

**Delhi Public School, R.K.Puram, New Delhi**

**Computer Science Practical List 1**

1. Write a menu driven program to find the sum of the following series using user-defined functions:
  - (a)  $X + X^2 + X^3 + \dots$  N times
  - (b)  $U + U^2/2! + U^3/3! + \dots$  N times
  - (c)  $2 + (2+4) + (2+4+6) + \dots$  N times
2. Write a menu driven program to check the following for a given number passed as parameter to relevant user-defined function:
  - (a) Prime Number (b) Palindrome (c) Sum of all digits of the number is an even numberNote: Functions should return 1 if the number belongs to the category asked for and 0 if not
3. Write a program to perform the following operations (using separate function for each) on an array of type int
  - (a) To enter the content of the array
  - (b) To display the content of the array
  - (c) To sort the array using Insertion sort
  - (d) To search for an integer from the content of the array using linear search
4. Write a program to perform the following operations (using separate function for each) on an array of type int
  - (a) To enter the content of the array
  - (b) To display the content of the array
  - (c) To sort the array using Selection sort
  - (d) To search for an integer from the content of the array using Binary search
5. Write a program to perform the following operations on 2 dimensional arrays of type integer (using separate function for each)
  - (a) To enter the content of the array (matrix)
  - (b) To display the content of the array (matrix)
  - (c) To add the content of two arrays and store the sum in third array (matrix)
  - (d) To subtract an array from the other and store the difference in third array (matrix)
6. Write a program to accept the content in a string and count & display the number of vowels, consonants and digits present in it. Also display the reverse of the string.
7. Write a program to perform the following operations on an array of strings (containing Names of countries):
  - (a) To allow user to enter the names of countries
  - (b) To display the names of the countries
  - (c) To sort the array in descending alphabetical order
  - (d) To search for a name of a country from the array and display "Country registered" else display "Country not registered" (using Linear Search)

**General Instructions:**

- i. Type the programs mentioned above during the Lab Periods
- ii. Type in the following on top of each of your program as comment lines

```
/*
Program No   : 1
Developed By: Gagan Sriprakash, Gareema Gehlot, Gyan Chandrashekhar
Date        : 09-April-2016
*/
```
- iii. On successful compilation and execution, copy and paste the sample output at the bottom of the program as comment lines.
- iv. Take out a hardcopy of the program from the printer and get it signed from the respective computer teacher. Paste this printout in the practical file and get the Index entry also signed.