7) Design a python program using regular expression to.

a) Extract Email ID's from a given text
b) validate the user password with minimum length = 6 and maximum length = 16 and must have at least one lower case letter, upper case letter, number and special symbol (#, @, $, _)

7a)
```
import re
S = input("enter a string")
words = s.split()
for word in words:
    obj = re.match("^[0-9 A-Z a-z]+@[a-z A-Z 0-9]
        +\.[a-z A-Z]*", word)
    if obj:
        print(word)
    else:
        print(none)
```

7b)
```
import re
password = input("enter a password")
obj = re.match("^(?=.*[a-z])(?=.*[A-z])
(?=.*[0-9])(?=.*[_@#$])[0-9 a-z A-Z _@#$]
{6,16}$", password)
if obj:
    print("valid password")
else:
    print("Invalid password")
```

Output :

7a)

enter a string chaithanya762@gmail.com and my other mail ID is 20cse0192@vvce.ac.in and my yahoo ID is chai@yahoo.com

chaithanya762@gmail.com
20cse0192@vvce.ac.in
chai@yahoo.com

7b) enter the password chaithanya
invalid

enter the password ammu@1234#
valid.

8) Perform the following file operations using Python program.

a) Traverse a path and display all the files and subdirectories in each level until the deepest level for a given path, Also display the total number of files and subdirectories

b) Read a file content and copy only the contents at odd lines into a new file.

a)
```
import os
path = os.walk("F:/filehandler/good morning")
filecount = 0
foldercount = 0
for root, subdirectories, file in path:
        print("root", root)
        print("subdirectories", subdirectories)
        print("files", file)
        filecount += len(file)
        foldercount += len(subdirectories)
print("Total files", filecount)
print("Total subdirectories", foldercount)
```

b)
```
file1 = open("F:/filehandler/helloworld.txt")
string = file1.read()
line = string.splitlines()
oddlines = ""
```

Experiment No 08 Date 28/12/21 Page No. 13

Name of Experiment Read & copy contents at odd lines to another file

```
for index in range(0, len(lines), 2):
        oddlines += lines[index] + "\n"
file2 = open("F:/filehandler/good.txt", "w")
file2.write(oddlines)
file2.close()
file1.close()
print("completed")
```

Done 4/1/22

Output :-

8a) root F:/filehandler/goodmorning

subdirectories ['chaithanya', 'New folder']

files ['program.txt', 'python.txt']

rootF:/filehandler/goodmorning\chaithanya 5

subdirectories []

files ['New Text document.txt', 'New Text document1.txt']

rootF:/filehandler/goodmorning\New folder

Subdirectories []

files []

Total files 4

Total subdirectories 2

output :-

completed.

FILE 1

helloworld - file

hello would
I'm chaithanya
good morning
how are you ?
hope you are doing good
take care

