haikal
Halo Dek Henzel
Halo Pak William
PS C:\Users\themi\Downloads\java-prak-asd\third-meet\activity-3>
```

i. **getSum(double a , double b, double c)**

i. Arguments: double a, double b, double c
ii. Return double
iii. Output the sum a + b + c

Method

```
public static double getSum(double a, double b, double c){
    double sum = a + b + c;
    return sum;
}
```

Main

```
public static void main(String[] args) {
    System.out.println(getSum(0.12443, 0.74648, 1.47392));
    System.out.println(getSum(12.15, 53.745456748, 0.4734392));
    System.out.println(getSum(1, 2, 3));
    System.out.println(getSum(457.54897654, 95.32476237, 3.1));
    System.out.println(getSum(1.474842, 2.58594836, 9.9999999));
}
```

Output

```
2.34483
66.368895948
6.0
555.9737389100001
14.060790260000001
PS C:\Users\themi\Downloads\java-prak-asd\third-meet\activity-3>
```

j. getAverage(double a , double b, double c)

i. Arguments: double a, double b, double c
ii. Return double
iii. Output the average of a.b, c

Method

```
    public static double getAverage(double a, double b, double c){
        double avg = (a + b + c) /3;
        return avg;
    }
```

Main

```
    public static void main(String[] args) {
        System.out.println(getAverage(0.12443, 0.74648, 1.47392));
        System.out.println(getAverage(12.15, 53.745456748,
0.4734392));
        System.out.println(getAverage(1, 2, 3));
        System.out.println(getAverage(457.54897654, 95.32476237,
3.1));
        System.out.println(getAverage(1.474842, 2.58594836,
9.9999999));
    }
```

Output

```
0.78161
22.122965316000002
2.0
185.3245796366667
4.686930086666667
PS C:\Users\themi\Downloads\java-prak-asd\third-meet\activity-3>
```