1.Demonstrate runtime reading of Strings. i) Illustrate the concept of String Slicing. ii) Also demonstrate a minimum of 5 functions defined on Strings.

```
print("One for concept of string Slicing \t Two for string functions\n")
choice=int(input("Enter your choice="))
str=input("Enter a string value=")
if(choice==1):
  while(True):
    print('''
        1 for reverce.
        2 for alternate string.
        3 for alternate in reverce order.
        4 for 1st five characters.
        5 for last  five characters.
        6 for Exit...''')
    cho=int(input("Enter your choice="))
    if(cho==1):
      print("Reverse of string: ",str[-1::-1])
    elif(cho==2):
      print("Alternate of string: ",str[0::2])
    elif(cho==3):
      print("Alternate in reverse order of entered string: ",str[-1::-2])
    elif(cho==4):
      print("first 5 characters of entered string: ",str[0:5])
    elif(cho==5):
      print("Last 5 characters of entered string: ",str[-5::])
    elif(cho==6):
      print("...Exit...")
      break
    else:
      print("You have entered wrong choice...try again...")
elif(choice==2):
  while(True):
    print("1 for convert in lower case\n2 for convert in upper case\n3 for Capitalize of string")
    print("4 convert in title case\n5 swapeCase of string\n6 for exit\n")
    cho=int(input("Enter your choice="))
    if(cho==1):
      print("LowerCase: ",str.lower())
    elif(cho==2):
      print("UpperCase: ",str.upper())
    elif(cho==3):
      print("Capitalize: ",str.capitalize())
```

```
        elif(cho==4):
          print("TitleCase: ",str.title())
        elif(cho==5):
          print("SwapCase: ",str.swapcase())
        elif(cho==6):
          print("...Exit...")
          break
        else:
          print("...You have entered wrong choice...try again...")
    else:
       print("Your choice is wrong...")
```

Output:

```
One for concept of string Slicing          Two for string functions

Enter your choice=1
Enter a string value=RevaUniversity

            1 for reverce.
            2 for alternate string.
            3 for alternate in reverce order.
            4 for 1st five characters.
            5 for last  five characters.
            6 for Exit...
Enter your choice=3
Alternate in reverse order of entered string:  yirvnae

            1 for reverce.
            2 for alternate string.
            3 for alternate in reverce order.
            4 for 1st five characters.
            5 for last  five characters.
            6 for Exit...
Enter your choice=6
...Exit...
```

2. Write a program to add two integers and print the result on the screen. Accept the values at runtime.

```
a=int(input("Enter 1st number="))
```

```
b=int(input("Enter 2nd number="))

print("Addition=",a+b)
```

Output:

Enter 1st number=456

Enter 2nd number=657

Addition= 1113

3. Demonstrate the usage of math and cmath module.(For Ex. Program to find the roots of a Quadratic Equation)

```
import cmath
def findRoots(a,b,c):
   dis=(b**2)-(4*a*c)
   x=((-b)+cmath.sqrt(dis))/(2*a)
   y=((-b)-cmath.sqrt(dis))/(2*a)
   if dis==0:
      print("Both roots are equals:")
   elif(dis>0):
      print("Roots are real and distinct:")
   else:
      print("Roots are imaginary:")
   print(x,"\t",y)
print("Enter the value of a quadratic equation=")
a=int(input())
b=int(input())
c=int(input())
if(a==0):
   print("Input correct quadratic equations values...")
else:
   findRoots(a,b,c)
```

Output:

Enter the value of a quadratic equation=

4

5

```
6

Roots are imaginary:

(-0.625+1.0532687216470449j)        (-0.625-1.0532687216470449j)
```

