**Day 1 FN session**

**Examples programs**

**(Copy and Paste the following progams in the google colab and execute them with complete realization)**

**#Python Program to Add Two Numbers getting through key board**

# sum of two nos

num1 = int(input("Enter first no"))

num2 = int(input("Enter second no"))

# Adding the two numbers

sum = num1 + num2

# Display the sum

print('The sum of {0} and {1} is {2}'.format(num1, num2, sum))

**Python program to check if the input year is a leap year or not**

# To get year (integer input) from the user

year = int(input("Enter a year: "))

if ((year % 4) == 0 and (year % 100) != 0) or ((year % 400) == 0):

print("{0} is a leap year".format(year))

else:

print("{0} is not a leap year".format(year))

**Python Program to Generate a Random Number**

# Program to generate a random number between 0 and 9

# import the random module

import random

print(random.randint(0,9))

**Python Program to Convert Kilometers to Miles**

# To take kilometers from the user, uncomment the code below

kilometers = int(input("Enter value in kilometers"))

# conversion factor

conv\_fac = 0.621371

# calculate miles

miles = kilometers \* conv\_fac

print('%0.3f kilometers is equal to %0.3f miles' %(kilometers,miles))

**Python Program to Solve Quadratic Equation**

# Solve the quadratic equation ax\*\*2 + bx + c = 0

# importing complex math module

import cmath

# To take coefficient input from the users

a = float(input('Enter a: '))

b = float(input('Enter b: '))

c = float(input('Enter c: '))

# calculate the discriminant

d = (b\*\*2) - (4\*a\*c)

# find two solutions

sol1 = (-b-cmath.sqrt(d))/(2\*a)

sol2 = (-b+cmath.sqrt(d))/(2\*a)

print('The solution are {0} and {1}'.format(sol1,sol2))

**Python Program to find prime or not using function**

def test\_prime(n):

if (n==1):

return False

elif (n==2):

return True;

else:

for x in range(2,n):

if(n % x==0):

return False

return True

no=int(input("Enter the number"))

if (test\_prime(no)) is True :

print(" {0} is a prime no".format(no))

else:

print(" {0} is not a prime no".format(no))

**#CODING**

**"""Calculator program"""**

loop = 1 # 1 means loop; anything else means don't loop.

choice = 0 # This variable holds the user's choice in the menu

def add(a,b):

return a+b

def sub(a,b):

return a-b

def mul(a,b):

return a\*b

def div(a,b):

return a/b

while loop == 1:

# Print what options you have

print ("Welcome to calculator.py")

print ("your options are:")

print (" ")

print("1) Addition")

print("2) Subtraction")

print("3) Multiplication")

print("4) Division")

print("5) Quit calculator.py")

print(" ")

try:

choice = int(input("Choose your option: "))

except:

print('please enter a valid number for option')

print(" ")

print(" ")

if choice == 1:

x = int(input(“Enter 1st no: "))

y = int(input("Enter 2nd no: "))

print("The answer is ",add(x,y))

elif choice == 2:

x = int(input("Enter 1st no: "))

y = int(input("Enter 2nd no: "))

print("answer is ",sub(x,y))

elif choice == 3:

x = int(input("Enter 1st no: "))

y = int(input("Enter 2nd no: "))

print("answer is ",mul(x,y))

elif choice == 4:

x = int(input("Enter 1st no: "))

y = int(input("Enter 2nd no: "))

print("answer is ",div(x,y))

elif choice == 5:

loop = 0

else:

print("please choice a valid option from 1 to 5")

choice=0

print ("Thank-you for using calculator.py!")

**Exercises**

**Do the following exercises in Jupyter notebook and get o/p verified**

1. Find the compound interest for the given p,n,r (formula : p(1+n\*r/100)n )
2. Convert centegrade to farenheit ( f= 9/5\*c+32)
3. Find the greater of two nos
4. Write a program for finding surface areas of cylinder and cone (2\*PI\*r\*r\*h, 1/3\*PI\*r\*r\*h) using function.
5. Find the greatest of four nos ( using ‘**and’** operator) using function.
6. Write a menu program to perform the operations ( ODDorEven, Factorial, ODDNoUptoN, PrimeUptoN ) using functions for two nos with menu choice