Lab 7 Arrays

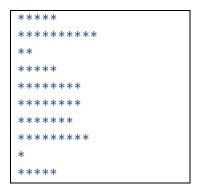NOTE: **Q2** and **Q3** are available for testing on **PASS**.

Q-1.

Write a program which define and initialize an array of 10 integers.

```
int num[10] = {5, 10, 2, 5, 8, 8, 7, 9, 1, 5};
```

a) Write a for-loop to print out the contents of the array, one element in one line.

b) Modify the programs in question a), such that it prints a bar chart for the values in the array as follows.

```
*****
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```

Hint: You may use nested for loops.

Q-2.

Write a program that reads two sets of integer elements (10 elements for each set) and finds the intersection of two entered sets.

Hint-1. The elements of set A and B should be unique according to set properties.
Hint-2. The intersected element is the common element in both sets.

Expected Outputs:

Example-1	Example-2
Enter 10 Elements of Set A: **1 2 3 4 5 6 7 8 9 10** Enter 10 Elements of Set B: **11 12 13 14 15 16 17 18 19 20** The Intersected Element of Set A and B are not Found.	Enter 10 Elements of Set A: **1 2 3 4 5 6 7 8 9 10** Enter 10 Elements of Set B: **1 2 3 4 5 6 7 8 9 10** The Intersected Elements of Set A and B are: 1 2 3 4 5 6 7 8 9 10
Example-3	**Example-4**
Enter 10 Elements of Set A: **1 2 3 4 5 6 7 8 9 10** Enter Elements of Set B: **1 3 5 7 9 11 13 15 17 19** The Intersected Elements of Set A and B are: 1 3 5 7 9	Enter 10 Elements of Set A: **-1 -2 -3 -4 -5 -6 -7 -8 -9 -10** Enter Elements of Set B: **-1 -3 -5 -7 -9 -11 -13 -15 -17 -19** The Intersected Elements of Set A and B are: -1 -3 -5 -7 -9

Q-3.

Write a program which read the first name of a person as string (or array of characters) and print whether name is **palindrome** or not.

Hint-1. A palindrome is a word or any sequence of characters that reads the same backward or forward.

Hint-2. Entered words should be <u>case sensitive</u>. For example, Anna and anna are different names, because the first character of both names is different.

Hint-3. You can use the `strlen()` function to find the length of a string. For example, if st ="Cityu" then `strlen(st)` will return 5.

Expected Outputs:

Example-1	Example-2
Enter the First Name: **madam** madam is palindrome	Enter the First Name: **Madam** Madam is not palindrome
Example-3	**Example-4**
Enter the First Name: **ANNA** ANNA is palindrome	Enter the First Name: **mark** mark is not palindrome

Please test the correctness of your programs in Q-1, Q-2 and Q-3 using PASS.