**1.TO FIND GCD OF TWO NUMBERS USING FUNCTIONS**

def gcd(a,b):

while b!=0:

a,b=b,a%b

return a

num1=int(input("enter the first number:"))

num2=int(input("enter the second number:"))

result=gcd(num1,num2)

print("the gcd of",num1,"and",num2,"is",result)

**OUTPUT:**

enter the first number:18

enter the second number:36

the gcd of 18 and 36 is 18

**2.TO FIND EVEN AND ODD NUMBERS USING FUNCTIONS**

def check\_even\_odd(number):

if number%2==0:

return "even"

else:

return "odd"

num=int(input("enter a number;"))

result=check\_even\_odd(num)

print("the number is;",result)

**OUTPUT**:

enter a number;10

the number is; even

**3.TO FIND FACTORIAL VALUES 1TO 10 USING FUNCTIONS**

def factorial(n):

if n==0:

return 1

else:

return n\*factorial(n-1)

for i in range(1,11):

result=factorial(i)

print("factorial of",i,"is",result)

**OUTPUT**:

factorial of 1 is 1

factorial of 2 is 2

factorial of 3 is 6

factorial of 4 is 24

factorial of 5 is 120

factorial of 6 is 720

factorial of 7 is 5040

factorial of 8 is 40320

factorial of 9 is 362880

factorial of 10 is 3628800

**4.TO FIND FACTORIAL VALUES OF A GIVEN NUMBER USING FUNCTION**

def factorial(n):

if n==0:

return 1

else:

return n\*factorial(n-1)

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

result=factorial(num)

print("factorial of",num,"is",result)

**OUTPUT:**

enter a number:5

factorial of 5 is 120

**5. TO FIND SUM OF A LIST USING FUNCTIONS**

def calculate\_sum(numbers):

total=0

for num in numbers:

total+=num

return total

list=[]

n=int(input("enter the number of elements in the lst:"))

for i in range(n):

num=eval(input("enter elements{ }:",format(i+1)))

list.append(num)

result=calculate\_sum(list)

print("the sum of list is",result)

**OUTPUT:**

Enter the number of elements in the list:5

Enter element:10

Enter element:20

Enter element:30

Enter element:40

Enter element:50

The sum of the list is 150

**6.TO PERFORM ARITHMETIC OPERATORS USING FUNCTIONS**

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

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

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

# Perform arithmetic operations

print("Addition:", add(num1, num2))

print("Subtraction:", subtract(num1, num2))

print("Multiplication:", multiply(num1, num2))

print("Division:", divide(num1, num2))

**OUTPUT:**

Enter the first number:10

Enter the second number: 5

Addition: 15.0

Subtraction: 5.0

Multiplication: 50.0

Division: 2.0