Assignment #02 (Arrays)
Programming Fundamental - Lab

Due Date: 1 Week

Total Marks: 10

A note of warning: Start work on assignments as soon as they are given. Do not underestimate the demanding nature of this course. Expect the system to crash the night before your program is due. Aim to have it done the day before.

Submit the assignment on **slate.** Do not email me assignments after due date. It will not be accepted in any case. Students are required to submit actual content written in MS word or Pdf. Hand written/ Scanned assignments will not be accepted.

Note: Name of the file should start with your Roll number followed by your Name and at the end assignment number (**p190001NameAssign01)**

1. Write a C++ program
    a. Create a C++ function **search_element(n[2][2])** that takes 2D array as a parameter. This function ask the user to enter element to search. Make sure the element entered is not a string it can be of float or integer but not string and bool. Your function search the element using nested for loop and **return true or false** if the element found or not.
    b. Create another function **multiply(n[2][2])**that takes 2D array as a parameter and multiply each element of the array with the user input number.
    c. Create another function **Subtract(n[2][2])** that takes 2D array as a parameter and subtract each element of the array with the user input number
    d. Create another function **Add(n[2][2])** that takes 2D array as a parameter and add each element of the list with the user input number
    e. Create another function **Compare(a[2][2],b[2][2])** that takes two 2D array as a parameter and compare each element if the a[][] element is less than b[][] element it should return the true otherwise return false
    f. Call all the functions in main
2. Write a program that allows the user to enter the last names of five candidates in a local election and the number of votes received by each candidate. The program should then output each candidate's name, the

number of votes received, and the percentage of the total votes received by the candidate. Use arrays to store the data

Your program should also output the winner of the election

Candidate	Votes Received	% of Total Votes
Johnson	5000	25.91
Miller	4000	20.73
Duffy	6000	31.09
Robinson	2500	12.95
Ashtony	1800	9.33
Total	19300	

The Winner of the Election is Duffy.

Q # 3 . (Airplane Seating Assignment) (5 Marks)

Write a program that can be used to assign seats for a commercial airplane. The airplane has 13 rows, with six seats in each row. Rows 1 and 2 are first class, rows 3 through 7 are business class, and rows 8 through 13 are economy class. Your program must prompt the user to enter the following information

a) Ticket type (first class, business class, or economy class)
b) Desired seat

Output the seating plan in the following form:

	A	B	C	D	E	F
Row 1	*	*	X	*	X	X
Row 2	*	X	*	X	*	X
Row 3	*	*	X	X	*	X
Row 4	X	*	X	*	X	X
Row 5	*	X	*	X	*	*
Row 6	*	X	*	*	*	X
Row 7	X	*	*	*	X	X
Row 8	*	X	*	X	X	*
Row 9	X	*	X	X	*	X
Row 10	*	X	*	X	X	X
Row 11	*	*	X	*	X	*
Row 12	*	*	X	X	*	X
Row 13	*	*	*	*	X	*

Here, * indicates that the seat is available; X indicates that the seat is occupied. Make this a menu-driven
program; show the user's choices and allow the user to make the appropriate choices.