Task Based Assignment(Functions)

1)to check whether the given year is leap year or not

```
def leap_year(y):
if(y%4==0):
print("Given year is leap year")
else:
print("Given year is not leap year")
y=int(input("Enter year : "))
leap_year(y)
```

2)give limit and perform fibonacci series

```
def fibonacci(n):
a=0
b=1
print(a,end=" ")
print(b,end=" ")
count=2
while count<=n:
f=a+b
print(f,end=" ")
a=b
b=f
count+=1
n=int(input("Enter limit of fibonacci series : "))
fibonacci(n)
```

3)to check whether the number is prime or not

```
def prime(n):
i=2
while i<n:
if(n%i==0):
print("Entered number is not prime number")
break;
else:
print("Entered number is prime number")
break;
i+=1
n=int(input("Enter number : "))
prime(n)
```

4)pass a character and check whether it is vowel or constant

```
def check_string(s):
if(s=="a" or s=="e" or s=="i" or s=="o" or s=="u"):
print("Entered character is vowel")
else:
print("Entered character is Constant")
s=input("Enter character : ")
check_string(s)
```

5)enter string & number and check whether it is palindrome or not

```
def palindrome(n):
a=n
rn=0
while n!=0:
```

```
temp=n%10
rn=(rn*10)+temp
n=n//10
if(a==rn):
print("Entered number is palindrome...")
else:
print("Entered number is not palindrome...")
n=int(input("Enter number : "))
palindrome(n)
```

or

```
def palindrome(n):
txt=n [::-1]
if(n==txt):
print("Entered string is palindrome")
else:
print("Entered string is not palindrome")
n=input("Enter string : ")
palindrome(n)
```

6)enter a number and check that entered number is int or float

```
def check_no(n):
tp=type(n)
if(tp==int):
print("Number is int")
else:
print("Number is float")
check_no(5)
```

7)pass 3 argument and check which no is greater and lower

```
def greater(a,b,c):
if a>b:
if a>c:
print("number 1 is greater")
else:
print("Number 3 is greater")
else:
if b>c:
print("number 2 is greater")
else:
print("number 3 is greater")
def lower(a,b,c):
if a<b:
if a<c:
print("number 1 is lower")
else:
print("Number 3 is lower")
else:
if b<c:
print("number 2 is lower")
else:
print("number 3 is lower")
a=int(input("Enter number 1 : "))
b=int(input("Enter number 2 : "))
c=int(input("Enter number 3 : "))
greater(a,b,c)
lower(a,b,c)
```

8)pass a number and do factorial of that no

```
def factorial(n):
i=1;
fact=1
while i<=n:
fact=fact*i
i+=1
print("Factorial is : ",fact)
n=int(input("Enter number : "))
factorial(n)
```

9)pass a string and do reverse a string

```
def palindrome(n):
txt=n [::-1]
print("Revere string is : ",txt)
n=input("Enter string : ")
palindrome(n)
```

10)pass a string and count how many spaces between words of string

```
def spccont(x):
z=len(x)
i=0
c=0;
while i<z :
if(x[i]==' '):
c+=1;
i+=1;
return c
x=input("Enter string : ")
print("Spaces are: ",spccont(x))
```

input 2 numbers from user

```
x=int(input("Enter number 1 : "))
y=int(input("Enter number 2 : "))

print("After swapping numbers are...\nFirst number is : ",y,"Second number is  : ",x)
```

take values from user and perform simple interest

```
p=int(input("Enter Principal Amount : "))
r=int(input("Enter Rate of Interest : "))
n=int(input("Enter Number of Years : "))
print("Simple Interest is  : ",((p*r*n)/100))
```

Enter a number from user and perform qube of that number

```
n=int(input("Enter number : "))
print("Qube of entered number is : ",(n*n*n))
```

Looping Statements

print only even number till 50

```
i=1
while i<=50:
    i=i+1
    if i%2==0:
        if i==30:
            continue
        print(i,end=" ")
```

sum of digits of entered numbers

```
n=int(input("\nEnter number : "))
add=0
while n!=0:
    temp=n%10
    add=add+temp
    n=n//10
print("Sum of digits : ",add)
```

do reverse of entered number's digits

```
n=int(input("\nEnter number : "))
rno=0
while n!=0:
    temp=n%10
    rno=(rno*10)+temp
    n=n//10
print("Reverse of digits : ",rno)
```

Enter any number and print table of that number

```
n=int(input("Enter number  : "))

i=1
while i<=10:
    print("{0} * {1} = {2}".format(n,i,n*i))
    i+=1
```

Decision making Statements

if-else statement :

