Netaji Subhash Engineering College

Department of Computer Science & Engineering

B. Tech CSE 2nd Year 3rd Semester

2021-2022

Name of the Course: IT Workshop

Course Code: PCC-CS393

Name of the Student: Sanjoy Saha

Class Roll No.: 3

University Roll No.: 10900120003

Date of Experiment: 7/01/2022

Date of Submission: 10/01/2022

- **Assignment No.: 51**

  Problem Statement: Write a program to read two numbers from the user and perform basic mathematical operations (addition, multiplication, subtraction, division) by handling all possible exceptions.

  Python Code:

```
try:
    a, b = map(int, input('Enter two numbers: ').split())
    c = input('Enter a for addition, m for multiplication, s for
subtraction , d for division : ')
    if c == 'a':
        print('Addition-', a+b)
    elif c == 'm':
        print('Multiplication-', a*b)
    elif c == 's':
        print('Subtraction-', a-b)
    elif c == 'd':
        print('Division-', a/b)
except(TypeError, ZeroDivisionError, ArithmeticError,
FloatingPointError, OverflowError, ValueError) as e:
    print('Errors handled-\n', e)
else:
    print('No error(s) found')
```

Sample Output(s):

```
PS C:\Users\lenovo\Desktop\Python lab assignment> python -u "c:\Users\lenovo\Desktop\Pyt
Enter two numbers: 6 4
Enter a for addition, m for multiplication, s for subtraction , d for division : a
Addition- 10
No error(s) found
PS C:\Users\lenovo\Desktop\Python lab assignment> python -u "c:\Users\lenovo\Desktop\Pyt
Enter two numbers: 6 4
Enter a for addition, m for multiplication, s for subtraction , d for division : m
Multiplication- 24
No error(s) found
PS C:\Users\lenovo\Desktop\Python lab assignment> python -u "c:\Users\lenovo\Desktop\Pyt
Enter two numbers: 6 4
Enter a for addition, m for multiplication, s for subtraction , d for division : s
Subtraction- 2
No error(s) found
PS C:\Users\lenovo\Desktop\Python lab assignment> python -u "c:\Users\lenovo\Desktop\Pyt
Enter two numbers: 6 4
Enter a for addition, m for multiplication, s for subtraction , d for division : d
Division- 1.5
No error(s) found
```

- **Assignment No.: 52**

Problem Statement: Write a program to read a number from the user and print its square. Generate Keyboard Interrupt exception if Ctrl + C is pressed instead of a number.

Python Code:

```
try:
    n=int(input("Enter the number: "))
    side=n*n
    print("Square of %d is %d " %(n,side))
except KeyboardInterrupt as e:
    print("You press Ctrl+C")
    print("Enter a number next time")
```

Sample Output(s):

```
PS C:\Users\lenovo\Desktop\Python lab assignment> python -u "c:\U
Enter the number: 5
Square of 5 is 25
PS C:\Users\lenovo\Desktop\Python lab assignment> python -u "c:\U
Enter the number: You press Ctrl+C
Enter a number next time
PS C:\Users\lenovo\Desktop\Python lab assignment>
```

- **Assignment No.: 53**

Problem Statement: Write a program to print random numbers infinitely. Raise the Stop Iteration exception after displaying 10 numbers to exit from the program.

Python Code:

```
def display(n):
    while True:
        try:
            n+=1
            if n==11:
                raise StopIteration
        except StopIteration:
            break
        else:
            print(n,end=" ")
i=0
display(i)
```

Sample Output(s):

```
PS C:\Users\lenovo\Desktop\Python lab assignment> python
1 2 3 4 5 6 7 8 9 10
PS C:\Users\lenovo\Desktop\Python lab assignment>
```

- **Assignment No.: 54**

Problem Statement: Write a program to generate a random number. Raise a user-defined exception if the number is below 0.5.

