Practice questions v.2: One/Multi-dimensional Arrays

1. Write a C++ program that declares an array alpha of 50 components of type double. You may take input or hardcode. Take an integer value "x" as an input. Update the first 25 values of an array with the square of "x", and the last 25 values with three times the value of variable "x". Print the final array.
2. Write a C++ program that takes input in an int array and finds the index where the smallest value is found.
3. Suppose you have to maintain three arrays for three students with the following data:
   Iqra 90,74,60
   Usama 87,77,61
   Osama 88,75,60
   The three entries are the marks (out of 100) for the following subjects: 1) Basic electronics, 2) PF, and 3) Digital Logic design. Write a program that finds the student that has scored highest marks in 1) Basic electronics, 2) PF, and 3) Digital Logic design. Hint: You can use relational operator > and && operator to check the condition.

4. Write a program for addition/subtraction of two Matrices of same size.
5. Write a program to accept two matrices and check whether they are equal
6. Write a program which reads a matrix and returns the largest summed row and column.
7. Write a program that declares an array of size 10. Now ask user to enter positive numbers and store only the unique numbers in the array. Stop taking input when the array fills. At the end, display the array and also how many numbers are entered by user.
   Example:

Enter number: 5
Unique_data => 5

Enter number: 6
Unique_data => 5 6

Enter number: 9
Unique_data => 5 6 9

Enter number: 6 // data is not unique (already in array)
Unique_data => 5 6 9

Enter number: 5 // data is not unique (already in array)

Unique_data => 5 6 9

Enter number: 12 // data is not unique (already in array)
Unique_data => 5 6 9 12

Enter number: 2 // data is not unique (already in array)
Unique_data => 5 6 9 12 2
And so on …