4. Illustrate the usage of files with the help of different functions defined on Files(such as write, read(demonstrate all four forms), open, and close(use both the forms of closing a file)

```
print("Welcome to python files system")

while(True):
   choice=input('''
         1. for create a new file

         2. for write data in created file

         3. for read data from file

         4. close the file

         5. for exit

       Enter your choice= ''')
   if choice=='1':
      global fname
      try:
         fname=input("Enter the new file name= ")
         obj=open("E:\\{}.txt".format(fname),"x")
         obj.close()
         print("The file has been created successfully...")
      except:
         print("File is already avaliable with {} name".format(fname))
   elif choice=='2':
      fname=input("Enter the created file name= ")
      str=input('''Enter the data..''')
```

```
        obj=open("E:\\{}.txt".format(fname),"a")
        obj.write(str)
        obj.close()
        print("The data has been written successfully...")
    elif choice=='3':
        fname=input("Enter the created file name= ")
        try:
            obj=open("E:\\{}.txt".format(fname),"r")
            cho=input('''
              1. for read
              2. for read(chunk)
              3. for readline
              4. for readlines
            Enter your choice= ''')
            if cho=='1':
                print("The data avaliable in file are following: ")
                obj=open("E:\\{}.txt".format(fname),"r")
                print(obj.read())
                obj.close()
            elif cho=='2':
                print("The data avaliable in file are following: ")
                chunk=int(input("Enter number of chunk= "))
                print(obj.read(chunk))
                obj.close()
            elif cho=='3':
```

```
            print("The data avaliable in file are following: ")
            obj=open("E:\\{}.txt".format(fname),"r")
            print(obj.readline())
            obj.close()
        elif cho=='4':
            print("The data avaliable in file are following: ")
            obj=open("E:\\{}.txt".format(fname),"r")
            str=obj.readlines()
            print(len(str),str)
            obj.close()
        else:
            print("Your choice is wrong...")
    except:
        print("File is not avaliable with {} name".format(fname))
elif choice=='4':
    try:
        with open("E:\\{}.txt".format(fname),"w") as obj:
          obj.close()
          print("Opened files are closed...")
    except:
        print("Now not any file has been opened...")
elif choice=='5':
    print("Exit...")
    break
else:
```

```
    print("Your choice is wrong...")
```

Output:

```
Welcome to python files system


        1. for create a new file
        2. for write data in created file
        3. for read data from file
        4. close the file
        5. for exit
       Enter your choice= 1
Enter the new file name= ourfile
The file has been created successfully...


        1. for create a new file
        2. for write data in created file
        3. for read data from file
        4. close the file
        5. for exit
       Enter your choice= 2
Enter the created file name=ourfile
Enter the data..Hare Raam Hare Krishna
The data has been written successfully...


        1. for create a new file
        2. for write data in created file
```

3. for read data from file

4. close the file

5. for exit

Enter your choice= 3

Enter the created file name= ourfile

1. for read

2. for read(chunk)

3. for readline

4. for readlines

Enter your choice= 1

The data avaliable in file are following:

Hare Raam Hare Krishna

1. for create a new file

2. for write data in created file

3. for read data from file

4. close the file

5. for exit

Enter your choice= 3

Enter the created file name= ourfile

1. for read

2. for read(chunk)

3. for readline

```
        4. for readlines

      Enter your choice= 4

The data avaliable in file are following:

1 ['Hare Raam Hare Krishna']


        1. for create a new file

        2. for write data in created file

        3. for read data from file

        4. close the file

        5. for exit

      Enter your choice= 4

Opened files are closed...


        1. for create a new file

        2. for write data in created file

        3. for read data from file

        4. close the file

        5. for exit

      Enter your choice= 5

Exit...
```

5. Write a program to find the largest of two numbers.

```
def largestNum(a,b):
   G=a
   if b>G:
      G=b
```

```
    return G
print("Enter two numbers=")
x=int(input())
y=int(input())
G=largestNum(x,y)
print("Largest Number= ",G)
```

Output:

```
Enter two numbers=
78
89
Largest Number=  89
```

6. Write a program to find the biggest of three numbers

```
def biggestNumber(a,b,c):
    G=a
    if b>G:
        G=b
    if c>G:
        G=c
    return G
print("Entet three numbers=")
x=int(input())
y=int(input())
z=int(input())
G=biggestNumber(x,y,z)
print("Biggest Number=",G)
```

Output:

Entet three numbers=

54

76

89

Biggest Number= 89

7. Design a menu driven program to check whether the number is i)A perfect number or not ii)Armstrong number or not iii)Palindrome or not

```
def perfectNumber(num):
    sum=0
    i=1
    while(i<=(num//2)):
        if num%i==0:
            sum+=i
        i+=1
    if(sum==num):
        print("{} is a perfect number".format(num))
    else:
        print("{} is not a perfect number".format(num))
def armstrongNumber(num):
    n=num
    sum=0
    while n>0:
        r=n%10
        sum=sum+(r**3)
```

```
        n//=10
    if sum==num:
        print("{} is an armstrong number".format(num))
    else:
        print("{} is not an armstrong number".format(num))
def palindromeNumber(num):
    n=num
    rev=0
    while n>0:
        rev=rev*10+(n%10)
        n//=10
    if rev==num:
        print("{} is a palindrome number".format(num))
    else:
        print("{} is not a palindrome number".format(num))


while(True):
    choice=input('''
                1. for check a perfect number
                2. for check an armstrong number
                3. for check a palindrome number
                4. for exit..
            Enter your choice=  ''')
    if choice=='1':
        N=int(input("Enter a number="))
```

```
        perfectNumber(N)
    elif choice=='2':
        N=int(input("Enter a number="))
        armstrongNumber(N)
    elif choice=='3':
        N=int(input("Enter a number="))
        palindromeNumber(N)
    elif choice=='4':
        print("Exit...")
        break
    else:
        print("Your choice is wrong. try again...")
```