Enter a number and check that number is greater than or less than 10

```
n=int(input("Enter number : "))

if n>10:
    print("Entered number is greater than 10")
else:
    print("Entered number is less than 10")
```

nested if statement :

to find out maximum number out of 3 number

```
a=int(input("Enter number 1 : "))
b=int(input("Enter number 2 : "))
c=int(input("Enter number 3 : "))
```

```
if a>b:
    if a>c:
        print("number 1 is greater")
    else:
        print("Number 3 is greater")
else:
    if b>c:
        print("number 2 is greater")
    else:
        print("number 3 is greater")
```

if-else if ladder :

```
i=int(input("Enter day of week : "))

if i==1:
    print("Monday")
elif i==2:
    print("Tuesday")
elif i==3:
    print("Wednesday")
elif i==4:
    print("Thursday")
elif i==5:
    print("Friday")
elif i==6:
    print("Saturday")
elif i==7:
    print("Sunday")
else:
    print("Enter number between 1 to 7")
```

Task base (set,tuple,dict,list)

```
x=[56,78,45,[5,6],{7,8},(9,10),34,56]#list
print(type(x))
x={56,78,5,65,(7,8),9,10,45,34,56}#set
print(type(x))
x=(56,78,45,34,56,[5,6],{7,8},(9,10))#tuple
print(type(x))

z=[12,21,0,1,6,1,7]
print(z)
```

que 1 : insert 91 after 0

```
z.insert(3,91) #(position,add_no)
print(z)
```

que 2 : insert -3 as last element

```
z.insert(7,-3) #(position,add_no)
print(z)
```

que 3 : remove 0

```
z.remove(0) #(remove_no)
print(z)
```

que 4 : arrenge to assending order

```
z.sort()
print(z)
```

que 5 : insert name at 0th index

```
z.insert(0,"Kalindi") #(position,add_string)
print(z)
z.pop()
print(z)
```

que 6 : perform sorting

```
#not working in list
```

#count particular elements come in tuple

```
y=(12,21,0,1,6,7)
print(y.count(1))

print(y.index(6))
x={12,21,0,1,1,6,7}#set
print(x)
x.pop()
print(x)
```

#dictionary

```
d={1:"1,2,3,a",2:"-2,-1,0",3:"a,b,c"}
print(type(d))
```

```
rlno={12,34,74,90}
print(rlno)
```

1)insert duplicate value

```
rlno.add(12)
print(rlno)
```

2)arrange the data

```
#not working in set
```

3)count the data

```
#not working in set
```

4)delete the last element

```
rlno.remove(90)
print(rlno)
```

5)display whole records

```
print(rlno)
```

Assignment-3

1. Write a python script to enter two variables and perform bodmas operation.

```
a=input("value 1 : ")
b=input("value 2 : ")
ans = int(a)+int(b)
print("Addition of {0} and {1} is : {2}".format(a,b,ans))
ans = int(a)-int(b)
print("Subtraction of {0} and {1} is : {2}".format(a,b,ans))
ans = int(a)*int(b)
print("Multiplication of {0} and {1} is : {2}".format(a,b,ans))
ans = int(a)/int(b)
print("Division of {0} and {1} is : {2}".format(a,b,ans))
ans = int(a)%int(b)
print("Modulo of {0} and {1} is : {2}".format(a,b,ans))
```

2. Write a python script to enter name dynamically and print it

```
a=input("Enter your name:")
print("Name is :",a)
```

3. Write a python script to take cm from the user and convert it to inches

1inch=2.54 cm

```
cm=float(input("enter cm:"))
```

```
inc=cm/2.54
print("inches is:",inc)
```

4. Write a python script to take inches from the user and convert it into cm

```
inch= float(input("enter inches:"))
cm=2.54*inch
print("centimeter is:",cm)
```

5. Dozen to pieces and pieces to dozens

```
p=input("enter pieces:")
print("Dozen is : %0.1f" %(float(p)/12))
d=input("enter dozen:")
print("Pisces is:",float(p)*12)
```

6. Write a program to display all data types

```
a='Hi !!'
print("Type of {0} is : {1}".format(a,type(a)))
b=1
print("Type of {0} is : {1}".format(b,type(b)))
c=1.5
print("Type of {0} is : {1}".format(c,type(c)))
d=True
print("Type of {0} is : {1}".format(d,type(d)))
```

7. Write a program to perorm all arithmetic operation

```
a=input("value 1 : ")
b=input("value 2 : ")
ans = int(a)+int(b)
print("Addition of {0} and {1} is : {2}".format(a,b,ans))
ans = int(a)-int(b)
print("Subtraction of {0} and {1} is : {2}".format(a,b,ans))
```

```
ans = int(a)*int(b)
print("Multiplication of {0} and {1} is : {2}".format(a,b,ans))
ans = int(a)/int(b)
print("Division of {0} and {1} is : {2}".format(a,b,ans))
ans = int(a)%int(b)
print("Modulo of {0} and {1} is : {2}".format(a,b,ans))
ans = int(a)**int(b)
print("Exponent of {0} and {1} is : {2}".format(a,b,ans))
ans = int(a)//int(b)
print("Floor division of {0} and {1} is : {2}".format(a,b,ans))
```

