BACS2023 Object-Oriented Programming
Practical #3

Question 1

Write a program to process quiz scores. The user should first input the total scores to be processed. Next, the program should read the specified number of scores from the user and determine how many scores are above or equal to the average and how many scores are below the average.

Sample output:

```
Enter number of quiz scores to process: 5

Score 1: 10
Score 2: 8
Score 3: 9
Score 4: 2
Score 5: 4

Results
=======
Average is 6.6
Number of scores above or equal to the average is 3
Number of scores below the average is 2
```

Question 2

Write a method that returns the index of the smallest element in an array of integers. If there is more than one such element, return the smallest index. The method should receive an array of integers as the parameter. Test your method by creating an array of integer numbers named list, which contains the following integers:

1, 2, 4, 5, 10, 100, 2 and -22

The output should return 7 as the index of the smallest element in this array.

Question 3

A banking program requires a breakdown of banknotes of various denominations to be entered during transferring of fund from one teller to another. A sample of the input screen is shown below after a teller has entered the quantity of each denomination:

Denomination (RM)	Quantity
100	26
50	87
20	96
10	0
5	33
1	145

The program should then display the value of each denomination and the total as shown in the sample output below. Note that the output should only contain the denomination/quantity tuples with non-zero quantities.

```
Denomination(RM)        Quantity      Value (RM)
             100              26            2600
              50              87            4350
              20              96            1920
               5              33             165
               1             145             145
Total = RM 9180
```

Question 4

a) Consider the segment of code shown below:

```
1    int[] myList;
2    myList = new int[5];
3    myList = new int[10];
```

(i) When is the memory allocated for the array `myList`?

(ii) Does the statement in Line 3 resize the array?

b) Which of the following statements are invalid? Explain why.

(i) `float number[];`

(ii) `int[] number = [1, 2, 3, 4];`

(iii) `double[] number = new double[23];`

(iv) `float number = {1.0, 2.0f};`

(v) `number = new array[23];`

(vi) `double [] number = new double{3,5,6,9};`