Output:

```
                1. for check a perfect number
                2. for check a armstrong number
                3. for check a palindrome number
                4. for exit..
          Enter your choice=  1
Enter a number=28
28 is a perfect number

                1. for check a perfect number
                2. for check a armstrong number
                3. for check a palindrome number
```

4. for exit..

Enter your choice= 2

Enter a number=371

371 is an armstrong number

1. for check a perfect number

2. for check a armstrong number

3. for check a palindrome number

4. for exit..

Enter your choice= 3

Enter a number=12321

12321 is a palindrome number

1. for check a perfect number

2. for check a armstrong number

3. for check a palindrome number

4. for exit..

Enter your choice= 4

Exit...

8. Show the different operations defined on Lists, Tuples and Dictionaries

```
while(True):
   choice=input('''
            1. for Lists operation
            2. for Tuples operation
            3. for Dictionaries operation
```

```
            4. for exit..

        Enter your choice= '")

  if choice=='1':

    print("Creating a list..")

    L=[12,34,56,2,45,6]

    print(L,type(L))

    print("List iteration..")

    for v in L:

      print(v)

    print("Alternate the list=",L[0::2])

    print("Reverse order of list=",L[-1::-1])

    print("Sum of list=",sum(L))

    print("List sorting...")

    L.sort()

    print(L)

    print("Count 12 in list=",L.count(12))

    print("Update the list=")

    L[0]=23

    L[1]=33

    print(L)

    print("Insert 88 at 1st position in list=")

    L.insert(0,88)

    print(L)

    print("Append 66 in list=")

    L.append(66)
```

```
    print(L)
    print("Extend the List=")
    l=[1,2,3]
    L.extend(l)
    print(L)
    FL=['Rose','Merrigold','Lily']
    FR=['Mango','Banana','Papaya']
    VE=['Patato','Tamato','Onion']
    List=['Fruits',FR,'Flowers',FL,'Vegitables',VE]
    print(List)
    print(List[1][1])
    print(List[3][1])
    print(List[5][1])
elif choice=='2':
    print("Creating a tuple...")
    T=(56,45,67,78,46)
    print(T,type(T))
    print("Tuple iteration..")
    for a in T:
        print(a)
    print("Alternate the tuple=",T[0::2])
    print("Reverce of the tuple=",T[-1::-1])
    print("Minimum element of tuple=",min(T))
    print("Maximum element of Tule=",max(T))
    print("Sum of tuple=",sum(T))
```

```
    print("Count of 67 in tuple=",T.count(67))
    FL=('Rose','Merrigold','Lily')
    FR=('Mango','Banana','Papaya')
    VE=('Patato','Tamato','Onion')
    Tuple=('Fruits',FR,'Flowers',FL,'Vegitables',VE)
    print(Tuple)
    print(Tuple[1][1])
    print(Tuple[3][1])
    print(Tuple[5][1])
elif choice=='3':
    print("Creating a dictionary=")
    D={1:'One',2:'Two',3:'Three',4:'Four'}
    print(D,type(D))
    print("Dictionary keys iteration..")
    for a in D.keys():
        print(a)
    print("Dictionay values iteration..")
    for a in D.values():
        print(a)
    print("Dictionary keys and values iteration...")
    for a,b in D.items():
        print(a,b)
    print("Insert elements in dictionary=")
    D[5]='Six'
    print(D)
```

```
        print("Update the dictionary..")
        D[5]='Five'
        print(D)
        print("Update the dictionary..")
        D.update({'Hi':'Dict'})
        print(D)
        print("Deleting the element of Hi key..")
        del D['Hi']
        print(D)
        FL={1:'Rose',2:'Merrigold',3:'Lily'}
        FR={1:'Mango',2:'Banana',3:'Papaya'}
        VE={1:'Patato',2:'Tamato',3:'Onion'}
        Dict={'Fruits':FR,'Flowers':FL,'Vegitables':VE}
        print(Dict)
        print(Dict['Fruits'][2])
        print(Dict['Flowers'][2])
        print(Dict['Vegitables'][2])
    elif choice=='4':
        print("Exit...")
        break
    else:
        print("Your choice is wrong. Try again...")
```

