1. Write a program to enter two numbers and perform all arithmetic operations.

Ans:

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

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

print(f"Addition of the numbers is: {num1+num2}")

print(f"Subtraction of the numbers is: {num1-num2} and {num2-num1}")

print(f"Multiplication of the numbers is: {num1\*num2}")

print(f"Division of the number is: {num1/num2} and {num2/num1}")

print(f"Modulus of the number is: {num1%num2} and {num2%num1}")

print(f"Floor modulus is: {num1//num2} and {num2//num1}")

print(f"Exponent is: {num1\*\*num2} and {num2\*\*num1}")

1. Write a program to find area of a triangle using Heron’s Formula.

Ans:

sides\_triangle=list(map(int , input("Enter three sides os triangle: ").split()))

sum=0

for sides in sides\_triangle:

sum+=sides

s=sum/2

area=(s\*(s-sides\_triangle[0])\*(s-sides\_triangle[1])\*(s-sides\_triangle[2]))\*\*(1/2)

print(f"Area of the triangle is {area}")

1. Write a program to enter two numbers and perform all relational operations.

Ans:

num1=float(input("Enter the 1st number:"))

num2=float(input("Enter the 2nd number:"))

if num1>num2 :

print(f"{num1} is greater")

elif num2>num1 :

print(f"{num2} is greater")

elif num1==num2 :

print(f"Both the numbers are equal.")

1. Write a python program to perform for different unit conversion (Fahrenheit to Celsius).

Ans:

temp\_in\_celcius=float(input("Enter the temperature in celsius:"))

farhenite\_temp=(9/5\*temp\_in\_celcius)+32

print(f"The temperature in Fahrenheit is {farhenite\_temp}")

1. Take a real value `x' from the user and find the value of tan (x), log (x), square root of x.

Ans:

x=float(input("Enter any real number: "))

sqrt\_x=x\*\*(1/2)

print(f"Squareroot of number is {sqrt\_x}")

1. Write a program to calculate area and circumference of circle using variables and constant.

Ans:

radius=float(input("Enter the radius of the circle: "))

area=3.14\*(radius\*\*2)

Circumference=2\*3.14\*radius

print(f"The area of circle with radius {radius} is {area} and circumference is {Circumference}")

1. Write a program to add and subtract two complex numbers.

Ans:

real\_c1=float(input("Enter the real part of the first complex number:"))

img\_c1=float(input("Enter the imaginary part of the first complex number:"))

real\_c2=float(input("Enter the real part of the second complex number:"))

img\_c2=float(input("Enter the imaginary part of the second complex number:"))

c1=complex(real\_c1,img\_c1)

c2=complex(real\_c2,img\_c2)

subtraction = c1-c2

print("The result of subtraction is:",subtraction)

1. Write a program to enter two numbers and perform all logical operations.

Ans:

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

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

print("NOT operation:", not num1)

print("NOT operation:", not num2)

print("AND operation:", num1 and num2)

print("OR operation:", num1 or num2)

print("XOR operation:", num1 ^ num2)

print("NAND operation:",not(num1 and num2))

print("NOR operation:", not(num1 or num2))

1. Write a program to enter two numbers and perform all bitwise operations.

Ans:

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

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

print("Bitwise AND:", num1 & num2)

print("Bitwise OR:", num1 | num2)

print("Bitwise XOR:", num1 ^ num2)

print("Bitwise NOT:", ~num1)

1. Write a program to swap the values of two numbers.

Ans:

num1=float(input("Enter the 1st number: "))

num2=float(input("Enter the 2nd number: "))

temp=num1

num1=num2

num2=temp

print(f"After swapping \n 1st number: {num1} \n 2nd number: {num2}")