**Programming Fundamentals   
Assignment # 4**

**DUE DATE: Friday 24th June 8:00 PM Marks : 20**  
**Note : You have to submit only one .cpp files with as many functions as required.**

**Write a C++ program that make use of functions to implement the following concepts. Make Sure the program must be a menu driven where option 1 implements Question1 and option 2 implements Question 2.**

**Question 1. Write a function that receives an integer array of any size and compress it in such a way that all the values at the odd indexes of that array get removed from that array. Return the compressed array.**

**Sample Run 1:**

Input size: 7  
Input array: 2 4 5 20 13 18 90

After compressing, the above array is: 2 5 13 90

**Question2. Your task is to design a phonebook storing names and person contact numbers in a single 2d array or multiple as you wish by reading data from sample file given below:**

**(Option: You can fix the column size of your choice that can hold the data of each row, or you can make use of jagged arrays or you can ask the same column size for all the users)  
  
phonebook.txt**

|  |
| --- |
| Fahad: 0333-6782316 sarmad: 0321-901672  mahad:0304-9876421  And so on… |

There can be any number of names so create row\_size by counting rows from file by reading using loop.

Now once the TWO-D array gets created and data is read in two-d array/s, implement the following using functions:

1. Count and tell the number of persons whose contacts are saved.
2. Capitalize all the letters in the names of all the persons.
3. Display the names of all the persons in the list
4. Search a person by name and display his/her contact number if exists
5. Optional: Sort the above array by names ( 3 Bonus marks if you can attempt this correctly)