Practical: 6

AIM: Write a program to create parent class named Person and from theparent class derive two classes namely Student and Employee.

Classes shall have following attributes and methods: Person →name, age,gender, city, get(), set()

Student → id, semester, division, sub1marks,sub2marks,sub3marks,result()

Employee → id, designation, salary, gross_salary()

Hint: for gross_salary(), consider, if salary< 10000, then HRA=10%, DA=5%,PF=200. If salary> 10000, then HRA=15%, DA=7%, PF=10%

Code:

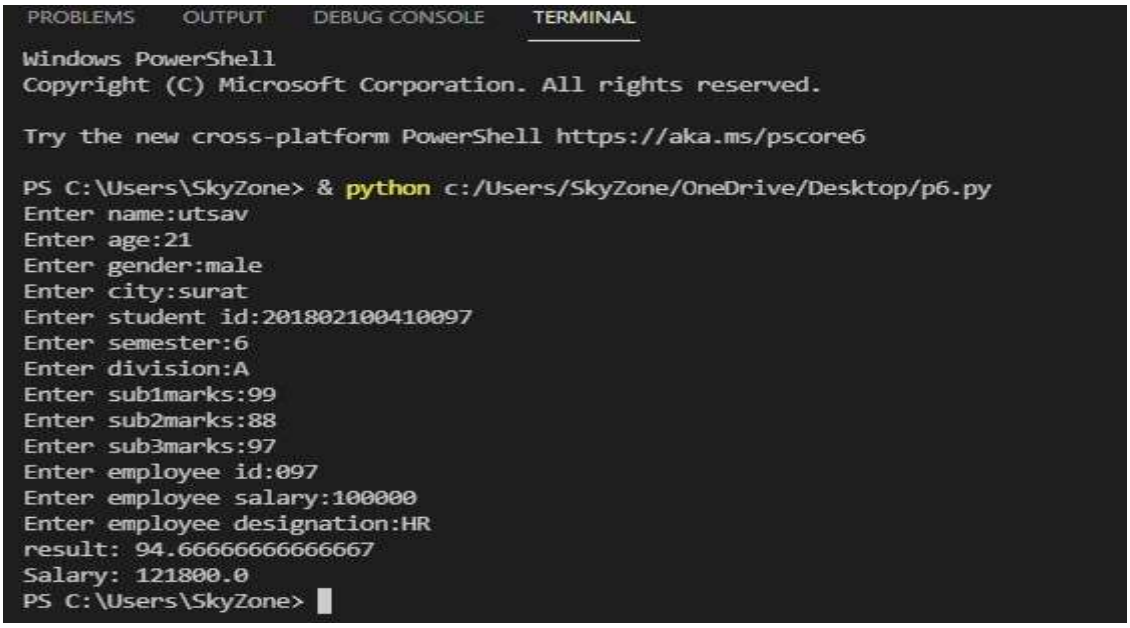
```
class person:
    def __init__(self, name, age, gender, city):
        self.name = name
        self.age = age
        self.gender = gender
        self.city = city

    def get(self):
        print("Name:", self.name)
        print("Age:", self.age)
        print("Gender:", self.gender)
        print("City:", self.city)

    def set(self):
        self.name = (input("Enter name:"))
        self.age = (input("Enter age:"))
```

```
        self.gender = (input("Enter gender:"))
        self.city = (input("Enter city:"))



class student(person):
    def __init__(self, name, age, gender, city, id, semester, division, sub1marks, sub2marks, sub3marks):
        super().__init__(name, age, gender, city)
        self.id = id
        self.semester = semester
        self.division = division
        self.sub1marks = sub1marks
        self.sub2marks = sub2marks
        self.sub3marks = sub3marks

    def result(self):
        total = self.sub1marks + self.sub2marks + self.sub3marks
        result = (total/300)*100
        print("result:", str(result))



class employee(person):
    def __init__(self, name, age, gender, city, eid, designation, salary):
        super().__init__(name, age, gender, city)
        self.eid = eid
        self.designation = designation
        self.salary = salary

    def gross_salary(self):
        if self.salary > 0 and self.salary < 10000:
            hra = self.salary*0.1
```

```
            da = self.salary*0.01
            pf = 200
            sal = self.salary+hra+da-pf
        else:
            hra = self.salary*0.15
            da = self.salary*0.07
            pf = 200
            sal = self.salary+hra+da-pf
            print("Salary:", str(sal))


name = input("Enter name:")
age = input("Enter age:")
gender = input("Enter gender:")
city = input("Enter city:")
id = input("Enter student id:")
semester = input("Enter semester:")
division = input("Enter division:")
sub1marks = int(input("Enter sub1marks:"))
sub2marks = int(input("Enter sub2marks:"))
sub3marks = int(input("Enter sub3marks:"))
s = student(name, age, gender, city, id, semester,
            division, sub1marks, sub2marks, sub3marks)
# s.get()
eid = input("Enter employee id:")
salary = int(input("Enter employee salary:"))
designation = input("Enter employee designation:")
# s.set()
s.result()
e = employee(name, age, gender, city, eid, designation, salary)
```

