LAB 1

1. WAP to enter any two numbers and perform arithmetic operations.

# Store input numbers:

num1 = input('Enter first number: ')

num2 = input('Enter second number: ')

# Add two numbers

sum = float(num1) + float(num2)

# Subtract two numbers

min = float(num1) - float(num2)

# Multiply two numbers

mul = float(num1) \* float(num2)

#Divide two numbers

div = float(num1) / float(num2)

# Display the sum

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

# Display the subtraction

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

# Display the multiplication

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

# Display the division

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

1. WAP to find the area of the triangle.

# Three sides of the triangle is a, b and c:

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

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

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

# calculate the semi-perimeter

s = (a + b + c) / 2

# calculate the area

area = (s\*(s-a)\*(s-b)\*(s-c)) \*\* 0.5

print('The area of the triangle is %0.2f' %area)

1. WAP to solve the quadratic equation.

# import complex math module

import cmath

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))

1. WAP to swap any two numbers.

# Python swap program

x = input('Enter value of x: ')

y = input('Enter value of y: ')

# create a temporary variable and swap the values

temp = x

x = y

y = temp

print('The value of x after swapping: {}'.format(x))

print('The value of y after swapping: {}'.format(y))

1. WAP to convert km to miles.

# Collect input from the user

kilometers = float(input('How many 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))

1. WAP to convert celcius to farenheit.

# Collect input from the user

celsius = float(input('Enter temperature in Celsius: '))

# calculate temperature in Fahrenheit

fahrenheit = (celsius \* 1.8) + 32

print('%0.1f  Celsius is equal to %0.1f degree Fahrenheit'%(celsius,fahrenheit))

1. WAP to find the type of objects in python

# Python code to determine the type of objects

# declaring objects and assigning values

a = 10

b = 10.23

c = "Hello"

d = (10, 20, 30, 40)

e = [10, 20, 30, 40]

# printing types of the objects

# using type() function

print("type(a): ", type(a))

print("type(b): ", type(b))

print("type(c): ", type(c))

print("type(d): ", type(d))

print("type(e): ", type(e))

# printing the type of the value

# using type() function

print("type(10): ", type(10))

print("type(10.23): ", type(10.23))

print("type(\"Hello\"): ", type("Hello"))

print("type((10, 20, 30, 40)): ", type((10, 20, 30, 40)))

print("type([10, 20, 30, 40]): ", type([10, 20, 30, 40]))

1. WAP to demonstrate ASCII values

# python program to print ASCII

# value of a given character

# Assigning character to a variable

char\_var = 'A'

# printing ASCII code

print("ASCII value of " + char\_var + " is = ", ord(char\_var))

char\_var = 'x'

# printing ASCII code

print("ASCII value of " + char\_var + " is = ", ord(char\_var))

char\_var = '9'

# printing ASCII code

print("ASCII value of " + char\_var + " is = ", ord(char\_var))

1. WAP to find simple interest

# Python program to find simple interest

p = float(input("Enter the principle amount : "))

r = float(input("Enter the rate of interest : "))

t = float(input("Enter the time in the years: "))

# calculating simple interest

si = (p\*r\*t)/100

# printing the values

print("Principle amount: ", p)

print("Interest rate : ", r)

print("Time in years : ", t)

print("Simple Interest : ", si)

1. WAP to find the compound interest

# Python program to find compound interest

p = float(input("Enter the principle amount : "))

r = float(input("Enter the rate of interest : "))

t = float(input("Enter the time in the years: "))

# calculating compound interest

ci = p \* (pow((1 + r / 100), t))

# printing the values

print("Principle amount : ", p)

print("Interest rate : ", r)

print("Time in years : ", t)

print("compound Interest : ", ci)

1. WAP to find the floor division

# python program to find floor division

a = 10

b = 3

# finding division

result1 = a/b

print("a/b = ", result1)

# finding floor division

result2 = a//b

print("a/b = ", result2)

1. WAP to convert centimeter to inches

# Python program to convert Centimeter to Inches

# taking input

num = float(input("Enter the distance measured in centimeter : "))

# converting from cms to inches

""" 1 inch = 2.54 centimeters"""

inc = num/2.54

# printing the result

print("Distance in inch : ", inc)

1. What will be the output of following program?

a=10  
b=2  
c=3  
d=3  
e=**"ram"**print(a>b)  
print(b<=c)  
print(b==a)  
print(a>b **and** b<c)  
print(a>b **and** b>c)  
print(a<b **or** b<c)  
print(a/b)  
print(a//b)  
print(a\*\*3)  
print(**"apple"**>**"APPLE"**)  
a+=5  
print(a)  
print(a>>2)  
print(a<<2)  
print(a%3)  
print( **not**(a>b **and** b<c))  
print(b **is** c)  
print(c **is** d)  
print(a & b)  
print (a | b)  
print(a ^ b)  
print(~b)  
print (**"r" in** e)  
print(**"s" in** e)

o/p:

True

True

False

True

False

True

5.0

5

1000

True

15

3

60

0

False

False

True

2

15

13

-3

True

False

Process finished with exit code 0