



# DELHI PUBLIC SCHOOL BANGALORE EAST

## Subject: Computer Science (083)

### Practical List- Python for Grade XII(2021-2022)

#### TERM1

1. Write a Python program using functions to calculate the following:
  - factorial of a number
  - sum of first 'n' even numbers
2. Write a **function** to take a number 'n' as parameter and then returns a randomly generated number having exactly n digits.(not starting with zero) .  
Ex: If n is 2, then function can randomly return a number 10-99 but 02,06...are not valid .
3. Write a program in python to create a text file word.txt with the following content:

A text file is a computer file that only contains text and has no special formatting such as bold text, italic text, images, etc.

With Microsoft Windows computers text files are identified with the .txt file extension

Write a function to count the number of lines and number of words.

4. Write a Program in Python using functions to count and display the number of lines not starting with alphabet 'A' present in a text file "STORY.TXT". Also count the number of occurrences of the word 'is' .

Example: If the file "STORY.TXT" contains the following lines,

**The rose is red.**

**A girl is playing there.**

**There is a playground.**

**An aero plane is in the sky.**

**Numbers are not allowed in the password.**

The function should display the output as 3. The second function should display the output as 4

5. Write a python program using functions to search a linear list using linear search and binary search. The functions must pass the list and the element to be searched as parameters.
6. Create random numbers between any two values and add them to a list of fixed size (say 5)
  - Obtain a value from the user and add it to the list at a desired position
  - Delete a value from the list

7. Write a Python program using functions to read from the file 'poem.txt' and display the following:
  - Frequency of all the vowels
  - Total number of upper case and lower case characters

**Input:**

**Baa BAA Black Sheep;**

**Have you any wOOl?**

**Yes SIR yes SIR - 3 bags full**

**1 for my master: 1 for my dame:**

**1 for the little boy who lives down the LANE.**

**Output:**

A – 11

E–12

I – 4

O – 9

U – 2

Total Number of upper case characters: 20

Total Number of lower case characters:84

8. Write a python program to copy the contents of “try.txt” into “final.txt”. Replace all blank spaces with ‘#’ in the final.txt. Assume the contents of final.txt as follows:

A text file is a computer file that only contains text and has no special formatting such as bold text, italic text, images, etc.

9. Write a python program to create binary file to store Rollno, Name and Marks and Search for a Roll no. Display the name, if Rollno is found otherwise display “Rollno not found”.
10. A binary file “Book.dat” has structure [bookno, bookname, author, price].  
Write a user defined function CreateFile() to input data for a record and add to Book.dat.  
Write a function CountRec(Author) which accepts Author name as parameter, count and return number of books by the given Author are stored in the binary file “Book.dat”.
11. A binary file “STUDENT.DAT” has structure (admn\_no, name, percentage). Write a function CountRec() that would read contents of the file “STUDENT.DAT” and display the details of those students whose percentage is above 75. Also display number of students scoring above 75%.
12. Write a program to create a binary file called emp.dat and write into it the employee details of in the form of dictionaries. Write the function to increase the Salary of the employee by 5000 for the empNo “123”.  
For Ex. D= {empNo:"123", ename:"Ajay", Salary: 50000}
13. Write a program to read following details of sports’ performance (sport\_name, competitions, prizes\_won) of an Institution and store into a SPORTS.CSV file delimited with tab character. And also read & display the contents of SPORTS.CSV.
14. Write a python program to create CSV file and store empno,name,salary in it. Take empno from the user and display the corresponding name, salary from the file. Display an appropriate message if the empno is not found.
15. Write a Python program to copy the contents of above file “Medicine.csv” into “Temp.csv”, but with a different delimiter.

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