e.gross_salary()ss

Output:



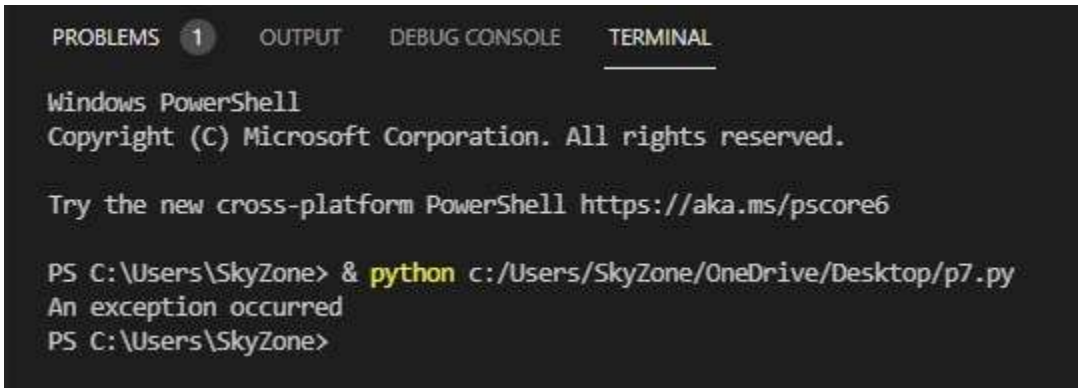
Practical: 7

Aim: Write a Python program to demonstrate the use of exceptionhandling.

Code:

```
try:
    print(x)
except:
    print("An exception occurred")
```

Output:



Practical: 8

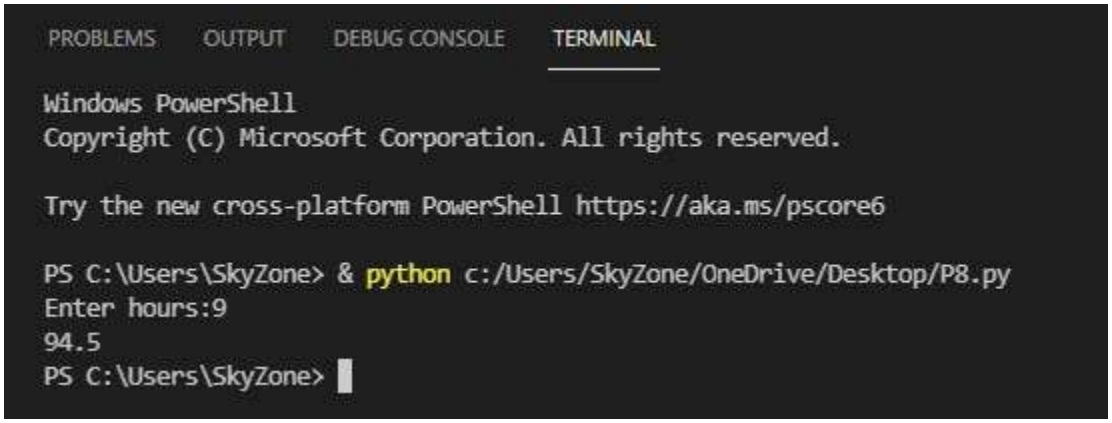
Aim: Write a Python program to prompt the user for hours and rate perhour using input to compute gross pay. Pay the hourly rate for thehours up to 40 and 1.5 times the hourly rate for all hours worked above 40 hours.