FILE 2

good - file

hello world
good morning
hope you are doing good

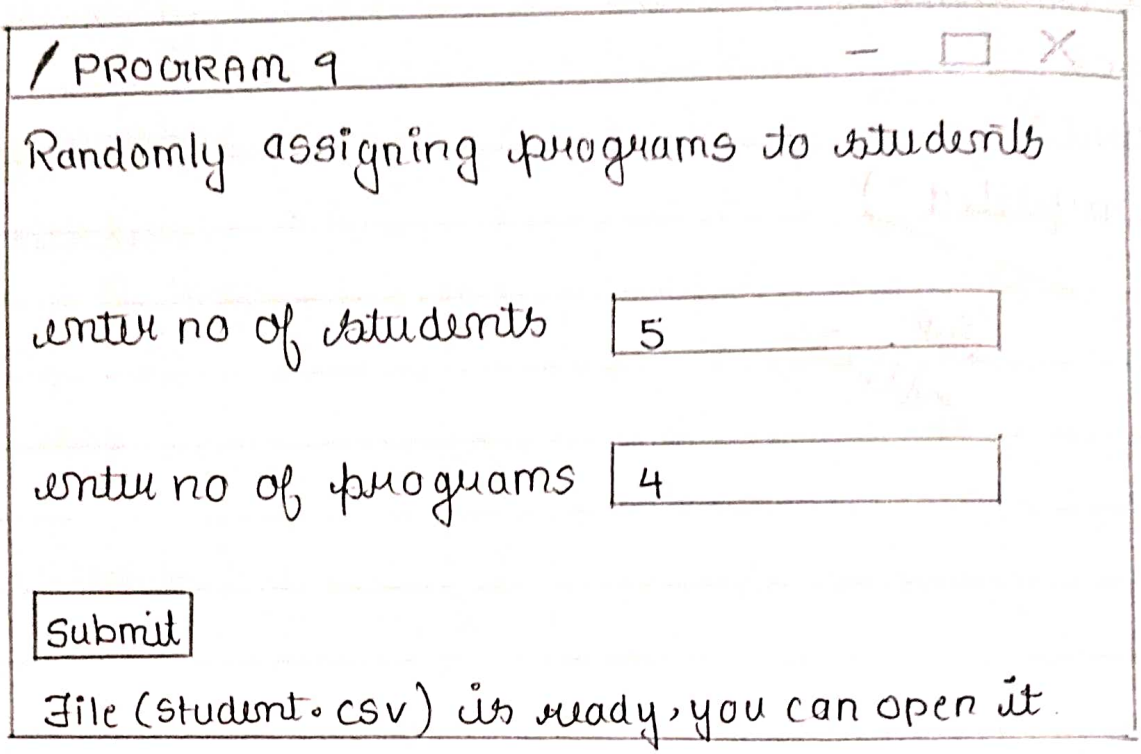
9) Develop an application using 'tkinter' package to randomly assign program no's for students and store assigned details in csv file

```
from tkinter import *
import random

window = tkinter.TK()
window.title("Program 9")
window.geometry("300x250")

message = StringVar()

lab1 = Label(window, text = "Randomly assigning programs")
lab1.grid(row = 0)

lab2 = Label(window, text = "enter no of students")
lab2.grid(row = 1, column = 0)

students = Entry(window)
students.grid(row = 1, column = 1, pady = 10)

lab3 = Label(window, text = "enter no of programs")
lab3.grid(row = 2, column = 0)

program = Entry(window)
program.grid(row = 2, column = 1)
```

```
lab4 = Label(window, textvariable = message)
lab4.grid(row = 4)

def buttonClicked():
    no_of_students = students.get()
    no_of_programs = program.get()
    data = ""
    if no_of_students.isdigit() and no_of_programs.isdigit():
        for i in range(1, int(no_of_students)+1):
            data += "student" + str(i) + "," + "program"
            data += str(random.randint(1, int
                    (no_of_programs))) + "\n"
        file = open("students.csv", "w")
        file.write(data)
        file.close()
        msg = message("File (student.csv) is ready,
                you can open it")

    else:
        msg = message.set("invalid")

btn = Button(window, text = "submit", command = buttonClicked
btn.grid(row = 3)

window.mainloop()
```

8/2/21

Output :-



Student.csv

student 1, program 1
student 2, program 1
student 3, program 3
student 4, program 4
student 5, program 3

10) Create an interactive dictionary application in Python by reading the external JSON file which contains words and different meanings associated with it. Program will ask the user for a word and returns the meaning for the user given word from the JSON file, if the actual meaning is not available for the user given word, the program should through suggestion to user by analyzing the word to check if a user somehow mistypes the word and meant something else.

```
import json
import difflib
file = open("meaning.json")
dictionary = json.load(file)
word = input("enter a word")
if word in dictionary.keys():
  print("Meaning of word:", word, "-", dictionary[word])
else:
  similar = difflib.get_close_matches(word, dictionary.keys()
  if len(similar) > 0:
        similar = similar[0]
        print("Did you mean", similar, "? yes or no").
        yorn = input()
        if yorn == "yes":
              print("Meaning of word:", similar,
                    "-", dictionary[similar])
```

```
        else:
            print("no match found")
else:
    print("no match found")
```

[external json file]

meaning.json

```
{
"A-game" : "one's highest level of performance",
"angry" : "angry ; irritated",
"dwell" : "meaning to talk admirably",
"park" : "a public garden or area for recreation"
}
```

Output :-

1) enter a word : park

meaning of word : park - a public garden or area for recreation.

2) enter a word : Agame

Did you mean A-game ? say yes or no

yes

meaning of word : A-game - one's highest level of performance

3) enter a word : hello

no match found.