8. Write a program all operators supported in python

- Arithmetic operators
- Assignment operators
- Comparison operators
- Logical operators
- Identity operators
- Membership operators
- Bitwise operators

```
a=int(input("value 1 : "))
b=int(input("value 2 : "))
print("Addition of {0} and {1} is : {2}".format(a,b,(a+b)))
print("Subtraction of {0} and {1} is : {2}".format(a,b,(a-b)))
print("Multiplication of {0} and {1} is : {2}".format(a,b,(a*b)))
print("Division of {0} and {1} is : {2}".format(a,b,(a/b)))
print("Modulo of {0} and {1} is : {2}".format(a,b,(a%b)))
print("Floor division of {0} and {1} is : {2}".format(a,b,(a//b)))
print("Exponent of {0} and {1} is : {2}".format(a,b,(a**b)))
```

Write a script to take 2 variables dynamically and perform addition of float data type

```
x=float(input("Enter number 1 : "))
```

```
y=float(input("Enter number 2 : "))
print("Addition of {0} and {1} is : {2}".format(x,y,(x+y)))
```

Write a script to take 2 variables dynamically and perform addition of string data type

```
x=input("Enter value 1 : ")
y=input("Enter value 2 : ")
print("Addition of {0} and {1} is : {2}".format(x,y,(x+y)))
print(type(x))
print(type(y))
print(type(x+y))
```

Write a script to take 2 variables dynamically and perform addition of int and string

datatype :

```
x=int(input("Enter value 1 : "))
y=input("Enter value 2 : ")
print("Addition of {0} and {1} is : {2}".format(x,y,(x+y)))
print(type(x))
print(type(y))
print(type(x+y))
```

Write a script to take 2 variables dynamically and perform addition of int datatype :

```
x=int(input("
value 1 : "))
y=int(input("Enter value 2 : "))
print("Addition of {0} and {1} is : {2}".format(x,y,(x+y)))
print(type(x))
print(type(y))
print(type(x+y))
```

Tutorial-5

Q1. Perform dynamic script for arithmetic operator

```
a = float(input("value 1 : "))
b = float(input("value 2 : "))
print("Addition of {0} and {1} is : {2}".format(a,b,(a+b)))
print("Subtraction of {0} and {1} is : {2}".format(a,b,(a-b)))
print("Multiplication of {0} and {1} is : {2}".format(a,b,(a*b)))
print("Division of {0} and {1} is : {2}".format(a,b,(a/b)))
print("Modulo of {0} and {1} is : {2}".format(a,b,(a%b)))
print("Exponent of {0} and {1} is : {2}".format(a,b,(a**b)))
print("Floor division of {0} and {1} is : {2}".format(a,b,(a//b)))
```

Q2. Perform all the operator

```
print("Arithmetic operator : ")
a = float(input("Enter number 1 : "))
b = float(input("Enter number 2 : "))
print("Addition of {0} and {1} is : {2}".format(a,b,(a+b)))
print("Subtraction of {0} and {1} is : {2}".format(a,b,(a-b)))
print("Multiplication of {0} and {1} is : {2}".format(a,b,(a*b)))
print("Division of {0} and {1} is : {2}".format(a,b,(a/b)))
print("Modulo of {0} and {1} is : {2}".format(a,b,(a%b)))
print("Floor division of {0} and {1} is : {2}".format(a,b,(a//b)))
print("Exponent of {0} and {1} is : {2}".format(a,b,(a**b)))
print("\nAssignment operators : ")
x = 10
print("Value of = is : ",x)
x += 2
print("Value of += is : ",x)
x -= 2
```

```
print("Value of -= is : ",x)
x *= 2
print("Value of *= is : ",x)
x /= 2
print("Value of /= is : ",x)
x %= 2
print("Value of %= is : ",x)
x //= 2
print("Value of //= is : ",x)
x **= 2
print("Value of **= is : ",x)
print("\Comparison operators : ")
y=10
z=2
print("number 1 : ",y,"\number 2 : ",z)
print("Equal to : ",(y==z))
print("Not Equal to : ",(y!=z))
print("Greater than to : ",(y>z))
print("Less than to : ",(y<z))
print("Greater than equal to : ",(y>=z))
print("Less than equal to : ",(y<=z))
print("\nLogical operators : ")
print("number is : ",z)
print("And(Returns true if both condition is true) : ",(x < 1 and x > 5))
print("OR(Returns true if one condition is true) : ",(x < 1 or x > 5))
print("NOT(Reverse the result, returns False if the result is true) : ",not(x <
1 and x > 5))
```

Q3. Perform String data types by displaying bio- data

```
a=input("Enter your Enrollment no:")
b=input("Enter your name:")
c=input("Enter your Roll no:")
d=input("Enter your Address:")
e=input("Enter your City:")
```

```
f=input("Enter your State:")
g=input("Enter your Country:")
print("*********************************")
print("* BIO-DATA *")
print("* Enrollment no :",a,"*")
print("* Name :",b," *")
print("* Roll no :",c," *")
print("* Address:",d,"*")
print("* City :",e," *")
print("* Stat :",f," *")
print("* Country :",g," *")
print("*********************************")
```