Hint:Use 45 hours and a rate of 10.50 per hour to test the program (the pay should be 498.75). You should use input toread a string and float() to convert the string to a number.

Code:

```
hrs = input("Enter hours:")
h = float(hrs)
basic_rate = 10.50
if h <= 40:
    pay = h*basic_rate
elif h > 40:
    pay = 40 * basic_rate + (h - 40) * 1.5 * basic_rate
else:
    print('Wrong data')
print(pay)
```

Output: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OUTPUT
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TERMINAL
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.
Try the new cross-platform PowerShell https://aka.ms/pscore6
PS C:\Users\SkyZone> & python c:/Users/SkyZone/OneDrive/Desktop/P8.py
Enter hours:9
94.5
PS C:\Users\SkyZone>

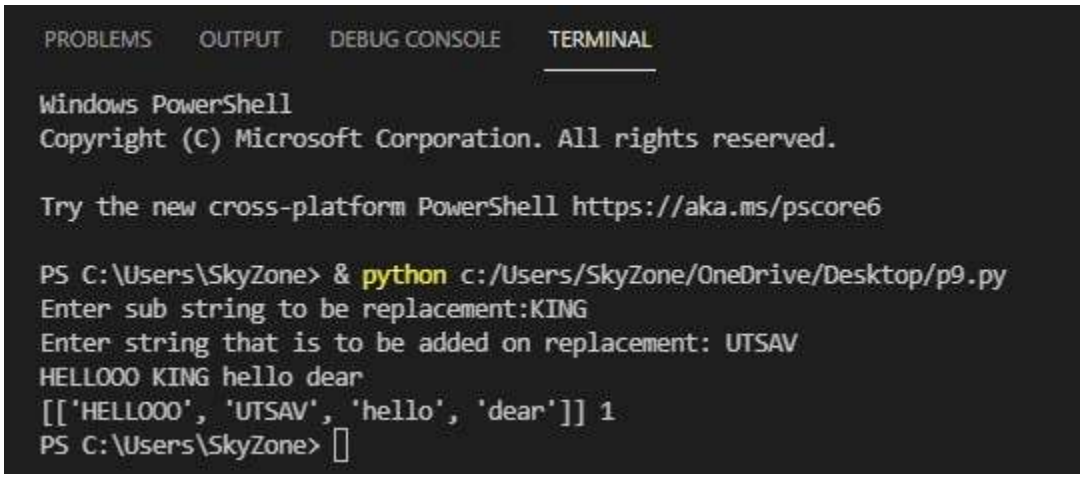
Practical: 9

Aim: Write a Python program that searches the string and replaces itby another string. Also display number of strings replaced.

Code:

```
s=["HELLOOO KING hello dear"]
r=str(input("Enter sub string to be replacement:"))
re=str(input("Enter string that is to be added on replacement: "))
sp=[]
flag=0
for i in s:
    sp.append(i.replace(r,re).split())
flag += 1
print(i)
print(sp,flag)
```

Output:



Practical: 10

Aim: Write a menu driven program to rename all files in givenfolder into following cases:

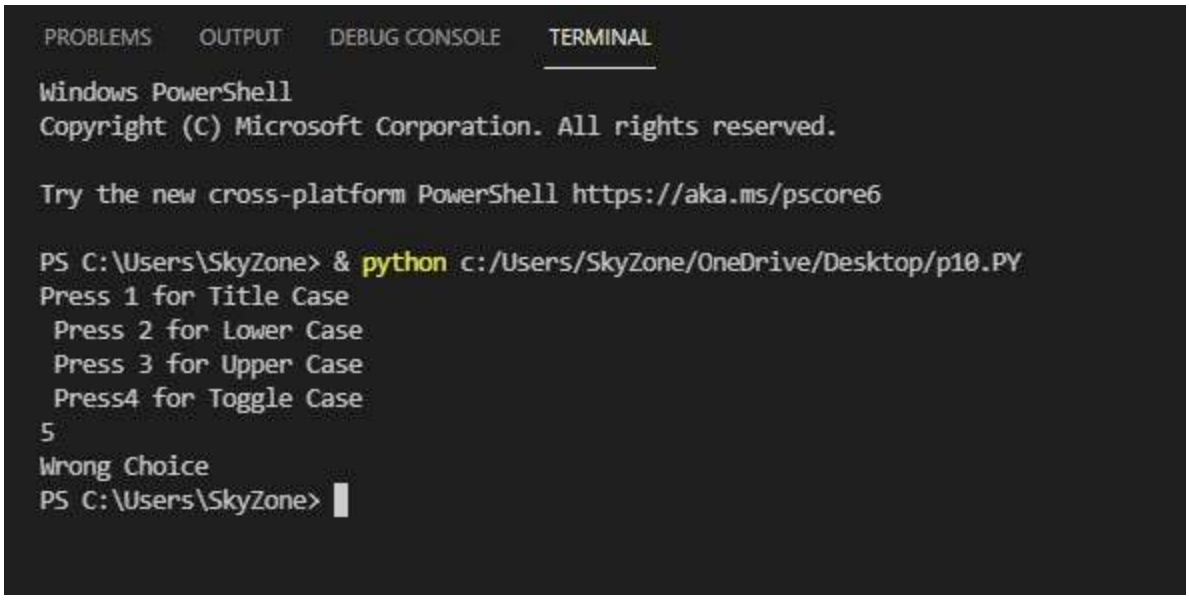
a. Title case b. Lower case c. Uppercase d. Toggle case

Code:

```
import os

first = os.listdir()

a = int(input("Press 1 for Title Case \n Press 2 for Lower Case \n Press 3 for Upper Case \n Press4 for Toggle Case \n"))

if(a == 1):

    for file in os.listdir():

        os.rename(file, file.title())

        print(os.listdir())

elif (a == 2):

    for file in os.listdir():

        os.rename(file, file.lower())

    print(os.listdir())

elif(a == 3):

    for file in os.listdict():

        os.rename(file, file.upper())

        print(os.listdir())

elif(a == 4):

    for file in os.listdir():

        os.rename(file, file.swapcase())

        print(os.listdir())
```

```
else:
    print("Wrong Choice")
```

Output:



Practical: 11

Aim: Write a Python program to extract numbers from a text filecontaining and print sum of all extracted numbers.

Hint: Students need to create a text file containing numbers and charactersin a working directory.

Code:

```
file = open('python.txt', 'w+')

data = 'Geeks1 f2or G8e8e3k9s0'

file.write(data)

file.close()

h = open('python.txt', 'r')

content = h.readlines()

a = 0

for line in content:

    for i in line:

        if i.isdigit() == True:

            a += int(i)

print("The sum is:", a)
```

Output:

Practical: 12

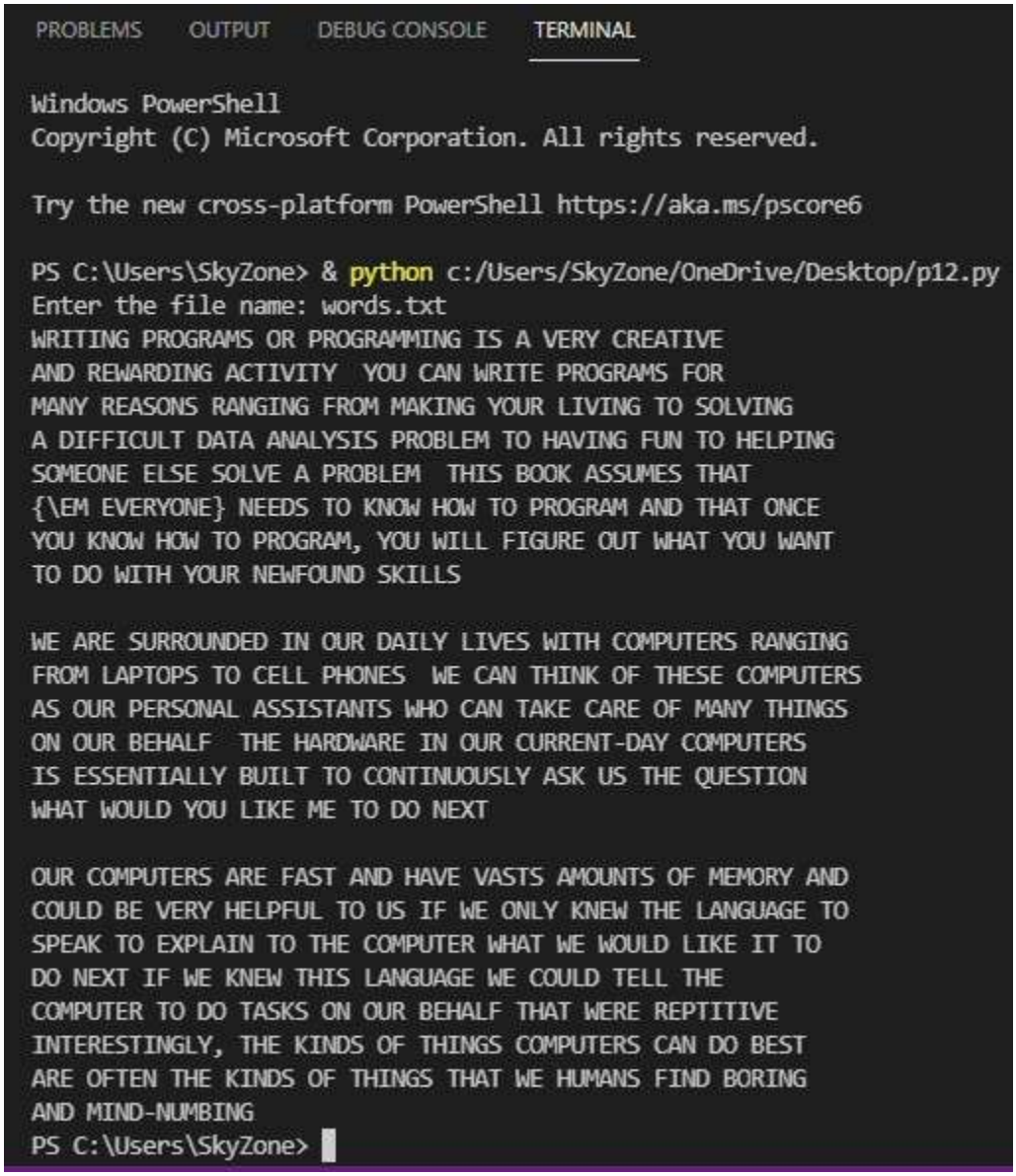
Aim: Write a Python program that prompts for a file name, then opensthat file and reads through the file, and print the contents of the file in upper case.

Hint: You can download the sample data at http :// www.Pythonlearn .com/code/words.txt

Code:

```
fname = input("Enter the file name: ")
fh = open(fname)


for d in fh:
    d = d.rstrip().upper()
    print(d)
```

Output:


PROBLEMS
OUTPUT
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Windows PowerShell
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Try the new cross-platform PowerShell https://aka.ms/pscore6
PS C:\Users\SkyZone> & python c:/Users/SkyZone/OneDrive/Desktop/p12.py
Enter the file name: words.txt
WRITING PROGRAMS OR PROGRAMMING IS A VERY CREATIVE
AND REWARDING ACTIVITY YOU CAN WRITE PROGRAMS FOR
MANY REASONS RANGING FROM MAKING YOUR LIVING TO SOLVING
A DIFFICULT DATA ANALYSIS PROBLEM TO HAVING FUN TO HELPING
SOMEONE ELSE SOLVE A PROBLEM THIS BOOK ASSUMES THAT
{\EM EVERYONE} NEEDS TO KNOW HOW TO PROGRAM AND THAT ONCE
YOU KNOW HOW TO PROGRAM, YOU WILL FIGURE OUT WHAT YOU WANT
TO DO WITH YOUR NEWFOUND SKILLS
WE ARE SURROUNDED IN OUR DAILY LIVES WITH COMPUTERS RANGING
FROM LAPTOPS TO CELL PHONES WE CAN THINK OF THESE COMPUTERS
AS OUR PERSONAL ASSISTANTS WHO CAN TAKE CARE OF MANY THINGS
ON OUR BEHALF THE HARDWARE IN OUR CURRENT-DAY COMPUTERS
IS ESSENTIALLY BUILT TO CONTINUOUSLY ASK US THE QUESTION
WHAT WOULD YOU LIKE ME TO DO NEXT
OUR COMPUTERS ARE FAST AND HAVE VASTS AMOUNTS OF MEMORY AND
COULD BE VERY HELPFUL TO US IF WE ONLY KNEW THE LANGUAGE TO
SPEAK TO EXPLAIN TO THE COMPUTER WHAT WE WOULD LIKE IT TO
DO NEXT IF WE KNEW THIS LANGUAGE WE COULD TELL THE
COMPUTER TO DO TASKS ON OUR BEHALF THAT WERE REPTITIVE
INTERESTINGLY, THE KINDS OF THINGS COMPUTERS CAN DO BEST
ARE OFTEN THE KINDS OF THINGS THAT WE HUMANS FIND BORING
AND MIND-NUMBING
PS C:\Users\SkyZone>

Practical: 13

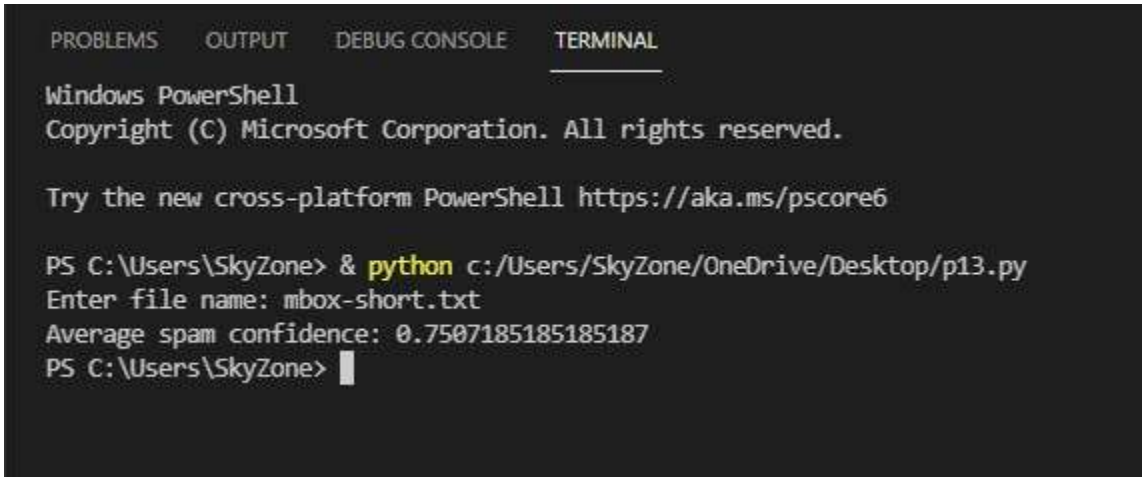
Aim: Write a Python program that prompts for a file name, then opens that file and reads through the file, looking for lines of the form: X DSPAM-Confidence: 0.8475. Count these lines and extract the floating point values from each of the lines and compute the average of those valuesand produce an output as shown below.

Note: Do not use the sum() function or a variable named sum in your solution. Hint: You can download below enter mbox-short.txt as the filename.

