1. **Write a Program to Demonstrate Exception Handling Mechanism.**

```
print("Program is Starting..!!")
print()



a = int(input("Enter the value of a : "))
b = int(input("Enter the value of b : "))

try:
        c = a/b
        print("Divison is : ",c)

except ZeroDivisionError as e:
    print("Type of Exception :",e)


finally:
    print("It is a Final Block of Code")


print()
print("Program Ending")
```

Output :

Program is Starting..!!

Enter the value of a : 12
Enter the value of b : 0
Type of Exception : division by zero
It is a Final Block of Code

Program Ending

2. Write a Program to Demonstrate Regular Expression in Python.

```
import re
string1 = "Python is Fun Programming"
string2 = 'Twelve:12EightyNine:89SixtyNine:69'
string3 = 'hello 12 hi 89. World 34'
string4 = "Hello My Name is Python"
string5 = "Hello, World!"

pattern1 = '\APython'
pattern2 = '\d+'
pattern3 = '\d+'
pattern4 = '\s+'
replace = "SPACE"
pattern5 = r"Hello"

result1 = re.search(pattern1, string1)
result2 = re.split(pattern2, string2)
result3 = re.findall(pattern3,string3)
result4 = re.sub(pattern4, replace, string4)
result5 = re.subn(pattern4, replace, string4)
result6 = re.match(pattern5, string5)

print("Result 1 is [Search_Method] : ",result1)     # re.search()
print("Result 2 is [Split_Method] : ",result2)      # re.split()
print("Result 3 is [FindAll_Method] : ",result3)    # re.findall()
print("Result 4 is [Sub_Method] : ",result4)        # re.sub()
print("Result 5 is [Subn_Method] : ",result5)       # re.subn()
print("Start Index : ",result6.start())             # re.start()
print("End Index : ",result6.end())                 # re.end()
print("Matched String is : ", result6.group())      # re.group()
```

Output :

```
Result 1 is [Search_Method] :  <re.Match object; span=(0, 6), match='Python'>
Result 2 is [Split_Method] :  ['Twelve:', 'EightyNine:', 'SixtyNine:', '']
Result 3 is [FindAll_Method] :  ['12', '89', '34']
Result 4 is [Sub_Method] :  HelloSPACEMySPACENameSPACEisSPACEPython
Result 5 is [Subn_Method] :('HelloSPACEMySPACENameSPACEisSPACEPython',
4)
Start Index :  0
End Index :  5
Matched String is :  Hello
```

3. Write a Program to Demonstrate the Working of Classes and Objects.

```
# Defining the Class

class Student:

    # Defining the Data Memebers / Attributes
    # and Memeber Functions/ Methods

    id = 101
    name = "Lalit"
    marks = 82.5

    # Define the Function & Access the Attribute Value

    def display(self):
        print("Student ID is : ",self.id)
        print("Student Name is : ",self.name)
        print("Student Marks is : ",self.marks)

# Driver Code

obj = Student()  # Create the Object of Class

obj.display()  # Call the Method Using Object
```

Output :

```
Student ID is :  101
Student Name is :  Lalit
Student Marks is :  82.5
```

4. **Write a Program to Demonstrate the Working of Inheritance and Overloading Methods and Operator.**

```
class BaseClass:

    def add(self,a,b):
        c = a + b
        print("Addition is : ",c)

class DerivedClass(BaseClass):
    def mul(self,a,b):
        c = a * b
        print("Multiplication is : ",c)

class OverClass(DerivedClass):
    def add(self,a,b,c):
        c = a + b + c
        print("Addition is : ",c)

    def mul(self, a,b,c):
        c = a * b * c
        print("Multiplication is : ",c)

obj = DerivedClass()
obj.add(10,20)
obj.mul(10,20)
print("----------------------------")
obj2 = OverClass()
obj2.add(10,20,30) # Overloaded Function
obj2.mul(2,4,6) # Overloaded Function
```

Output :

```
Addition is :  30
Multiplication is :  200
----------------------------
Addition is :  60
Multiplication is :  48
```

5. **Write a Program to Demonstrate Read & Write File**.

```
# Creating a File on Current Working Directory

file = open("MyFile.txt", "r+")

print("File is Successfully Created...!!")

print("Content of MyFile.txt is : ")

# Read the Content of File Using file.read() method

print(file.read())

# Write the Content on File Using file.write() method

file.write("This is a Sample text of new File\n")

print("Content Added Successfully...!!")

file.close()   # Close the File
```

Output :

MyFile.txt
File is Created on Current Working Directory.

```
File is Successfully Created...!!
Content of MyFile.txt is :
This is a Sample text of new File
Content Added Successfully...!!
```