Output:

1. for Lists operation

```
        2. for Tuples operation

        3. for Dictionaries operation

        4. for exit..

      Enter your choice= 1
Creating a list..
[12, 34, 56, 2, 45, 6] <class 'list'>
List iteration..
12
34
56
2
45
6
Alternate the list= [12, 56, 45]
Reverse order of list= [6, 45, 2, 56, 34, 12]
Sum of list= 155
List sorting...
[2, 6, 12, 34, 45, 56]
Count 12 in list= 1
Update the list=
[23, 33, 12, 34, 45, 56]
Insert 88 at 1st position in list=
[88, 23, 33, 12, 34, 45, 56]
Append 66 in list=
[88, 23, 33, 12, 34, 45, 56, 66]
```

Extend the List=

[88, 23, 33, 12, 34, 45, 56, 66, 1, 2, 3]

['Fruits', ['Mango', 'Banana', 'Papaya'], 'Flowers', ['Rose', 'Merrigold', 'Lily'], 'Vegitables', ['Patato', 'Tamato', 'Onion']]

Banana

Merrigold

Tamato

1. for Lists operation

2. for Tuples operation

3. for Dictionaries operation

4. for exit..

Enter your choice= 2

Creating a tuple...

(56, 45, 67, 78, 46) <class 'tuple'>

Tuple iteration..

56

45

67

78

46

Alternate the tuple= (56, 67, 46)

Reverce of the tuple= (46, 78, 67, 45, 56)

Minimum element of tuple= 45

Maximum element of Tule= 78

Sum of tuple= 292

Count of 67 in tuple= 1

('Fruits', ('Mango', 'Banana', 'Papaya'), 'Flowers', ('Rose', 'Merrigold', 'Lily'), 'Vegitables', ('Patato', 'Tamato', 'Onion'))

Banana

Merrigold

Tamato

1. for Lists operation

2. for Tuples operation

3. for Dictionaries operation

4. for exit..

Enter your choice= 3

Creating a dictionary=

{1: 'One', 2: 'Two', 3: 'Three', 4: 'Four'} <class 'dict'>

Dictionary keys iteration..

1

2

3

4

Dictionay values iteration..

One

Two

Three

Four

Dictionary keys and values iteration...

1 One

2 Two

3 Three

4 Four

Insert elements in dictionary=

{1: 'One', 2: 'Two', 3: 'Three', 4: 'Four', 5: 'Six'}

Update the dictionary..

{1: 'One', 2: 'Two', 3: 'Three', 4: 'Four', 5: 'Five'}

Update the dictionary..

{1: 'One', 2: 'Two', 3: 'Three', 4: 'Four', 5: 'Five', 'Hi': 'Dict'}

Deleting the element of Hi key..

{1: 'One', 2: 'Two', 3: 'Three', 4: 'Four', 5: 'Five'}

{'Fruits': {1: 'Mango', 2: 'Banana', 3: 'Papaya'}, 'Flowers': {1: 'Rose', 2: 'Merrigold', 3: 'Lily'}, 'Vegitables': {1: 'Patato', 2: 'Tamato', 3: 'Onion'}}

Banana

Merrigold

Tamato

1. for Lists operation

2. for Tuples operation

3. for Dictionaries operation

4. for exit..

Enter your choice= 4

Exit...

9. Write a program to find the factorial of a number using functions and without using functions. Accept the input at runtime.

```
def factorial(num):
```

```
    if num==1:
        return 1
    else:
        return (num*factorial(num-1))


while(True):
    choice=input('''
                1. for factorial using function
                2. for factorial using without function
                3. for exit..
            Enter your choice..''')
    if choice=='1':
        n=int(input("Enter a number for find factorial="))
        print("Factorial of {} is= {}".format(n,factorial(n)))
    elif choice=='2':
        n=int(input("Enter a number for find factorial="))
        num=n
        fact=1
        while num>0:
            fact=fact*num
            num-=1
        print("Factorial of {} is= {}".format(n,fact))
    elif choice=='3':
        print("Exit...")
        break
```

```
    else:
        print("Your choice is wrong try again...")
```