Code:

```
name = (input("Enter file name: "))
fh = open(name)
count = 0
total = 0
for line in fh:
    if not line.startswith("X-DSPAM-Confidence:"):
        continue
    t = line.find("0")
    number = float(line[t:])
    count = count + 1
    total = total + number
average = total/count
print("Average spam confidence:", average)
```

Output:


PROBLEMS
OUTPUT
DEBUG CONSOLE
TERMINAL
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.
Try the new cross-platform PowerShell https://aka.ms/pscore6
PS C:\Users\SkyZone> & python c:/Users/SkyZone/OneDrive/Desktop/p13.py
Enter file name: mbox-short.txt
Average spam confidence: 0.7507185185185187
PS C:\Users\SkyZone>

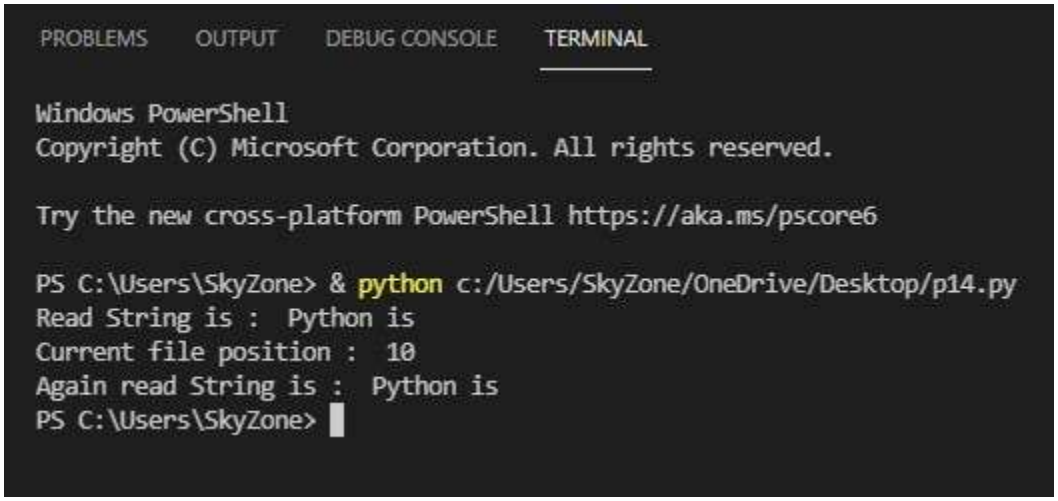
Practical: 14

Aim: Write a Python program to perform read/write operation on a fileand display the result on a terminal.

Code:

```
fo = open("foo.txt", "w+")

fo.write("Python is a great language.\nYeah its great!!\n")

fo = open("foo.txt", "r+")

str = fo.read(10)

print("Read String is : ", str)

position = fo.tell()

print("Current file position : ", position)

position = fo.seek(0, 0)

str = fo.read(10)

print("Again read String is : ", str)

fo.close()
```

Output:



Practical: 15

Aim: Create a window which contains an Entry box and a button. On click of button, contents of Entry box shall be written int database. Appropriate validation is required.

Code:

```
import tkinter as tk

root = tk.Tk()

canvas1 = tk.Canvas(root, width=400, height=300)

canvas1.pack()

entry1 = tk.Entry(root)

canvas1.create_window(200, 140, window=entry1)

def getSquareRoot():

    x1 = entry1.get()

    label1 = tk.Label(root, text=float(x1)**0.5)

    canvas1.create_window(200, 230, window=label1)

button1 = tk.Button(text='Get the Square Root', command=getSquareRoot)

canvas1.create_window(200, 180, window=button1)

root.mainloop()
```

Output:

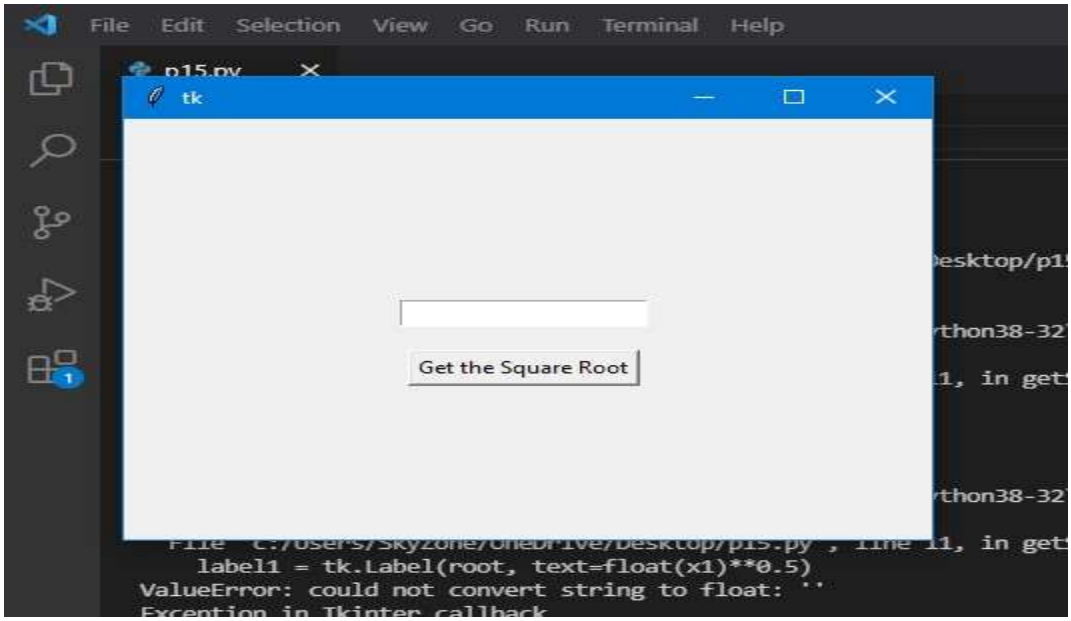


Fig.1(a)

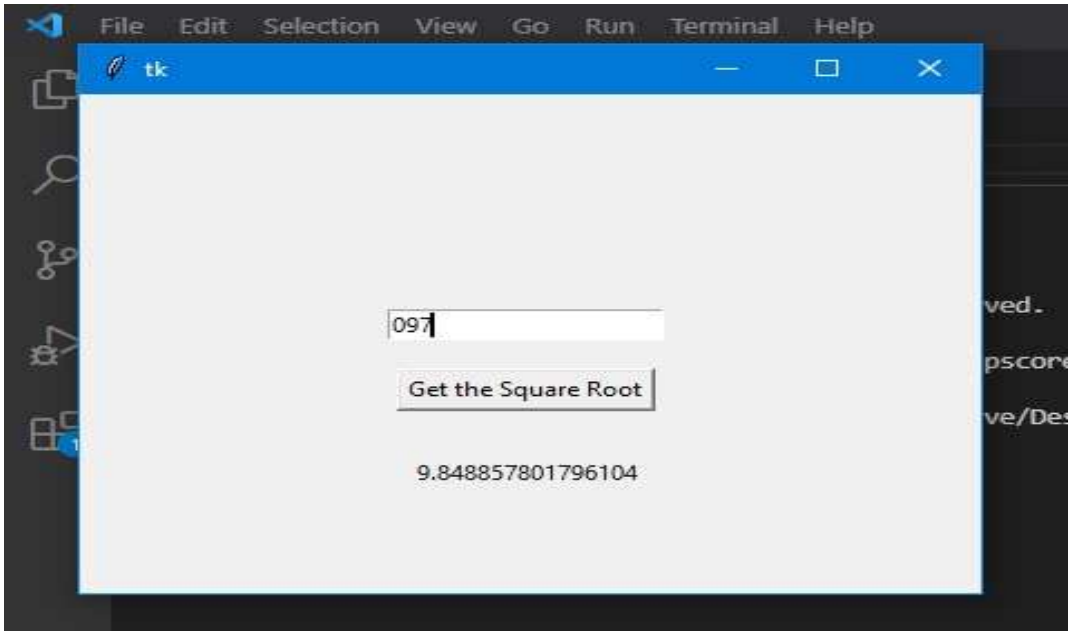


Fig.2(b)