

Here is the list of practical program

1. **Write a program in python to check whether a number is prime or not.**

```
num=int(input("Enter the number: "))
for i in range(2,num):
    if num%i==0:
        print(num, "is not prime number")
        break;
    else:
        print(num,"is prime number")
```

2. **Write a program to check whether a number is palindrome or not.**

```
num=int(input("Enter a number : "))
n=num
res=0

while num>0:
    rem=num%10
    res=rem+res*10
    num=num//10
if res==n:
    print("Number is Palindrome")
else:
    print("Number is not Palindrome")
```

3. **Write a program to find the factorial of a number.**

```
num = int(input("Enter any number for finding factorial: "))
factorial = 1
if num < 0:
    print("Sorry, factorial does not exist for negative numbers")
elif num == 0:
    print("The factorial of 0 is 1")
else:
    for i in range(1,num + 1):
        factorial = factorial*i
    print("The factorial of",num,"is",factorial)
```

4. **Write a python function sin(x,n) to calculate the value of sin(x) using its taylor series expansion up to n terms.**

$$\sin(x) = x - \frac{x^3}{3!} + \frac{x^5}{5!} - \frac{x^7}{7!} + \dots,$$

```
import math
def fact(k):
    if k<=1:
        return 1
    else:
        return k*fact(k-1)

step=int(input("How many terms : "))
x=int(input("Enter the value of x :"))
sum=0
for i in range(step+1):
    sum+=(math.pow(-1,i)*math.pow(x,2*i+1))/fact(2*i+1)

print("The result of sin",'(', x, ')', "is :", sum)
```

- 5. Write a program to generate random numbers between 1 to 6 and check whether a user won a lottery or not.**

```
import random
n=random.randint(1,6)
guess=int(input("Enter a number between 1 to 6 :"))
if n==guess:
    print("Congratulations, You won the lottery ")
else:
    print("Sorry, Try again, The lucky number was : ", n)
```

- 6. Write a program to input a character and to print whether a given character is an alphabet, digit or any other character.**

```
ch=input("Enter a character: ")
if ch.isalpha():
    print(ch, "is an alphabet")
elif ch.isdigit():
    print(ch, "is a digit")
elif ch.isalnum():
    print(ch, "is alphabet and numeric")
else:
    print(ch, "is a special symbol")
```

7. Write a program for binary search.

```
def Binary_Search(sequence, item, LB, UB):
    if LB>UB:
        return -5      # return any negative value
    mid=int((LB+UB)/2)
    if item==sequence[mid]: return
        mid
    elif item<sequence[mid]:
        UB=mid-1
        return Binary_Search(sequence, item, LB, UB)

    else:

        LB=mid+1
        return Binary_Search(sequence, item, LB, UB)

L=eval(input("Enter the elements in sorted order: "))
n=len(L)
element=int(input("Enter the element that you want to search :"))
found=Binary_Search(L,element,0,n-1)
if found>=0:
    print(element, "Found at the index : ",found)
else:
    print("Element not present in the list")
```

8. Write a program to count the number of vowels present in a text file.

```
fin=open("D:\\python\\abc.txt",'r')
str=fin.read( )
count=0
for i in str:
    if i=='a' or i=='e' or i=='i' or i=='o' or i=='u' or i=='A' or i=='E' or i=='I' or
        i=='O' or i=='U':
        count=count+1
print(count)
```

9. Write a program to write those lines which have the character 'p' from one text file to another text file.

```
fin=open("E:\\abc.txt","r")
fout=open("E:\\xyz.txt","a")
s=fin.readlines()
for j in s:
    if 'p' in j:
        fout.write(j)

fin.close()

fout.close()
```

10. Write a program to count number of words in a file.

```
fin=open("D:\\python\\abc.txt",'r')
str=fin.read( )
L=str.split()
count_words=0
for i in L:
    count_words=count_words+1

print(count_words)
```

11. Write a program that copies a text file “Source.txt” onto “Target.txt” Bearing the lines starting with a “@” sign.

```
f1=open("writer.txt","r")
f2=open("target.txt","w")
while True:
    st=f1.readline()
    if len(st)==0:
        break
    if st[0]!="@":
        continue
    f2.write(st)
f1.close()
f2.close()
```