TaskBaseAssignment_String&Numbers

1)take 8 numbers in form of list and Find min,max, len, use backward and forward method to

```
import math
#print middle
x=[95,5,90,10,85,15,80,20]
print("Minimum value : ",min(x))
print("Maximum value : ",max(x))
print("Length value : ",len(x))
print("Middle value(Forward method) : ",(x[4]))
print("Middle value(Backward method) : ",(x[-4]))
```

2)Take input form the user and find factorial of number

```
import math
x=int(input("Enter Value 1 : "))
print("Factorial of number is : ",math.factorial(x))
```

3)Take string as a input and perform all string operation(minimum 7 operation)

```
print("\n")
x = input("Enter String : ")
print("Count : ",len(x))
print("Min : ",min(x))
print("Max : ",max(x))
print("Upper : ",x.upper())
print("Lower : ",x.lower())
print("Title : ",x.title())
```

```
print("Replace : ",x.replace('i','e'))
print("-".join(x))
```

4)Use package math and Take value from keyboard and perform all operation

```
import math
print("\n");
x=5.678
print(math.sqrt(x))
print(math.floor(x))
print(math.ceil(x))
print(math.trunc(x))
print(math.pow(x,2))
print(round(x))
y=-90
print(abs(y))
```

5)Print 3 unicode in list and find min and max

```
x=["\U0001f600","\U0001f606","\U0001f923"]
print("Min : ",min(x))
print("Max : ",max(x))
```

6)Use assignment operator and perform the output

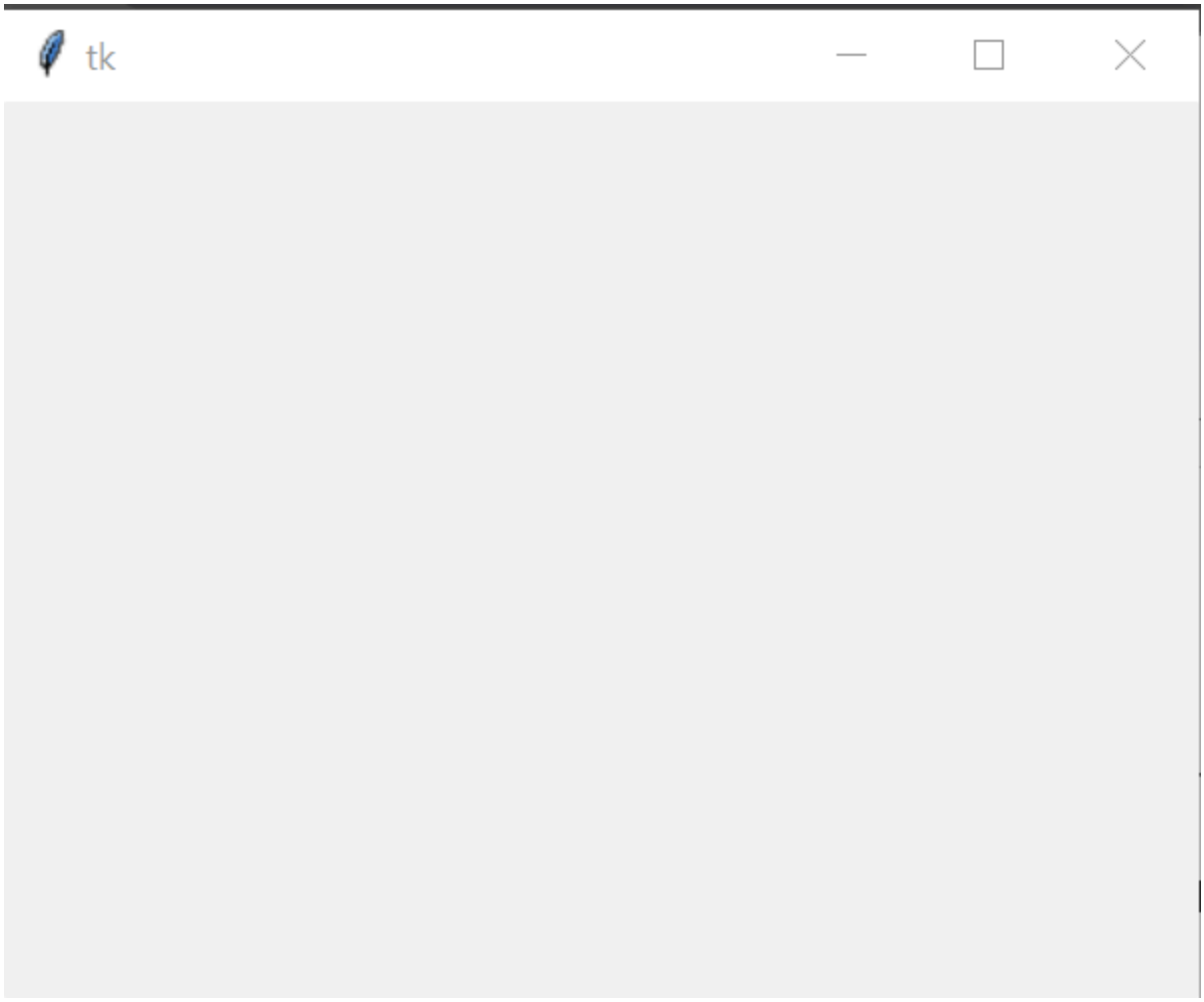
```
x = 10
print("Value of = is : ",x)
x += 2
print("Value of += is : ",x)
x -= 2
print("Value of -= is : ",x)
x *= 2
print("Value of *= is : ",x)
x /= 2
print("Value of /= is : ",x)
```

```
x %= 2
print("Value of %= is : ",x)
x //= 2
print("Value of //= is : ",x)
x **= 2
print("Value of **= is : ",x)
```

