PYTHON ASSIGNMENT 2

WEEK 2

QUESTIONS

1. Write a Python program to calculate the difference between a given number and 23. If the number is greater than 23, return twice the absolute difference.

Code:

n1=int(input("enter the number"))

n2=23

if n1>n2:

n3=2\*(n1-n2)

print(n3)

else:

n4=23-n

print(n4)

1. Write a Python program that computes the greatest common divisor (GCD) of two positive integers.

Code:

#gcd program

a = 36 # First number

b = 60 # Second number

while b != 0:

temp = b #temp=60 ||temp=24

b = a % b #b=a%b=36%60 b=24 ||36%24 b=12

a = temp #a=36 ||a=24

gcd = a

print(gcd)

1. Write a Python program to find the least common multiple (LCM) of two positive integers.

Code:

a = 15 # First number

b = 20 # Second number

# Step 1: Compute the greatest common divisor (GCD)

x = a

y = b

while y != 0:

temp = y

y = x % y

x = temp

gcd = x

# Step 2: Compute the least common multiple (LCM)

lcm = (a \* b) // gcd

print(lcm)

1. Write a Python program to calculate the distance between the points (x1, y1) and (x2, y2).

Code:

from math import sqrt

#distance between two points

x1=int(input("enter the number x1: "))

x2=int(input("enter the number x2: "))

y1=int(input("enter the number y1: "))

y2=int(input("enter the number y2: "))

distance=sqrt((x2-x1)\*\*2+(y2-y1)\*\*2)

print(distance)

1. Write a Python program to get the execution time of a Python program.

Code:

import time

# Start time

start\_time = time.time()

# Code whose execution time you want to measure

total = 0

for i in range(1, 1000001):

total += i

# End time

end\_time = time.time()

# Calculate execution time

execution\_time = end\_time - start\_time

print("Execution time:", execution\_time, "seconds")

1. Write a Python program to calculate sum of digits of a number.

Code:

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

sum=0

while n>0:

d=n%10

sum=sum+d

n=n//10

print(sum)

1. Write a Python program to convert the bytes in a given string to a list of integers.

Code:

string = "Hello, World!"

# Convert string to bytes

byte\_data = string.encode()

# Convert each byte to an integer

int\_list = [byte for byte in byte\_data]

print(int\_list)

8. Write a Python program to filter positive numbers from a list.

Code:

l=[1,2,3,-1,-2,-3,-8,-6,17]

positive =[]

for i in l:

if i>0:

positive.append(i)

print(positive)