

ASSIGNMENT

Student Name:	
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The competencies of assignment is almost everything in chapter 5 – 7 (LECTURE 05 –LECTURE 07) but more emphasizes on chapter 7. This assignment question consists of **TWO (2)** sections. There are **THREE (3)** questions in **SECTION A** and **TWO (2)** questions in **SECTION B**. Answer **ALL** questions from **SECTION A** and any **ONE (1)** question from **SECTION B**. **50 marks** are allocated for this assignment.

SECTION A [30 MARKS] Answer **ALL** questions

QUESTION 1 [10 MARKS]

By using array, design a program that can:

- (a) Read 10 marks for BHM students **(2 Marks)**
 - (b) Read 5 marks for BFM students **(2 Marks)**
 - (c) Read 10 marks for BFF students **(2 Marks)**
 - (d) Find the average mark for each program **(2 Marks)**
- Find the highest average mark between the three programs **(2 Marks)**

QUESTION 2 [10 MARKS]

Write a program using array to generate a multiplication table based on the user's input. For example if user enter 5 as input then a multiply table for 1 to 5 is printed as output as shown in **Figure Q2**. There are three main steps in this program which are:

- (a) Print rows **(3 Marks)**
- (b) Print columns **(3 Marks)**
- (c) Print multiplication of data inside table **(4 Marks)**

```
C:\ Select C:\example1\bin\Debug\example1.exe
enter the value : 5

*|  1  2  3  4  5  6  7  8  9 10
1|  1  2  3  4  5  6  7  8  9 10
2|  2  4  6  8 10 12 14 16 18 20
3|  3  6  9 12 15 18 21 24 27 30
4|  4  8 12 16 20 24 28 32 36 40
5|  5 10 15 20 25 30 35 40 45 50

Process returned 0 (0x0)   execution time : 1.484 s
Press any key to continue.
```

Figure Q2

QUESTION 3 [10 MARKS]

Based on **QUESTION 2**, use user-defined function to generate the multiplication table. There are two functions to be design:

- (a) Display number of rows and columns **(4 Marks)**
- (b) Display multiplication of data inside table **(6 Marks)**

SECTION B [20 MARKS] Answer **ANY ONE (1)** question

QUESTION 4 [20 MARKS]

Use a double-subscripted array to solve the following problem. A company has four sales-people (1 to 4) who sell five different products (1 to 5). Once a day, each salesperson passes in a slip for each different type of product sold. Each slip contains:

- (a) The salesperson number
- (b) The product number
- (c) The total value of that product sold that day

Write a program that will read all these information and summarize the total sales by salesperson by product. All totals should be stored in the double-subscripted array sales. After processing all the information, print the result in tabular format with each of the columns is representing a particular salesperson and each of the rows representing a particular product. Cross total each row to get the total sales of each product for last month; cross total each column to get the total sales by salesperson for last month. Your tabular printout should include these cross totals to the right of the totalled row and to the bottom of the totalled column. **(15 Marks)**

After that, determine the highest and lowest values for each column. **(5 Marks)**

QUESTION 5 [20 MARKS]

By using array, write a program that can:

- (a) Read numbers based on user's input and store the numbers in an array. **(2 Marks)**
- (b) Compute the total value of the numbers. **(2 Marks)**
- (c) Find the percentage of each number. **(2 Marks)**
- (d) Find the mean. **(4 Marks)**
- (e) Then display a table similar to the following, showing each number and their percentage. Your program also should produce a histogram based on the number that was input. **(4 Marks)**
- (f) Find the highest and lowest value in the list. **(4 Marks)**
- (g) Display the total of value, mean, the highest value and the lowest value. **(2 Marks)**

The sample output is as shown in **Figure Q5**.

```
EXAMPLE OF INPUT
How many number do u want to input? : 6
No 1 : 21
No 2 : 2
No 3 : 6
No 4 : 30
No 5 : 11
No 6 : 7

EXAMPLE OF OUTPUT
Number  perctg of total      Histogram
=====
21      27.27      *****
2       2.60      **
6       7.79      *****
30     38.96      *****
11     14.29      *****
7       9.09      *****

Total of number :      77
Mean :              12.83
The highest number :  30
The lowest number  :   2

Press any key to continue . . .
```

Figure Q5