Frame

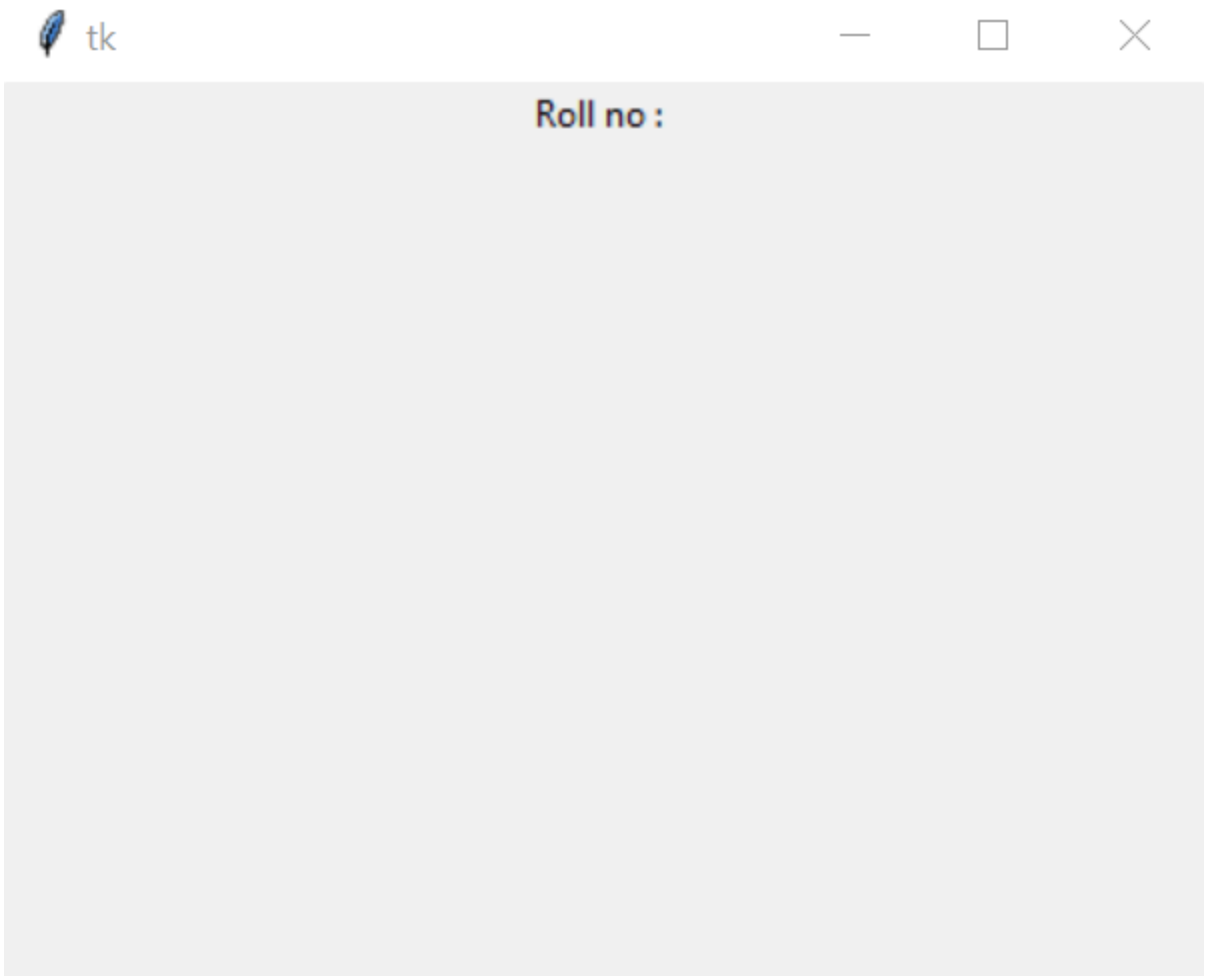
Que1 :

```
from tkinter import*
a =Tk()
a.geometry("400x300")
a.mainloop()
```



Que2:

