1. Write a program that takes an integer n and prints the first n rows of the Pascal’s triangle. You have to use functions for your ease.

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| **Sample Input** | **Sample Output** |
| 4 | 1  1 1  1 2 1  1 3 3 1 |
| 5 | 1  1 1  1 2 1  1 3 3 1  1 4 6 4 1 |

2. Write the following three functions:

(i) **int isPrime(int n) :** Takes an integer as parameter, and return 1 if it is prime, otherwise return 0.

(ii) **int reverseNumber(int n) :** Takes an integer n and returns the number formed by reversing the sequence of digits. For example, if the value of n is 1234, your function should return 4321.

(iii) **int toBase10(char c[],int length, int radix) :** Takes a character array c and the length of the array. This character array will contain a valid number in any base between 2-16. The base of the number will be passed as the parameter radix. The function returns the decimal value of the number. See sample I/O for further clarification.

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| **Sample input for toBase10** | **Sample Return value** |
| [1,0,1,0], 4, 2 | 10 |
| [F,A], 2, 16 | 250 |

Write a program that takes a character array which represents a number in any base between 2-16. Your program should first convert the character array to corresponding decimal value and then print “Prime” if the decimal value is prime and should print “Emirp” if the reverse of the value is a prime. If neither the number nor its reverse is a prime print “None”.

The first line of each test case contains an integer that represents the base in which the  
number in the character array is represented. The next line contains the length of the input array len. And the third line contains len characters each separated by a space.

3. Write a C program to sort the elements of an array.