Task 1

1. Implement a void scoring method ( ) to calculate the score of each mall by using the scoring model. This method takes from the user the values of weight of decision criteria and the grades for this Mall, then prints the score of this Mall.

```java
/*
 *                      TASK 1
 *                        Q1
 */

import java.util.Scanner;

public class Q1 {
    static void scoring(double w_1, double w_2, double w_3, double w_4, double w_5,double val_1, double val_2, double val_3, double val_4, double val_5){
        val_1*=w_1; val_2*=w_2; val_3*=w_3; val_4*=w_4; val_5*=w_5;
        double score = val_1+val_2+val_3+val_4+val_5;
        System.out.println("The male Scoring is: "+score);
    }
    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);

        System.out.println("Enter values of weight");
        double w_1 = input.nextDouble();
        double w_2 = input.nextDouble();
        double w_3 = input.nextDouble();
        double w_4 = input.nextDouble();
        double w_5 = input.nextDouble();

        System.out.println("Enter values of mall grades");
        double val_1 = input.nextDouble();
        double val_2 = input.nextDouble();
        double val_3 = input.nextDouble();
        double val_4 = input.nextDouble();
        double val_5 = input.nextDouble();
        scoring(w_1, w_2, w_3, w_4, w_5, val_1, val_2, val_3, val_4, val_5);
    }
}
```

```
PROBLEMS 8   OUTPUT   DEBUG CONSOLE   TERMINAL   PORTS   SQL CONSOLE

PS E:\0School\Second Year\Semester 2\JAVA\Tasks\Assignments\Assignment 2\code\Task_1> cd "e:\0School\Second Year\Semester 2\JAVA\Tasks\Assignments\Assignment 2\code\Task_1\" ; if ($?)
{ javac Q1.java } ; if ($?) { java Q1 }
Enter values of weight
.3
.25
.25
.1
.1
Enter values of mall grades
40
75
60
90
80
The male Scoring is: 62.75
PS E:\0School\Second Year\Semester 2\JAVA\Tasks\Assignments\Assignment 2\code\Task_1>
```

2. Apply the one-dimensional array named weight [ ] to store the weight of decision criteria.

```java
/*
 *                          TASK 1
 *                            Q2
 */
public class Q2 {
    public static void main(String[] args) {
        double weight[] = {.3, .25, .25, .1, .1};
    }
}
```

3. Apply a multidimensional array named grades-of-all malls [ ] to store the related data of all malls in the above Scenario.

```java
/*
 *                          TASK 1
 *                            Q3
 */
public class Q3 {
    public static void main(String[] args) {
        double grades_of_all_malls[][] = {
            {40, 75, 60, 90, 80},
            {60, 80, 80, 100, 30},
            {90, 65, 79, 80, 50},
            {60, 90, 85, 90, 70}
        };
    }
}
```

4. Integrate between the one-dimensional array in 2 and the multidimensional array in 3 with an improved scoring method ( ) that was created in 1.

```java
/*
 *                      TASK 1
 *                        Q4
 */
public class Q4 {
    static double scoring(double weight[], double grades_of_all_malls[][] ){
        double max_score = 0;
        for (int i = 0; i < 4; i++) {
            double score = 0;
            for (int j = 0; j < 5; j++) {
                score += weight[j] * grades_of_all_malls[i][j];
            }
            if (score > max_score ) max_score = score;
        }

        return max_score;
    }

    public static void main(String[] args) {
        double weight[] = {.3, .25, .25, .1, .1};

        double grades_of_all_malls[][] = {
            {40, 75, 60, 90, 80},
            {60, 80, 80, 100, 30},
            {90, 65, 79, 80, 50},
            {60, 90, 85, 90, 70}
        };

        double max_score = scoring(weight, grades_of_all_malls);
        System.out.println("Best decision max score is " + max_score);
    }
}
```

```
PROBLEMS 7  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  SQL CONSOLE

PS E:\0School\Second Year\Semester 2\JAVA\Tasks\Assignments\Assignment 2\code\Task_1> cd "e:\0School\Second Year\Semester 2\JAVA\Tasks\Assignments\Assignment 2\cod
{ javac Q4.java } ; if ($?) { java Q4 }
Best decision max score is 77.75
PS E:\0School\Second Year\Semester 2\JAVA\Tasks\Assignments\Assignment 2\code\Task_1>
```

Task 2

1. Create a class named best decision, Execute a constructor in this class to take the weight of decision criteria and the grades of alternatives. Also, this class includes a score method to calculate the score of each alternative and select the best decision

```java
/*
 *                      TASK 2
 *                        Q1
 */

public class BestDecision {
    private double weight[] = new double[5];
    private double grades_of_all_malls[][] = new double[4][5];

    BestDecision(double weight[], double grades_of_all_malls[][]){
        this.weight = weight;
        this.grades_of_all_malls = grades_of_all_malls;
    }

    static double scoring(double weight[], double grades_of_all_malls[][] ){
        double max_score = 0;
        for (int i = 0; i < 4; i++) {
            double score = 0;
            for (int j = 0; j < 5; j++) {
                score += weight[j] * grades_of_all_malls[i][j];
            }
            if (score > max_score ) max_score = score;
        }

        return max_score;
    }
}
```

```java
/**
 * task_1
 */

public class Q1 {

    public static void main(String[] args) {
        double weight[] = {.3, .25, .25, .1, .1};

        double grades_of_all_malls[][] = {
            {40, 75, 60, 90, 80},
            {60, 80, 80, 100, 30},
            {90, 65, 79, 80, 50},
            {60, 90, 85, 90, 70}
        };

        double max_score = BestDecision.scoring(weight, grades_of_all_malls);
        System.out.println(max_score);
    }
}
```

```
PROBLEMS 7  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS  SQL CONSOLE

PS E:\@School\Second Year\Semester 2\JAVA\Tasks\Assignments\Assignment 2\code\Task_2> cd "e:\@School\Second Year\Semester 2\JAVA\Tasks\Assignments\Assignment 2\code\Task_2\" ; if ($?) { javac Q1.java } ; if ($?) { java Q1 }
77.75
PS E:\@School\Second Year\Semester 2\JAVA\Tasks\Assignments\Assignment 2\code\Task_2>
```

2. Implement a Java built-in method to find the length of the weight array that is used in the number (Task 1-2)

```java
/*
 *                      TASK 2
 *                        Q2
 */
public class Q2 {
    public static void main(String[] args) {
        double weight[] = new double[5];
        System.out.println(weight.length);
    }
}
```

3. Create an object named Decision-A from the above created class in 2.

```java
/*
 *                          TASK 2
 *                            Q3
 */
public class Q3 {
    public static void main(String[] args) {
        BestDecision Decision_A;
    }
}
```

4. Create an array of objects from the created class in 2. This array of objects named decisions (length of array = 5)

```java
/*
 *                        TASK 2
 *                          Q4
 */
public class Q4 {
    public static void main(String[] args) {
        BestDecision decisions[] = new BestDecision[5];
    }
}
```