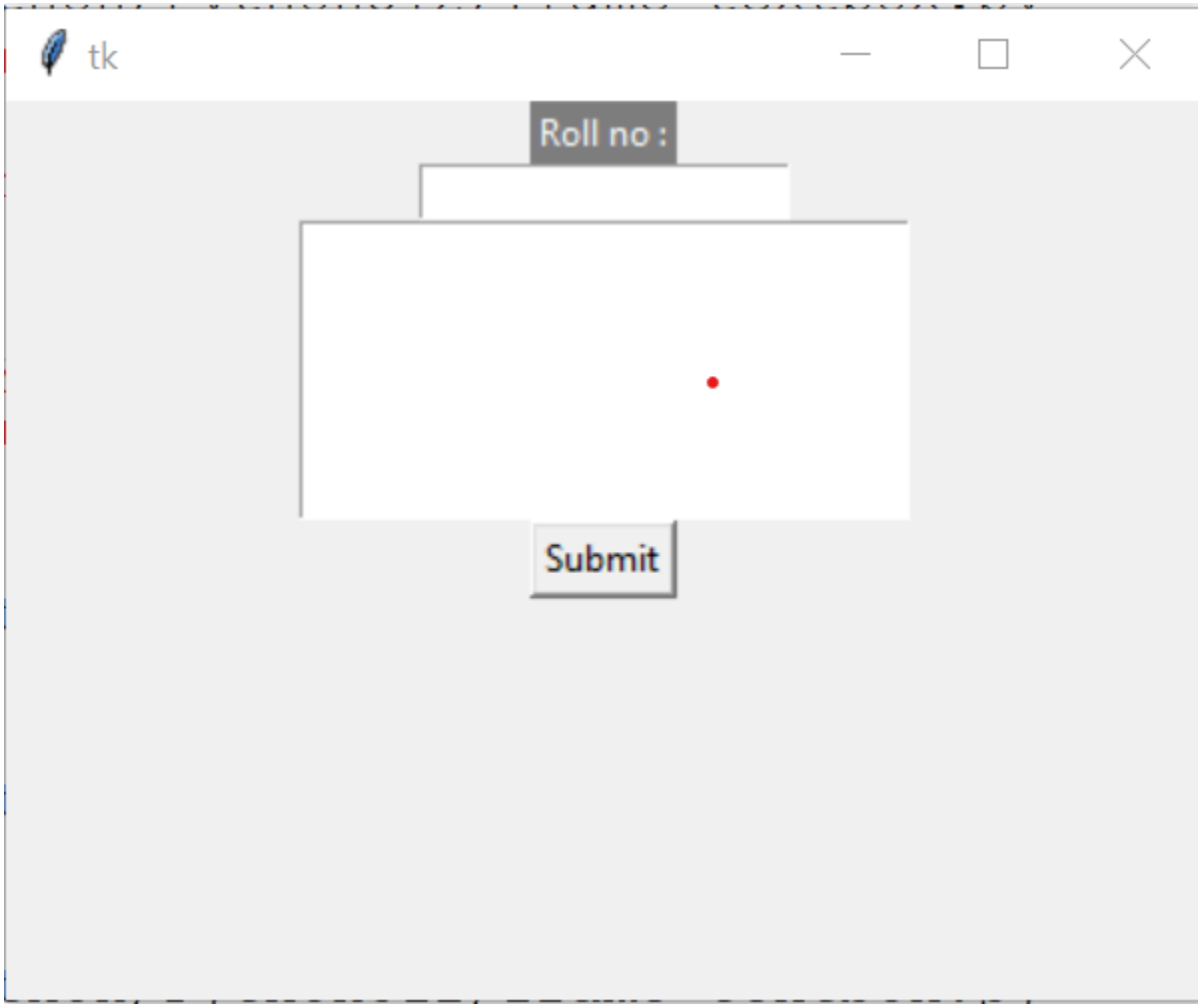
```
from tkinter import*
a =Tk()
a.geometry("400x300")
rno=Label(a,text="Roll no : ")
rno.pack()
#rno = Label(a,text="Roll no : ").pack()(write like this also...)
a.mainloop()
```



Que3:

```
#frame package
from tkinter import*
#create frame
a =Tk()
#set geometry/frame size
a.geometry("400x300")
#components
rno = Label(a,text="Roll no :",fg="white",bg="gray").pack()
name = Entry(a,text="6BCA-B").pack()
address = Text(a,height=6,width=25).pack()
submit = Button(a,text="Submit").pack()
#main funtion
```

