1. What is the output of the following print statement in Python?
2. print (9//2) (b) print (9/2)

Ans: (a) val=9//2

print(val)

o/p= 4

1. val2=9/2

print(val2)

o/p= 4.5

1. Write a Python program to count number of even numbers and odd numbers in a given set of n numbers.

Ans: n = int(input("Enter the number of elements: "))

even= 0

odd= 0

for i in range(n):

number = int (input (f "Enter number {i + 1}: "))

if number % 2 == 0:

even+= 1

else:

odd+= 1

print (f "Number of even numbers: {even}")

print (f "Number of odd numbers: {odd}")

O/p= Enter the number of elements: 5

Enter number 1: 10

Enter number 2: 7

Enter number 3: 4

Enter number 4: 3

Enter number 5: 8

Number of even numbers: 3

Number of odd numbers: 2

3) Write a python program to generate the following type of pattern for the given N rows .

1

1 2

1 2 3

1 2 3 4

Ans: n = int (input ("Enter the number of rows: "))

for i in range (1, n + 1):

for j in range (1, i + 1):

print (j, end=" ")

print ()

O/p= Enter the number of rows: 4

1

1. 2

1 2 3

1 2 3 4

4)Write a program that accepts the lengths of three sides of a triangle as inputs and outputs whether or not the triangle is a right triangle.

Ans: a = float (input ("Enter the length of the first side: "))

b = float (input ("Enter the length of the second side: "))

c = float (input ("Enter the length of the third side: "))

sides = sort ([a, b, c])

if abs (sides [0] \*\*2 + sides [1] \*\*2 - sides[2]\*\*2) < 1e-9

print ("The triangle is a right triangle.")

else:

print ("The triangle is not a right triangle.")

O/p= Enter the length of the first side: 3

Enter the length of the second side: 4

Enter the length of the third side: 5

The triangle is a right triangle.

5) What will be the output if the following code fragments are executed?

for j in range(2,10,4):

print(j)

O/p= 2

6

6) Write a python program to find out the eldest and youngest of three individuals , with their ages being input through the keyboard.(without using max, min functions)

Ans: age1 = int(input("Enter age of the first individual: "))

age2 = int(input("Enter age of the second individual: "))

age3 = int(input("Enter age of the third individual: "))

eldest = age1

youngest = age1

if age2 > eldest:

eldest = age2

if age3 > eldest:

eldest = age3

if age2 < youngest:

youngest = age2

if age3 < youngest:

youngest = age3

print (f "The eldest individual is {eldest} years old.")

print (f "The youngest individual is {youngest} years old.")

O/p= Enter age of the first individual: 20

Enter age of the second individual: 50

Enter age of the third individual: 25

The eldest individual is 50 years old.

The youngest individual is 25 years old.

7)Calculate the sum of first 10 natural numbers.

Ans: sum= 0

for i in range (1, 11):

sum += i

print ("Sum of first 10 natural numbers:", sum)

O/p= Sum of the first 10 natural numbers: 55

8) Write a python program to find the factorial of a number.

Ans: number= 5

factorial = 1

for i in range (1, number + 1):

factorial \*= i

print (f "Factorial of {number} is {factorial}")

O/p= Factorial of 5 is 120

9) Write a python program to check whether a number is divisible by 5.

Ans: num = int(input("Enter a number: "))

if num % 5 == 0:

print ("The number is divisible by 5.")

else:

print ("The number is not divisible by 5.")

O/p= Enter a number: 25

The number is divisible by 5.

Enter a number: 7

The number is not divisible by 5.

10)Write a python program to check whether an year is leap year or not.

Ans: year = int (input ("Enter a year: "))

if (year % 4 == 0 and year % 100 != 0) or (year % 400 == 0):

print(f"{year} is a leap year.")

else:

print(f"{year} is not a leap year.")

O/p= Enter a year: 1900

1900 is not a leap year.

Enter a year: 2000

2000 is not a leap year.