**Practical 1:Control structure:**

a=10

b=20

if a>b:

print("a is greater")

else:

print("b is greater")

#odd even program

n=int(input("enter number:"))

if(n%2==0):

print("even no.")

else:

print("odd no.")

**Practical 2: List,tupple, Dictionary**

# Online Python compiler (interpreter) to run Python online.

# Write Python 3 code in this online editor and run it.

**#List Program**

L=[7,2,4,5,3]

print(L) #original list

L.append(6)

print(L) #6 is append at the end of the List

L.extend([9,8,2])

print(L) #the list is extend

L.insert(3,10)

print(L) #Insert 10 at index 3

L.remove(3)

print(L) #removing elements from end of the list

L.pop()

print(L) #removing element from end of the list

#slicing list

print(L[2:4]) #index 2 to 4

#Reverse display

print(L[-1])

#min and max

print(min([1,2,3]))

print(max([1,2,4]))

Output:

[7, 2, 4, 5, 3]

[7, 2, 4, 5, 3, 6]

[7, 2, 4, 5, 3, 6, 9, 8, 2]

[7, 2, 4, 10, 5, 3, 6, 9, 8, 2]

[7, 2, 4, 10, 5, 6, 9, 8, 2]

[7, 2, 4, 10, 5, 6, 9, 8]

[4, 10]

8

1

4

**\*Tuple program:-**

# Tuple program

tup=("apple","chery","banana")

print(tup)

#tuple length

print(len(tup))

#updating tuple

t1=(12,34)

t2=('abc','xyz',’kcd’)

t3=t1+t2

print(t3)

#deleting tuple

del tup

#min and max

print(min(t1))

print(max(t1))

#slicing

print(t2[1:])

print(t1[-1])

**output:-**

('apple', 'chery', 'banana')

3

(12, 34, 'abc', 'xyz')

12

34

('xyz', 'kcd')

34

**#Dictionary program:-**

# dictionary program

dict={'name':'jack','age':26}

print(dict['name'])

print(dict.get(26))

#updating

dict['age']=30

print(dict)

#add item

dict['address']='Goa'

print(dict)

#deleting

del dict

**Output:-**

jack

None

{'name': 'jack', 'age': 30}

{'name': 'jack', 'age': 30, 'address': 'Goa'}

**Practical No:-3 Concept of functions, scoping, recursion, and list mutability**

def recursive\_factorial(n):

if n == 1:

return n

else:

return n \* recursive\_factorial(n-1)

num=int(input("enter number:-"))

if num < 0:

print("Invalid input ! Please enter a positive number.")

elif num == 0:

print("Factorial of number 0 is 1")

else:

print("Factorial of number", num, "=", recursive\_factorial(num))

Output:-

enter number:-6

Factorial of number 6 = 720

**Practical 4.Object oriented program(class and object):**

#Object oriented programming(class and object):

class Person:

def \_\_init\_\_(self, name, age):

self.name = name

self.age = age

p1 = Person("John", 36)

print(p1.name)

print(p1.age)

**Output:-**

John

36

**Practical No:5 Exception Handling**

try:

k = 5//0

print(k)

except ZeroDivisionError:

print("Can't divide by zero")

finally:

print('This is always executed')

**Output:-**

Can't divide by zero

This is always executed

**Practical No:-6 Armstrong number**

x=input()

sum=0

for i in range(len(x)):

y=int(x[i])\*\*3

sum+=y

if int(x)==sum:

print("yes")

else:

print("no")

Output:-

153

Yes

**Practical no:-7 Factorial Number**

#factorial no:

n=int(input("enter the number:-"))

fact=1

while(n>=2):

fact=fact\*n

n-=1

print("factorial=",fact)

**Output:-**

enter the number:-5

factorial= 5

factorial= 20

factorial= 60

factorial= 120

**practical no:- 8 Prime no**

#prime no

n=int(input("enter the number:"))

for i in range(2,n):

if n%i==0:

print("not prime")

break

else:

print("prime")

**Output:-**

enter the number:3

prime

practical no:-9 calculator

def add(x, y):

return x + y

def subtract(x, y):

return x - y

def multiply(x, y):

return x \* y

def divide(x, y):

return x / y

print("Select operation.")

print("1.Add")

print("2.Subtract")

print("3.Multiply")

print("4.Divide")

while True:

choice = input("Enter choice(1/2/3/4): ")

if choice in ('1', '2', '3', '4'):

num1 = float(input("Enter first number: "))

num2 = float(input("Enter second number: "))

if choice == '1':

print(num1, "+", num2, "=", add(num1, num2))

elif choice == '2':

print(num1, "-", num2, "=", subtract(num1, num2))

elif choice == '3':

print(num1, "\*", num2, "=", multiply(num1, num2))

elif choice == '4':

print(num1, "/", num2, "=", divide(num1, num2))

next\_calculation = input("Let's do next calculation? (yes/no): ")

if next\_calculation == "no":

break

else:

print("Invalid Input")