Output:

```
 1. for factorial using function
        2. for factorial using without function
        3. for exit..
      Enter your choice..1
Enter a number for find factorial=6
Factorial of 6 is= 720

        1. for factorial using function
        2. for factorial using without function
        3. for exit..
      Enter your choice..2
Enter a number for find factorial=7
Factorial of 7 is= 5040

        1. for factorial using function
        2. for factorial using without function
        3. for exit..
      Enter your choice..3
Exit...
```

10. Demonstrate the i) Designing of a class ii) Creation of Object of that class iii) accessing the methods and instance variables in the class. The student is at the liberty of choosing their own Description of the object for designing the class.

class Bank:

```
    def __init__(self,n,ins):
        self.name=n
        self.interest=ins
    def bankName(self):
        print("Bank name:",self.name)
    def rateOfInterest(self):
        print("Rate of Interest: ",self.interest)
posb=Bank("Post_Office_Saving_Bank",7.6)
ippb=Bank("India_Post_Payment_Bank",4.6)
posb.bankName()
posb.rateOfInterest()
ippb.bankName()
ippb.rateOfInterest()
```

Output:

```
Bank name: Post_Office_Saving_Bank
Rate of Interest:  7.6
Bank name: India_Post_Payment_Bank
Rate of Interest:  4.6
```

.

Simulation of simple Calculator

```
while(True):
    choice=input('''
        1. for addition
        2. for subtraction
```

```
        3. for division
        4. for multiplication
        5. for exit..
      Enter your choice= '')
   if choice=='5':
      print("Exit..")
      break
   print("Enter two numbers=")
   num1=int(input())
   num2=int(input())
   if choice=='1':
      print("Addition= ",num1+num2)
   elif choice=='2':
      print("Subtraction= ",num1-num2)
   elif choice=='3':
      print("Division= ",num1/num2)
   elif choice=='4':
      print("Multiplication= ",num1*num2)
   else:
      print("Wrong choice..")
```

Output:

```
1. for addition
        2. for subtraction
        3. for division
        4. for multiplication
```

```
        5. for exit..
    Enter your choice= 1
Enter two numbers=
5
6
Addition=  11


        1. for addition
        2. for subtraction
        3. for division
        4. for multiplication
        5. for exit..
    Enter your choice= 2
Enter two numbers=
2
3
Subtraction=  -1


        1. for addition
        2. for subtraction
        3. for division
        4. for multiplication
        5. for exit..
    Enter your choice= 3
Enter two numbers=
```

4

5

Division= 0.8

1. for addition

2. for subtraction

3. for division

4. for multiplication

5. for exit..

Enter your choice= 4

Enter two numbers=

5

6

Multiplication= 30

1. for addition

2. for subtraction

3. for division

4. for multiplication

5. for exit..

Enter your choice= 5

Exit..

PART-B A few programs on GUI and a mini project

Login page program:

```
from tkinter import *
from tkinter import messagebox
def ok():
   uname=e1.get()
   password=e2.get()
   if uname=="":
      messagebox.showinfo("Please enter user name")
   elif password=="":
      messagebox.showinfo("Please enter password")
   elif uname=="" and password=="":
      messagebox.showinfo("Please enter user name and pasword")
   elif uname=="Reva" and password=="123":
      messagebox.showinfo("Login success")
      obj.destroy()
   else:
      messagebox.showinfo("Sorry!! incorrect user name and password")
obj=Tk()
obj.title("Login")
obj.geometry("500x300")
global e1
global e2

Label(obj, text="UserName").place(x=10, y=10)
Label(obj, text="Password").place(x=10, y=40)
e1=Entry(obj)
```

```
e1.place(x=140, y=10)

e2=Entry(obj)

e2.place(x=140, y=40)

e2.config(show="*")

Button(obj,text="Login",command=ok, height=1,width=11).place(x=150,y=100)

obj.mainloop()
```