Python Code:

```
import random
class randomError(Exception):
    def _init_(self,arg):
        self.msg=arg
try:
    number=random.random()
    if number<0.5:
        raise randomError("Random error is generated")
    print("Random number generated",number)
except randomError as e:
    print(e)
else:
    print("No exception")
```

```
finally:
    print("Bye")
```

OUTPUT –

```
PS C:\Users\lenovo\Desktop\Python lab assignment> pyth
Random error is generated
Bye
PS C:\Users\lenovo\Desktop\Python lab assignment>
```

- **Assignment No.: 55**

Problem Statement: Write a program to read the age of a person and raise exceptions if age is negative.

Python Code:

```
try:
    age = int(input("Enter the age:"))
    if(age<0):
        raise ValueError
    else:
        print("the age is valid")
except ValueError:
    print("The age is not valid")
else:
    print("No exception")
```

Sample Output(s):

```
PS C:\Users\lenovo\Desktop\Python lab assignment> python
Enter the age:45
the age is valid
No exception
PS C:\Users\lenovo\Desktop\Python lab assignment> python
Enter the age:10
the age is valid
No exception
PS C:\Users\lenovo\Desktop\Python lab assignment> python
Enter the age:-56
The age is not valid
PS C:\Users\lenovo\Desktop\Python lab assignment>
```

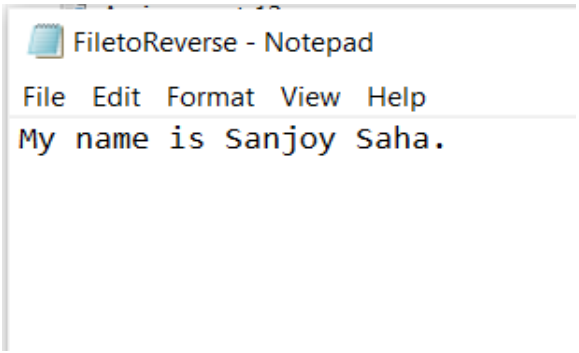
Assignment No.: 56

Problem Statement: Write a program to print each line of a file in reverse order.

Python Code:

```
def revline(x):
    i=0
    fileContents=len(open(x).readlines())
    line1=[None]*fileContents
    f=open(x)
    while(i<fileContents):
        line1[i]=f.readline()
        line1[i]=line1[i].strip()
        print(line1[i][::-1])
        i=i+1
filename=input("Enter the file name : ")
revline(filename)
```

Sample Output(s):




```
PS C:\Users\lenovo\Desktop\Python lab assignment> python -u
Enter the file name : FiletoReverse.txt
.ahaS yojnaS si eman yM
PS C:\Users\lenovo\Desktop\Python lab assignment>
```

Assignment No.: 57

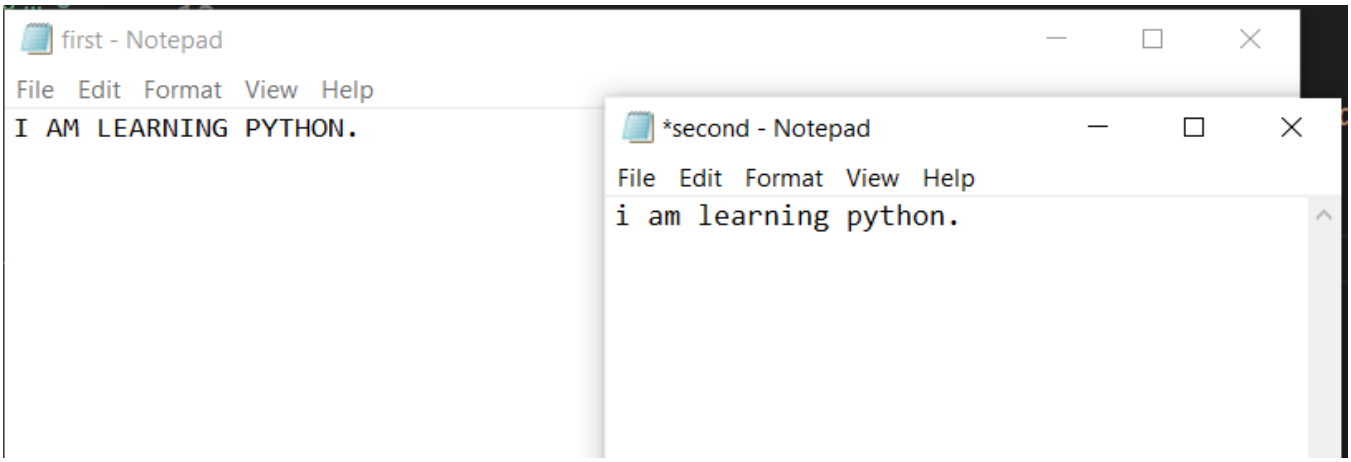
Problem Statement: Write a program to copy the content of the text file to another file by converting all lowercase characters to uppercase.

