PRACTICAL PROGRAMS FOR BATCH 12 STUDENTS 2020-21 – INDIVIDUAL

NOTE: Write these entire programs in Python and Copy & Paste the Screen Shots of Source Code and Output in your word file. Then after final work, send me the files in google-classroom only. Write the programs in the given sequence only. Do not change the number of program. Programs given in blue need not any output. Each program must start from a new page……Check your Google Classroom for Sample Report File.

1. Write a program in Python to check a number whether it is prime or not.
2. Write a program in Python to check a number whether it is palindrome or not.
3. Write a program in Python to accept (input) a character from user and print whether a given character is an alphabet, digit or any other character.
4. Write a program to print Fibonacci series.
5. Write a program in Python for Binary Search.
6. Write a program to generate random numbers between 1 to 6 and check whether a user won a lottery or not. (Number guessing program)
7. Write a Python program to calculate sum of series $1^2+2^2+3^2+....+n^2$ using for loop.
8. Write a Python program to Count Vowels and Consonants in a given string.
9. Write a Python program to find last occurrence of a character in a given string. For example:-

```
Please enter your own String : hello world
Please enter your own Character : l
The Last Occurrence of  l  is Found at Position  10
```

10. Write a Python program to check if a given key exists in a dictionary **myDict,** or not.
11. Write a Python program to find Perfect number using for loop.
12. Write a Python program to find roots of a Quadratic Equation.
13. Write a Python program to replace **Blank Space** with **hyphen** in a given string like @ or #.
14. Write a Python program to print the series 2, 15, 41, 80, 132, 197… till n terms, using function.
15. Write a Python program to find the **sum** of the series 1/2 – 2/3 + 3/4 – 4/5 + … till n terms, using function.
16. Write a Python program to print the series 1, 9, 17, 33, 49, 73, 97… till n terms, using function.
17. Write a Python program to find the sum of the series 1+11+111+1111+….. up to n terms, using function.
18. Write a program to count the number of vowels present in a text file.

Hint code: do not copy the same code, make slight change

```
fin=open("D:\\python programs\\Book.txt",'r')
str=fin.read( )
count=0
for i in str:
   if i=='a' or i=='e' or i=='i' or i=='o' or i=='u':
      count=count+1

print(count)
```

19. Write a program to count the number of words in a text file.

Hint code: do not copy the same code, make slight change

```
fin=open("D:\\python programs\\Book.txt",'r')
str=fin.read( )
L=str.split()
count_words=0
for i in L:
   count_words=count_words+1
print(count_words)
```

20. Write a program to find the most common words in a file.

```
import collections
fin = open('E:\\email.txt','r')
a= fin.read()
d={ }
L=a.lower().split()

for word in L:
    word = word.replace(".","")
    word = word.replace(",","")
    word = word.replace(":","")
    word = word.replace("\"","")
    word = word.replace("!","")
    word = word.replace("&","")
    word = word.replace("*","")
for k in L:
    key=k
    if key not in d:
        count=L.count(key)
        d[key]=count
n_print = int(input("How many most common words to print: "))

print("\nOK. The {} most common words are as follows\n".format(n  print))
word_counter = collections.Counter(d)

for word, count in word_counter.most_common(n_print):
    print(word, ": ", count)

fin.close()
```

21. **Write a Program to enter the number of terms and to print the Fibonacci Series.**

```
# Program to display the Fibonacci sequence up to n-th term

nterms = int(input("How many terms? "))

# first two terms
n1, n2 = 0, 1
count = 0

# check if the number of terms is valid
if nterms <= 0:
   print("Please enter a positive integer")
elif nterms == 1:
   print("Fibonacci sequence upto",nterms,":")
   print(n1)
else:
   print("Fibonacci sequence:")
   while count < nterms:
       print(n1)
       nth = n1 + n2
       # update values
       n1 = n2
       n2 = nth
       count += 1
```

22. **Remove all the lines that contain the character “a” in a file and write it into another file.**

```
file1 = open('myfile.txt')
file2=open("myfilenew.txt","w")
for line in file1:
    if "a" in line:
        line=line.replace("a"," ")
    else:
        file2.write(line)
file1.close()
file2.close()
```

23. **Read a text file and display the number of vowels/consonants/uppercase/lowercase characters in the file.**

```
filel=open(r"myfile.txt","r")
vowels=0
consonants=0
uppercase=0
lowercase=0
strl=filel.read()

for i in strl:

    if (i>= "a" and i<= "z"):
        lowercase +=1
    elif (i>= "A" and i<= "Z"):
        uppercase +=1

for j in strl:
    j=j.lower()
    if (j == "a" or j == "e" or j== "i" or j == "o" or j == "u"):
        vowels +=1

    else:
        if j.isalpha():
            consonants +=1
print("lower case count",lowercase)
print("upper case count",uppercase)
print("vowels count",vowels)
print("consonants count",consonants)
```

24. **Write a python program to write python list to CSV file.**

```
import csv
fields = ['Name', 'Branch', 'Year', 'Score']
# data rows of csv file
rows = [ ['Nikhil', 'COE', '2', '9.0'],['Sanchit', 'COE', '2', '9.1'],
         ['Aditya', 'IT', '2', '9.3'],
         ['Sagar', 'SE', '1', '9.5'],['Prateek', 'MCE', '3', '7.8'],
         ['Sahil', 'EP', '2', '9.1']]
# name of csv file
filename = "university_records.csv"
# writing to csv file
with  open(filename,'w') as csvfile:
# creating a csv writer object
   csvwriter = csv.writer(csvfile)
# writing the fields
   csvwriter.writerow(fields)
# writing the data rows
   csvwriter.writerows(rows)
```

25. **Write a python program to create list of email-ids and write it into text file.**

```
import random
email =[]
num = int(input("Enter total number of email_id :"))
for i in range(1,num+1):
    value = str(input("Enter email_id :"))
    email.append(value+'\n')
print("Email_id :",email)
fp = open("email.txt","w")
fp.writelines(email)
fp.close()
```