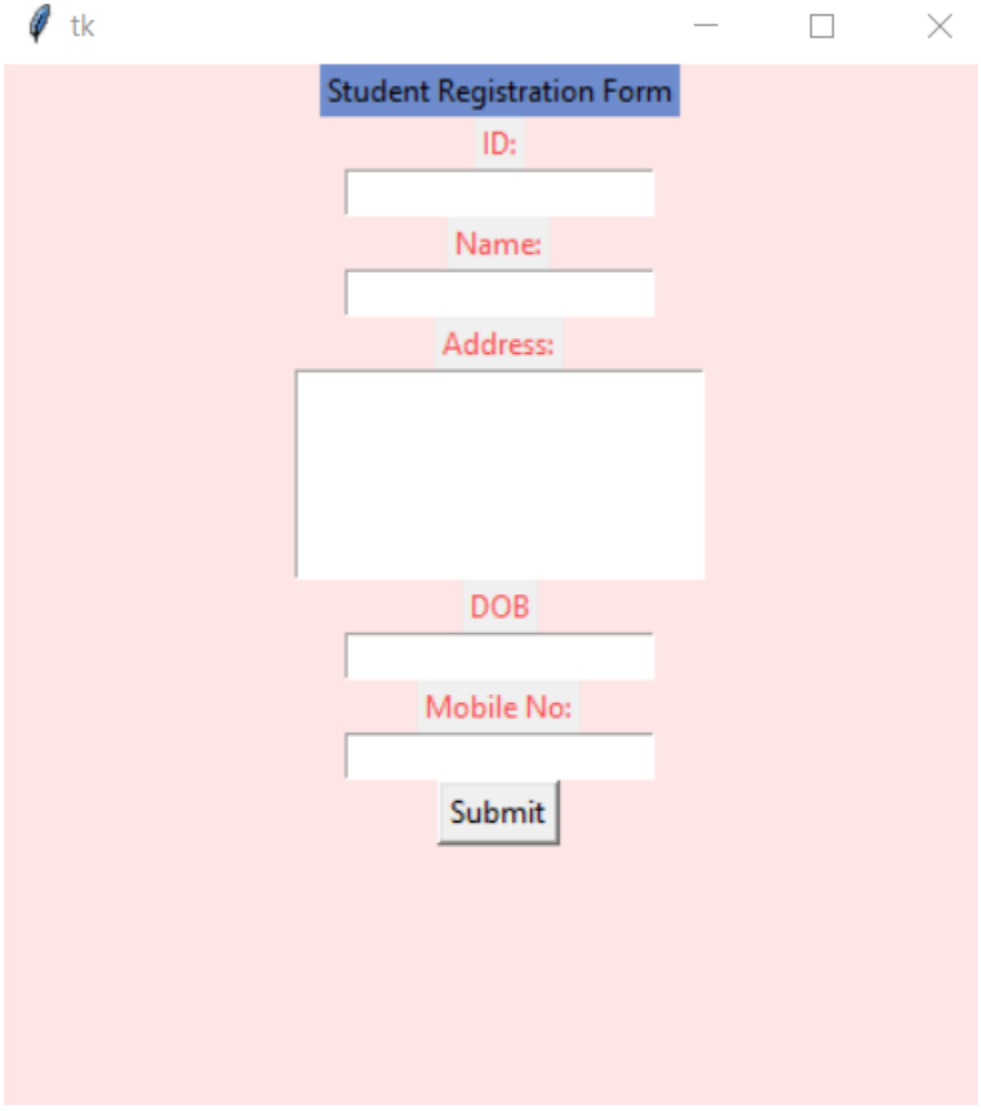
a.mainloop()



Enter student id name address DOB mobile submit button

```
from tkinter import*
from tkinter import*
a=Tk()
a.geometry("400x450")
a.config(bg="#ffe6e6")
name=Label(a,text="Student Registration
Form",fg="black",bg="#728FCE").pack(side=TOP)
```

```
id=Label(a,text="ID:",fg="#ff4d4d").pack()
id=Entry(a,text="BCA6B").pack()
name=Label(a,text="Name:",fg="#ff4d4d").pack()
name=Entry(a,text="BCA6B").pack()
add=Label(a,text="Address:",fg="#ff4d4d").pack()
add=Text(a,height=5,width=20 ).pack()
dob=Label(a,text="DOB",fg="#ff4d4d").pack()
dob=Entry(a,text="BCA6B").pack()
mono=Label(a,text="Mobile No:",fg="#ff4d4d").pack()
mono=Entry(a,text="BCA6B").pack()
b1=Button(a,text="Submit").pack()
a.mainloop()
```



1) create a function which is taking values dynamic and perform whether it is prime no or not.

```
def prime(n):
    i=2
    while i<n:
        if(n%i==0):
            print("Entered number is not prime number")
            break;
        else:
            print("Entered number is prime number")
            break;
        i+=1
n=int(input("Enter number : "))
prime(n)
```

2)write a python program to create a simple calculator which perform add ,sub, mul, div

```
a=int(input("Enter number 1 : "))
b=int(input("Enter number 2 : "))
```

```
print("Addition is : ",(a+b))
print("Subtraction is : ",(a-b))
print("Multiplication is : ",(a*b))
print("Division is : ",(a/b))
```

3) perform a python function that takes a list of integers and return addition of all even no in the list

4) Create a function which takes multiple names from the user , you need to find witch name is longest

```
def check_length(a,b,c):
        al=len(a)
        bl=len(b)
        cl=len(c)
        if al>bl:
        if al>cl:
          print("name 1 is longest")
        else:
          print("name 3 is longest")
        else:
        if bl>cl:
          print("name 2 is longest")
        else:
          print("name 3 is longest")

a=input("Enter name 1 :")
b=input("Enter name 2 :")
c=input("Enter name 3 :")
```

```
check_length(a,b,c)
```

5) Create a function which checks the entered string is palindrome or not(ignore case sensitive and non-alphabetic Character)

```
def palindrome(n):
        txt=n [::-1]
        if(n==txt):
       print("Entered string is palindrome")
        else:
        print("Entered string is not palindrome")

n=input("Enter string : ")
palindrome(n)
```

