LAB#08 EXERCISES

INSTRUCTIONS:

NOTE: Violation of any of the following instructions may lead to the cancellation of your submission.

1) Create a folder and name it by yourLast4 digits of your registration number e.g., 1234,
2) Paste the .c (Save as type) file for each question with the names such as Task1.c, Task2.c and so on into that folder.

2DARRAYS ARE NOT ALLOWED TO BE USED FOR SOLVING THE FOLLOWING EXERCISES.

Task 01: Write a program that reads the 10 numbers from the user and store these numbers into an array of the same size. Then the user enters a number to be found in the array, your program should tell if the number is present in the array or not. If it is present your program should display the number against its index. For multiple occurrences of a number it should be printed multiple times along with the indexes. If the number is not in the array, then the program should display a message "number not found".

Task 02:

write a program by declaring an array for 10 elements. Then ask the user to provide a lower and upper limit, then using loops saves all prime numbers between that range in the array. At the end print the array in descending order.

Task 03:

Write a program which takes 15 numbers as input and stores all the values in the array of the same size. Your program should store the even numbers before the odd numbers, that is all the even numbers should be in the beginning of the array and all the odd numbers should be after the even numbers. Your program should display the array using a loop as well.

Task 04:

Write a program which inputs 10 integers from the user and then ask the user if the numbers should be sorted in ascending or descending order then sort all the numbers according to the user choice. Display the sorted array as final output.

Task 05:

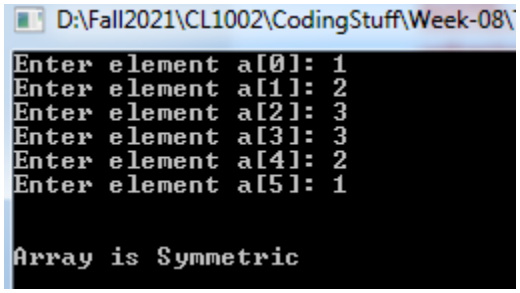
Write a program which takes 10 integers from the user and then tells the count of each number entered by the user.

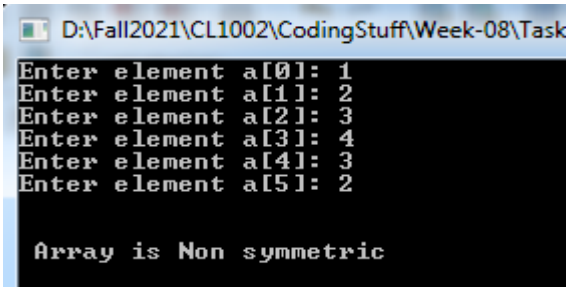
Task 06:

Part a)

Write a program which can stores 6 integers. Then check your stored array that it's symmetric or not. As the number of elements are even in given problem. Make sure that your code is generic and work for

odd elements size as well. The array is symmetric if the value of the first element is equal to the last one, the value of the second one is equal to the value of the last but one, and so on.
(Symmetric and Asymmetric differentiated in following figures)
Note: Use Nested loop and Decision statements if required.

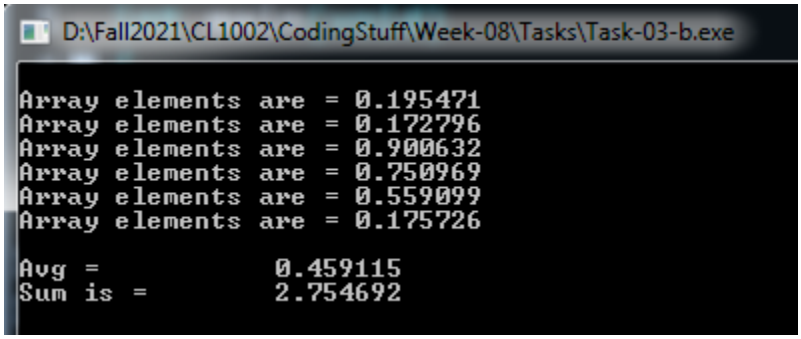




Part b)

Consider the array of same size. Now use srand(), rand() and assign the elements within range [0-1] to the array elements. Display the array elements, sum and average as well.

Your output may look as following.

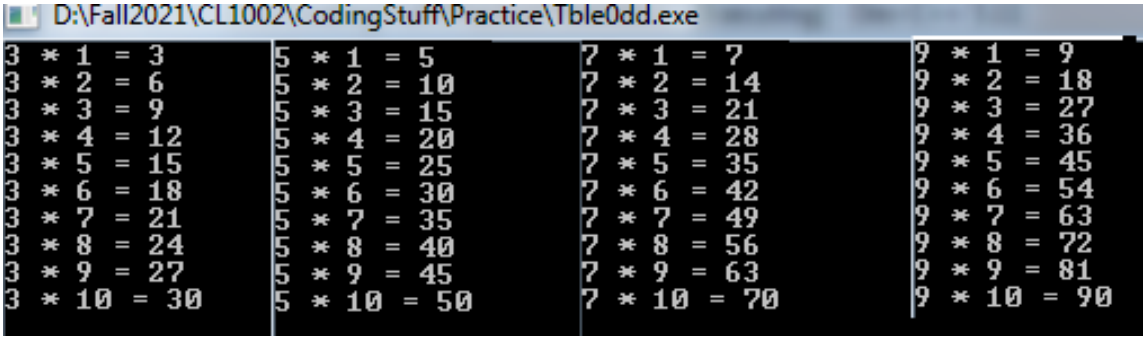


Task 07:

You are writing a program to filter pass and fail students. You will ask the user for their registration number which is combination of 4 integers and then ask for their final marks out of 1100 if their percentage is below 45% then student registration number is stored in array named "failed_students"s and if it is above or greater than 45% than student registration number is stored in the array named "pass_student". Then your program should ask the user which list they want to display Pass Students or Fail Students and print the list of students accordingly.

Task 08:

Write a program which generate multiplication tables within range (3-10) for odds number only as follows.


D:\Fall2021\CL1002\CodingStuff\Practice\Tble0dd.exe
3 * 1 = 3
3 * 2 = 6
3 * 3 = 9
3 * 4 = 12
3 * 5 = 15
3 * 6 = 18
3 * 7 = 21
3 * 8 = 24
3 * 9 = 27
3 * 10 = 30
5 * 1 = 5
5 * 2 = 10
5 * 3 = 15
5 * 4 = 20
5 * 5 = 25
5 * 6 = 30
5 * 7 = 35
5 * 8 = 40
5 * 9 = 45
5 * 10 = 50
7 * 1 = 7
7 * 2 = 14
7 * 3 = 21
7 * 4 = 28
7 * 5 = 35
7 * 6 = 42
7 * 7 = 49
7 * 8 = 56
7 * 9 = 63
7 * 10 = 70
9 * 1 = 9
9 * 2 = 18
9 * 3 = 27
9 * 4 = 36
9 * 5 = 45
9 * 6 = 54
9 * 7 = 63
9 * 8 = 72
9 * 9 = 81
9 * 10 = 90