    a) Write Registration Number, Name & Mobile number on the Answer sheet.

    b) Write the Question and Answer on the given white sheets. Dont write anything on this question paper

    c) Write optimized programs which are logically correct

    d) Preferred programming language is Java.

    e) You can just write the required function and logic instead of complete program

    f) Time : 60 mins

1) Given array of numbers and one unique number. Find the combination of numbers whose sum is equal to the given unique number.

    Ex: Input : {0,1,2,7,3,4,5}, Unique number =5

    Output : 0,5; 1,4;   2,3

2) Write an optimized program to find greatest prime number <=n;   given n as input. Example : if n=9; output is =7; if n=13 output is 13; if n=26 output is 23;

3) Write a program to print as follows given 'n' as input;
Ex: if n=4; it prints 4 rows as follows.

1						
1	2	1				
1	2	3	2	1		
1	2	3	4	3	2	1

4) Define data structure for double linked list and write deleteElement() function.

5)Write a program to find all unique elements of a given array and their number of occurrences.

    Ex : Input : {1,2,5,3,2,1,1,7,2,3,0,1,5};
    Output :
    1-4; 2-3; 3-2; 5-2; 0-1; 7-1;
    Hint : In Java we can use any HashMap structure. It has Key and Value mapping for unique keys. It has methods to check ContainsKey(); get(Key);put(Key,Value) methods;

6) Write a program to print all possible substrings of a given string.
    Input : Hello
    Output : H,He,Hel,Hell,Hello;
            e,el,ell,ello;
            l,ll,llo;
            l,lo;
            o