6) using if condition check whether entered number is Armstrong number or not

```
def armstrong(n):
        a=n
        add=0

        while n!=0:
        temp=n%10
        add=(temp*temp*temp)+add
        n=n//10

        if(a==add):
        print("Entered number is ayprint("Entered number is not armstrong...")
```

```
n=int(input("Enter number : "))
armstrong(n)
```

7) Find factorial of a given number

```
def factorial(n):
        i=1;
        fact=1
        while i<=n:
        fact=fact*i
        i+=1
    print("Factorial is : ",fact)

n=int(input("Enter number : "))
factorial(n)
```

8) draw a pattern

```
A
BB
CCC
DDDD
print("A")
print("BB")
print("CCC")
print("DDDD")
```

9) Find GCD of 2 Number

```
def gcd_no(a,b):
        i=a
        while i!=0:
        if(a%i==0 and b%i==0):
          print("GCD of both number is : ",i)
        break;
        else:
          print("No GCD")
        i-=1

a=int(input("Enter number 1: "))
b=int(input("Enter number 2 : "))
gcd_no(a,b)
```

10) Create set, tuple, list and dictionary and perform different methods of it

```
#set
x={56,9,10,45,34,56}
print(type(x))

x.add(12)
print(x)

x.remove(56)
print(x)

#list
z=[56,78,45,5,6,34,56]
print(type(z))
print(z)
```

```
z.insert(3,91)
print(z)

z.remove(5)
print(z)

z.sort()
print(z)

z.insert(0,"hi")
print(z)

z.pop()
print(z)

print(z.count(1))

print(z.index(6))

#tuple
y=(56,78,45,34,56,[5,6],{7,8},(9,10))
print(type(x))


#dictionary
d={1:"1,2,3,a",2:"-2,-1,0",3:"a,b,c"}
print(type(d))
```

11)Enter name and should display in pattern

for in loop:

```
marks=[72.00,81.00,65.50,69.00,76.00]
add=0
for i in marks:
    add=add+i
print("Addition is : ",add)
print("Average is : ",add/5,"\n")
```

Range:

Que1:

```
for i in range(15):#only print which starting from 0
    print(i,end=" ")
print("\n")
```

Que2:

```
for i in range(1,15):#start priting from 1 to range-1
    print(i,end=" ")
print("\n")
```

Que3:

```
for i in range(1,15,3):#start priting from 1 to range-1 and incremented by 3
    print(i,end=" ")
print("\n")
```

Que4:

```
for i in range(15,1,-3):#start priting from 1 to range-1 and decremented by 3
    print(i,end=" ")
print("\n")
```

Que5:

```
for i in range(1,101):#with condition
    if i%2==0:
        print(i,end=" ")
    else:
        pass
print("\n")
```

Que6:

factorial using for in loop

```
fact=1
x=int(input("Enter number : "))
for i in range(1,x+1,1):
    fact=fact*i
print("Factotial is : ",fact)
```

nested for in loop:

Que1:

```
for i in range(3):
    for j in range(3):
        print(i,end=" ")
    print()
print()
```

Que2:

```
for i in range(1,6):
    for j in range(1,6):
        print(i,end=" ")
    print()
print()
```

Que3:
#1
#1 2
#1 2 3

```
for i in range(1,5):
    for j in range(1,i+1):
        print(j,end=" ")
    print()
print("\n")
```

Strings

```
str1 = 'rku'
print(str1)

str2 = "rku"
print(str2)

str3 = '''Hello
hi
helluu'''
print(str3)
print("\nstring functions:")
str = 'hello123'
print(len(str))#give length
print(str.capitalize())#returns first character capital of each word
print(str.count('hi'))#if given word is present in string then returns 1 else 0
print(str.isalnum())#
print(str.isalpha())
print(str.isdigit())
```

```
print(str.islower())
print(str.isupper())
print(str.istitle())
print(str.lower())
print(str.upper())
print(str.title())
print(str.swapcase())
print(str.replace(str,str1))
print("\nMin : ",min(str))
print("\nMax : ",max(str))
```

count how many alphabets and digits come in string

```
string = "Hello - 112233"
alpha=0
digit=0
for i in string:
    if(i.isalpha()):
        alpha=alpha+1
    elif(i.isdigit()):
        digit=digit+1
print("Alphabets in string is : ",alpha)
print("Digits in string is : ",digit)
```

password validations :

```
password = input("Enter Password : ")

hasLength=False
hasUpper=False
hasLower=False
hasDigit=False
hasSpChar=False
```

```
if(len(password)>=8):
    hasLength=True
    for i in password:
        if(i.isupper()):
            hasUpper=True
        if(i.islower()):
            hasLower=True
        if(i.isdigit()):
            hasDigit=True
        if(i=='!' or i=='@' or i=='#' or i=='$'):
            hasSpChar=True

if(hasLength==True and hasUpper==True and hasLower==True and
hasDigit==True and hasSpChar==True):
    print("Password is valid")
else:
    print("Password is not valid")
```