12. Write a program that count the word “Me” and “My” in a “Story.txt” file.

```
def displayMeMy():
    Num=0
    F=open("story.txt","rt")
    N=f.read()
    M=N.split()
    For x in M:
        If x=="Me" or x=="My":
            Print(x)
            Num=Num+1
    f.close()
    print("count of me and my is:",Num)
displayMeMy()
```

13. Write a program for linear search.

```
L=eval(input("Enter the elements: "))
n=len(L)
item=eval(input("Enter the element that you want to search : "))
for i in range(n):
    if L[i]==item:
        print("Element found at the position :", i+1)
        break
    else:
        print("Element not Found")
```

14. Write a program for bubble sort.

```
L=eval(input("Enter the elements:"))
n=len(L)
for p in range(0,n-1):
    for i in range(0,n-1):
        if L[i]>L[i+1]:
            t=L[i]
            L[i]=L[i+1]
            L[i+1]=t
print("The sorted list is : ", L)
```

15. Write a program to perform read and write operation with .csv file.

```
import csv
def readcsv():
    with open('data.csv','rt')as f:
        data = csv.reader(f)
        for row in data:
            print(row)

def writecsv( ):
    with open('data.csv', mode='a', newline='') as file:
        writer = csv.writer(file, delimiter=',', quotechar='"')

        writer.writerow(['4', 'RAVI', 'Arts', '404'])

print("Press-1 to Read Data and Press-2 to Write data: ")
a=int(input())
if a==1:
    readcsv()
elif a==2:
    writecsv()
else:
    print("Invalid value")
```

16. Write a menu based program to perform the push and pop operation on stack in python.

```
max=int(input("Enter the limit"))
stack=[0 for i in range(max)]
top=0
def Push():
    global stack, top
    x=int(input("Enter Element to push into stack"))
    if top>=max:
        print("Cannot Push. Stack is Full. Overflow")
    else:
        stack[top]=x
        top=top+1
def pop():
    global stack, top
```

```

    if top==0
        print("Cannot Pop. Stack is Empty. Underflow")
    else:
        top=top-1
def printStack():
    print(stack[:top])
while True:
    print("Please choose operation")
    print("1. Push")
    print("2. Pop")
    print("3.Print")
    print("4.Exit")
    choice=int(input("Please Enter 1/2/3:"))
    if choice==4:
        break
    elif choice==3:
        printStack()
    elif choice==2:
        pop()
    elif choice==1:
        push()
    else:
        print("Please Give a Correct Input")

```

17. Write a menu based program to perform the insert and delete operation on queue in python.

```

max=int(input("Enter the limit"))
queue=[0 for i in range(max)]
front=rear=-1
def isempty():
    global front
    return front=-1
def insert():
    global front, rear, queue
    x=int(input("Enter Element to insert into queue"))

```

```

    if isempty():
        front=front+1
    else:
        rear=rear+1
        queue[rear]=x
def Delete():
    global front, rear, queue
    if isempty():
        print("Cannot Pop. Stack is Empty. Underflow")
        return
    else:
        ele=queue[front]
        front+=1
        if front>rear:
            front=rear=-1
        return ele
def printQueue():
    if not isempty():
        print(queue[front:rear+1])
while True:
    print("Please choose operation")
    print("1. Insert")
    print("2. Delete")
    print("3.Print")
    print("4.Exit")
    choice=int(input("Please Enter 1/2/3:"))
    if choice==4:
        break
    elif choice==3:
        printQueue()
    elif choice==2:
        Delete()
    elif choice==1:
        insert()
    else:
        print("Please Give a Correct Input")