Python Code:

```
# To open the first file in read mode
f1 = open("first.txt", "r")
# To open the second file in write mode
f2 = open("second.txt", "w")
```

```
l = f1.readline()
while l:
    f2.write(l.upper())
    l = f1.readline()
f1.close()
f2.close()
```

Sample Output(s):



Assignment No.: 58

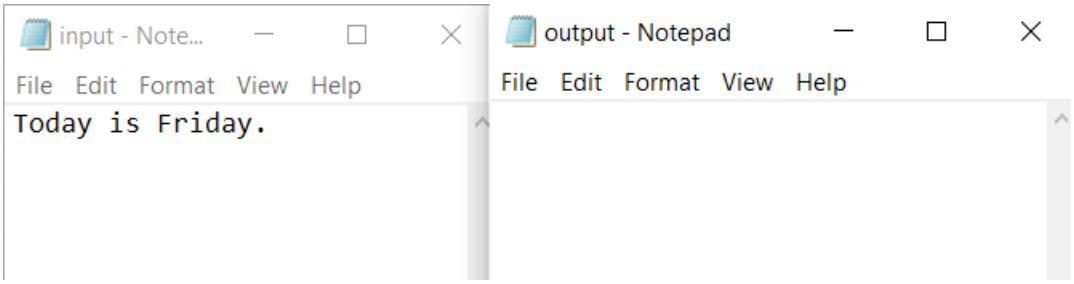
Problem Statement: Write a program to copy one Python script into another in such a way that all comment lines are skipped and not copied in the destination file.

Python Code:

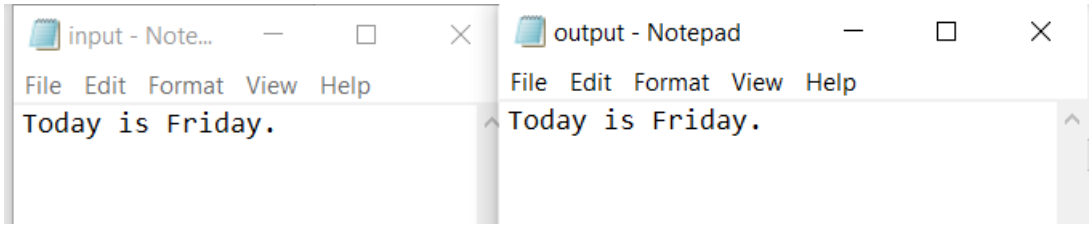
```
# To open the first file in read mode
f = open("input.txt", "r")
# To open the second file in write mode
f1 = open("output.txt", "w")
l = f.readline()
while l:
    li = l.strip()
    if not li.startswith("#"):
         print (l.rstrip())
    l = f.readline()
    f1.write(l)

f.close()
f1.close()
```

Sample Output(s):




```
PS C:\Users\lenovo\Desktop\Python lab assignment> pyth
I AM LEARNING PYTHON.
PS C:\Users\lenovo\Desktop\Python lab assignment>
```



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