Student information display program:

```
from tkinter import *

def btnClear():
   global val
   val=""
   data.set("")


root = Tk()

root.title("Student Information")

root.geometry("500x500")


Label(root, text="UserName").place(x=10, y=10)

Label(root, text="SRN").place(x=10, y=40)

Label(root, text="E-Mail").place(x=10, y=70)

Label(root, text="Phone Number").place(x=10, y=100)

Label(root, text="Gender").place(x=10, y=130)

Label(root, text="Language").place(x=10, y=180)
```

```
e1 = Entry(root)

e1.place(x=140, y=10)

e2 = Entry(root)

e2.place(x=140, y=40)

e3 = Entry(root)

e3.place(x=140, y=70)

e4 = Entry(root)

e4.place(x=140, y=100)

radio = IntVar()


Radiobutton(root, text="male", value=1).place(x=130, y=130)

Radiobutton(root, text="Female",value=2).place(x=130, y=160)


Checkbutton(root, text = "Kannada", ).place(x=130, y=190)

Checkbutton(root, text = "English", ).place(x=130, y=210)

Checkbutton(root, text = "Hindi", ).place(x=130, y=230)

Checkbutton(root, text = "Telugu", ).place(x=130, y=250)


Button(root, text="Save", height = 1, width = 6).place(x=140, y=280)

Button(root, text="Clear", height = 1, width = 6,command=btnClear).place(x=220, y=280)


root.mainloop()
```

Calculator program:

```
from tkinter import *
```

```
def btnClick(number):
    global val
    val=val+str(number)
    data.set(val)

def btnClear():
    global val
    val=""
    data.set("")

def btnEquals():
    global val
    result=str(eval(val))
    data.set(result)

root=Tk()
root.title("My Calculator")
root.geometry("361x381+500+200")
val=" "
data=StringVar()
display=Entry(root,textvariable=data,bd=29,justify="right",bg="yellow",font=("ariel",20))
display.grid(row=0,columnspan=4)
btn7=Button(root,text="7",font=("Ariel",12,"bold"),bd=12,height=2,width=6,command=lambda:btnClick(7))
btn7.grid(row=1,column=0)
```

```
btn8=Button(root,text="8",font=("Ariel",12,"bold"),bd=12,height=2,width=6,command=lambda:btnClick(8))

btn8.grid(row=1,column=1)

btn9=Button(root,text="9",font=("Ariel",12,"bold"),bd=12,height=2,width=6,command=lambda:btnClick(9))

btn9.grid(row=1,column=2)

btn_add=Button(root,text="+",font=("Ariel",12,"bold"),bd=12,height=2,width=6,command=lambda:btnClick('+'))

btn_add.grid(row=1,column=3)


btn4=Button(root,text="4",font=("Ariel",12,"bold"),bd=12,height=2,width=6,command=lambda:btnClick(4))

btn4.grid(row=2,column=0)

btn5=Button(root,text="5",font=("Ariel",12,"bold"),bd=12,height=2,width=6,command=lambda:btnClick(5))

btn5.grid(row=2,column=1)

btn6=Button(root,text="6",font=("Ariel",12,"bold"),bd=12,height=2,width=6,command=lambda:btnClick(6))

btn6.grid(row=2,column=2)

btn_sub=Button(root,text="-
",font=("Ariel",12,"bold"),bd=12,height=2,width=6,command=lambda:btnClick('-'))

btn_sub.grid(row=2,column=3)


btn1=Button(root,text="1",font=("Ariel",12,"bold"),bd=12,height=2,width=6,command=lambda:btnClick(1))

btn1.grid(row=3,column=0)

btn2=Button(root,text="2",font=("Ariel",12,"bold"),bd=12,height=2,width=6,command=lambda:btnClick(2))

btn2.grid(row=3,column=1)
```

```
btn3=Button(root,text="3",font=("Ariel",12,"bold"),bd=12,height=2,width=6,command=lambda:btnClick(3))

btn3.grid(row=3,column=2)

btn_mul=Button(root,text="*",font=("Ariel",12,"bold"),bd=12,height=2,width=6,command=lambda:btnClick('*'))

btn_mul.grid(row=3,column=3)


btnc=Button(root,text="C",font=("Ariel",12,"bold"),bd=12,height=2,width=6,command=btnClear)

btnc.grid(row=4,column=0)

btn0=Button(root,text="0",font=("Ariel",12,"bold"),bd=12,height=2,width=6,command=lambda:btnClick(0))

btn0.grid(row=4,column=1)

btn_div=Button(root,text="/",font=("Ariel",12,"bold"),bd=12,height=2,width=6,command=lambda:btnClick('/'))

btn_div.grid(row=4,column=2)

btn_equal=Button(root,text="=",font=("Ariel",12,"bold"),bd=12,height=2,width=6,command=btnEquals)

btn_equal.grid(row=4,column=3)

root.mainloop()
```

Thanks