```


Code to create Database and Table

1. Create database brightway;
2. Create table student(roll integer, name char(20), clas char(10), sec char(5));

18. Write a program to insert the record in MySQL using python code.

```
import mysql.connector as con
mycon=con.connect(host="localhost", user="root",passwd="bwc",database="brightway")
if mycon.is_connected():
    print("succefully connected")
else:
    print("error in connection")
cur=mycon.cursor()
r=int(input("Enter Roll No. "))
name=input("Enter Name")
cl=input("Enter Class")
sec=input("Enter Section")
st= "insert into student values({}, {}, {}, {})".format(r,name,cl,sec)
cur.execute(st)
print("Data Successfully Inserted")
mycon.commit()
mycon.close()
ch=input("Do you Want to see the result(Y/N)")
if ch== 'y' or ch== 'Y':
    mycon=con.connect(host="localhost",user="root",passwd="bwc",
    database="brightway")
    cur=mycon.cursor()
    cur.execute("select * from student")
    data=cur.fetchall()
    print("Here is students Records")
    print("Roll\tName\tclasses")
    for i in data:
        roll=i[0]
        name=i[1]
        clas=i[2]
        sub=i[3]
        print(roll,"\t",name,"\t",clas)
mycon.close()
```

19. Write a program to delete the record in MySQL using python code.

```
import mysql.connector as con
mycon=con.connect(host="localhost", user="root",passwd="bwc",database="brightway")
if mycon.is_connected():
    print("succefully connected")
else:
    print("error in connection")
cur=mycon.cursor()
r=int(input("Enter Roll No. to be deleted"))
st= "delete from student where roll={}".format(r)
cur.execute(st)
print("Data Successfully deleted")
mycon.commit()
mycon.close()
ch=input("Do you Want to see the result(Y/N)")
if ch== 'y' or ch== 'Y':
    mycon=con.connect(host="localhost",user="root",passwd="bwc",
        database="brightway")
    cur=mycon.cursor()
    cur.execute("select * from student")
    data=cur.fetchall()
    print("Here is students Records")
    print("Roll\tName\tclasses")
    for i in data:
        roll=i[0]
        name=i[1]
        clas=i[2]
        sub=i[3]
        print(roll,"\t",name,"\t",clas)
mycon.close()
```

20. Write a program to update the record in MySQL using python code.

```
import mysql.connector as con
mycon=con.connect(host="localhost", user="root",passwd="bwc",database="brightway")
if mycon.is_connected():
    print("succefully connected")
else:
    print("error in connection")
```

```

cur=mycon.cursor()
r=int(input("Enter Roll No. to be updated"))
name=input("Enter the new name:")
clas=input("Enter New class:")
sec=input("Enter New Section:")
st= "update student set name= '{}', clas= '{}', sub= '{}' where
roll={}".format(name,clas,sec,r)
cur.execute(st)
print("Data Successfully Updated")
mycon.commit()
mycon.close()
ch=input("Do you Want to see the result(Y/N)")
if ch== 'y' or ch== 'Y':
    mycon=con.connect(host="localhost",user="root",passwd="bwc",
    database="brightway")
    cur=mycon.cursor()
    cur.execute("select * from student")
    data=cur.fetchall()
    print("Here is students Records")
    print("Roll\tName\tclasses")
    for i in data:
        roll=i[0]
        name=i[1]
        clas=i[2]
        sub=i[3]
        print(roll,"\t",name,"\t",clas)
mycon.close()

```

21. Write a program to search any record in MySQL using python code.

```

import mysql.connector as con
mycon=con.connect(host="localhost", user="root",passwd="bwc",database="brightway")
if mycon.is_connected():
    print("succefully connected")
else:
    print("error in connection")
cur=mycon.cursor()
r=int(input("Enter Roll No. to be searched"))
cur.execute("select * from student where roll={ }".format (r))

```

```
data=cur.fetchall()
print("Here is students Records")
print("Roll\tName\tclasses")
for i in data:
    roll=i[0]
    name=i[1]
    clas=i[2]
    sub=i[3]
    print(roll,"\t",name,"\t",clas)
mycon.close()
```

22. Write a program in Python to open a website google.com using web browser.

```
import urllib.request
import webbrowser
a=urllib.request.urlopen('http://www.google.com')
url=a.geturl()
print("Now opening the url:",url)
webbrowser.open_new(url)
```