6. Write a Program to Demonstrate to Renaming, Moving, Copying, and Removing Files.

```
import os
import shutil

# Define File Paths
Source_File = "Source.txt"
Destination_File = "Destination.txt"
New_Name = "Renamed.txt"

with open(Source_File, "w") as f:
    f.write("This is a Sample File.!")

# Renaming a File
print("Renaming File...")
os.rename(Source_File, New_Name)
print(f"File Renamed to {New_Name}")

# Moving a File
print("Moving a File...")
Destination_Directory = "Destination_Directory"
os.mkdir(Destination_Directory) # Created a Destination Directory
shutil.move(New_Name, Destination_Directory)
print(f"File Moved to {Destination_Directory}")

# Copying a File
print("Copying a File...")
shutil.copy(os.path.join(Destination_Directory, New_Name), ".")
print("File Copied to Current Directory")

# Removing a File
print("Removing a File...")
os.remove(os.path.join(Destination_Directory, New_Name))
print(f"File Removed From {Destination_Directory}")
```

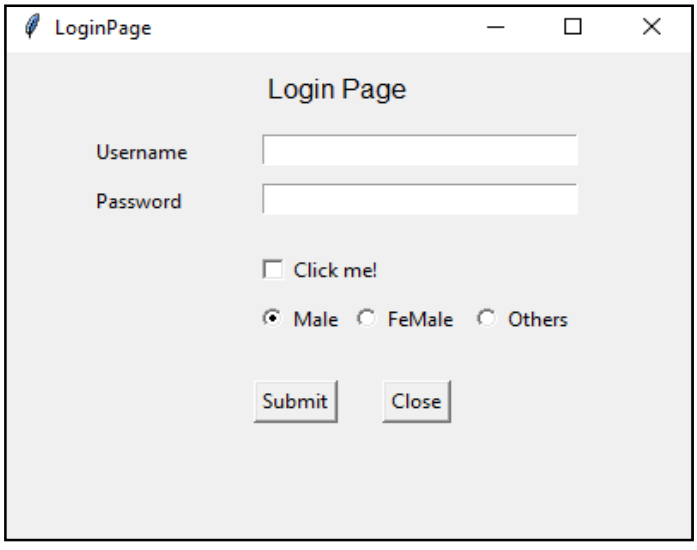
Output :

```
Renaming File...
File Renamed to Renamed.txt
Moving a File...
File Moved to Destination_Directory
Copying a File...
File Copied to Current Directory
Removing a File...
File Removed From Destination_Directory
```

7. **Write a program to demonstrate to learn GUI programming using Tkinter.**

```
from tkinter import *
window = Tk()

window.title("LoginPage")
window.geometry("400x300")
lblLogin = Label(window, text="Login Page", font="5").place(x=150, y=10)

lblUsername = Label(window, text="Username").place(x=50,y=50)
txtUsername = Entry(window, width=30).place(x=150, y=50)

lblPassword = Label(window, text="Password").place(x=50, y=80)
txtPassword = Entry(window, width=30).place(x=150, y=80)
Chkbtn = Checkbutton(window, text="Click me!").place(x=145, y=120)

v = StringVar(window, "1")
male = Radiobutton(window, text="Male", variable=v,
value=1).place(x=145, y=150)
female = Radiobutton(window, text="FeMale", variable=v,
value=2).place(x=200, y=150)
others = Radiobutton(window, text="Others", variable=v,
value=3).place(x=270, y=150)

btnSubmit = Button(window, text="Submit").place(x=145, y=200)
btnClose = Button(window, text="Close",
command=window.destroy).place(x=220, y=200)

window.mainloop()
```

Output :



8. **Write a program to create a database application for insert, update and delete in a table using MySQL.**

```
import mysql.connector as mycon

# 1. Get the Connection
con_obj = mycon.connect(host="localhost", username="root",
password="admin", database="Componey")
print("Connection Established Successfully...!!")

# 2. Create a Cursor Object
cursor_obj = con_obj.cursor()
print("Cursor Object Created Successfully...!!")

# 3. Create the Database
cursor_obj.execute("create database Componey")
print("Database Created Successfully...!!")

# 4. Create the Table
cursor_obj.execute("create table employee(id int, name varchar(20), salary
int)")
print("Table Created Successfully...!!")

# 5. Insert the Data Into Table
cursor_obj.execute("insert into employee values(1, 'Yogesh', 50000)")
print("Insert Data Successfully...!!")

# 6. Update the Record
query = "update employee set name=%s where id=%s"
values = ("Sumit",1)
cursor_obj.execute(query,values)
print("Update Record Successfully...!!")

# 7. Retrieve the Data on Application
cursor_obj.execute("select * from employee")
result_obj = cursor_obj.fetchall()
print("Records of Table are : ")
```

```
print(result_obj)
print("By Using For Loop Print the Data")
for data in result_obj:
    print(data)

# 8. Delete the Record
cursor_obj.execute("delete from employee where id=1")
print("Record Delete Successfully...!!")

con_obj.commit()
print("Commit all Changes Successfully...!!")
```

Output :

```
Connection Established Successfully...!!
Cursor Object Created Successfully...!!
Database Created Successfully...!!
Table Created Successfully...!!
Insert Data Successfully...!!
Update Record Successfully...!!
Records of Table are :
[(1, 'Sumit', 50000)]
By Using For Loop Print the Data
(1, 'Sumit', 50000)
Record Delete Successfully...!!
```

MySQL Shell :

```
mysql> select * from employee;
Empty set (0.00 sec)
```