

## LAB ASSIGNMENT 11

U24CS076

RUSHANG BAGADA

1. Write a Python program that generates random alphabetical characters, alphabetical strings, and alphabetical strings of a fixed length to store it in a text file.

```
import random
```

```
import string
```

```
def generate_random_char():
```

```
    return random.choice(string.ascii_letters)
```

```
def generate_random_string(length):
```

```
    return "".join(random.choices(string.ascii_letters, k=length))
```

```
with open("random_strings.txt", "w") as file:
```

```
    for _ in range(10):
```

```
        random_char = generate_random_char()
```

```
        random_string = generate_random_string(8)
```

```
        file.write(f"Random Character: {random_char}, Random String: {random_string}\n")
```

IN CSV FILE:

Random Character: S, Random String: ochOlgcV

Random Character: t, Random String: TczPDcdA

Random Character: m, Random String: ecTPwirh

Random Character: a, Random String: RegodNXh

Random Character: k, Random String: lCixJADo

Random Character: g, Random String: HbOVuFST

Random Character: D, Random String: LfsFYVGE

Random Character: z, Random String: utDnLesU

Random Character: k, Random String: VMpBUNjT

Random Character: E, Random String: ZWQfAemX

2. Write a Python program to read and display the content of a CSV file having student details.

```
import csv
```

```
def read_csv(file_name):
```

```
    with open(file_name, mode='r') as file:
```

```
        reader = csv.reader(file)
```

```
        for row in reader:
```

```
            print(', '.join(row))
```

```
read_csv("D:\\padhai\\rushicode\\collage work\\sem2\\web programming  
lab\\lab11\\q3.csv")
```

IN CSV FILE:

Name,Age,Grade

Alice,20,A

Bob,22,B

Charlie,21,A

David,23,C

Eve,19,B

3. Write a Python program to count the number of lines in a given CSV file.

```
def count_lines_in_csv(file):
```

```
    with open(file, mode='r') as file:
```

```
        lines = file.readlines()
```

```
    return len(lines)
```

```
line_count = count_lines_in_csv("D:\\padhai\\rushicode\\collage work\\sem2\\web  
programming lab\\lab11\\q3.csv")
```

```
print(f"Number of lines in the CSV file: {line_count}")
```

**Number of lines in the CSV file: 6**

4. Write a Python program to write dictionaries and a list of dictionaries to a given CSV file.

```
import csv
```

```
def write_dict_to_csv(file_name, data):
```

```
    with open(file_name, mode='w', newline='') as file:
```

```
        writer = csv.DictWriter(file, fieldnames=data[0].keys())
```

```
        writer.writeheader()
```

```
        writer.writerows(data)
```

```
data = [
```

```
    {"Name": "rushang", "Age": 17, "Grade": "b"}, {"Name": "rushang", "Age": 21, "Grade":  
    "f"},
```

```
]
```

```
write_dict_to_csv("students_output.csv", data)
```

IN CSV FILE:

Name,Age,Grade

rushang,17,b

rushang,21,f

5. Create a module badic\_maths having following functions:

i) round()To give precision upto 3 position ii) floor() iii) ceil() iv)

hello(user): To greet user Import this function in a Python file and calculate the area of the circle.

```
import basic_maths
```

```
radius = 5.678
```

```
area = basic_maths.pi1() * radius ** 2
```

```
print(f"Rounded Area: {basic_maths.round1(area)}")
```

```
print(f"Floor of Area: {basic_maths.floor1(area)}")
```

```
print(f"Ceil of Area: {basic_maths.ceil1(area)}")
```

```
basic_maths.hello("John")
```

IN MODULE FILE

```
import math
```

```
def round1(value):
```

```
    return round(value, 3)
```

```
def floor1(value):
```

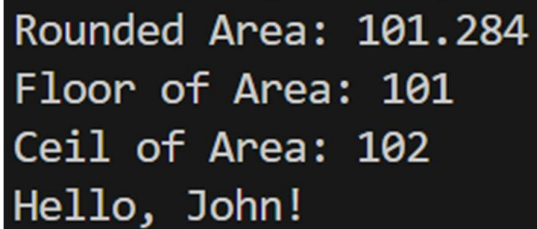
```
    return math.floor(value)
```

```
def ceil1(value):  
    return math.ceil(value)
```

```
def hello(user):  
    print(f"Hello, {user}!")
```

```
def pi1():  
    return math.pi
```

OUTPUT:



```
Rounded Area: 101.284  
Floor of Area: 101  
Ceil of Area: 102  
Hello, John!
```

6.

Your local university's CSE club maintains a register of its active members on a .txt document. Every month they update the file by removing the members who are not active.

Given the file currentMember, Remove each member with a 'no' in their Active column. Keep track of each of the removed members and append them to the exMember file. Make sure that the format of the original files is preserved. (Hint: Do this by reading/writing whole lines and ensuring the header remains )

```
def update_membership(current_file, ex_file):  
    with open(current_file, 'r') as current, open(ex_file, 'a') as ex:
```

```
lines = current.readlines()

header = lines[0]

active_members = [header]

removed_members = []

for line in lines[1:]:

    if 'no' in line.split(';')[-1].strip().lower():

        removed_members.append(line)

    else:

        active_members.append(line)
```

```
with open(current_file, 'w') as current:

    current.writelines(active_members)
```

```
with open(ex_file, 'a') as ex:

    ex.writelines(removed_members)
```

```
update_membership("d:\\padhai\\rushicode\\collage work\\sem2\\web programming
lab\\lab11\\currentMember.txt", "d:\\padhai\\rushicode\\collage work\\sem2\\web
programming lab\\lab11\\exMember.txt")
```

```
print("Membership files have been updated.")
```

IN CSV FILE currentMembers

Name,Active

Alice,yes

Charlie,yes

Eve,yes

IN CSV FILE exMembers

Bob,no

David,no