1.Write a Python program to calculate the area of a rectangle given its length and width.

A)def Area\_of\_rectangle(length,breadth):

area = length \* breadth

return area

l = float(input('Enter Length of the Rectangle: '))

b = float(input('Enter Breadth of the Rectangle: '))

print(f"Area of rectangle is{Area\_of\_rectangle(l,b):.2f}")

Output:

Enter Length of the Rectangle: 8.1

Enter Breadth of the Rectangle: 4.7

Area of rectangle is 38.07

2.Write a program to convert miles to kilometers

A)miles = float(input("Enter the value in miles: "))

conversion\_factor = 1.60934

kilometers = miles \* conversion\_factor

print('%.4f miles = %0.4f kilometers' %(miles, kilometers))

Output:

Enter the value in miles: 4

4.0000 miles = 6.4374 kilometers

3.Write a function to check if a given string is a palindrome.

A) def isPalindrome(str):

# Run loop from 0 to len/2

for i in range(0, int(len(str)/2)):

if str[i] != str[len(str)-i-1]:

return False

return True

# main function

s= "malayalam"

ans = isPalindrome(s)

f (ans):

print("Yes")

else:

print("No")

Output

Yes it’s Palindrome

4.Write a Python program to find the second largest element in a list.

A)list1 = [10, 20, 20, 4, 45, 45, 45, 99, 99]

# Removing duplicates from the list

list2 = list(set(list1))

# Sorting the list

list2.sort()

# Printing the second last element

print("Second largest element is:", list2[-2])

Out put

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5.Explain what indentation means in Python

A)In Python, indentation is used to define blocks of code. It replaces traditional braces or keywords used in other programming languages. Proper indentation helps Python interpret the structure of your code. Statements with the same level of indentation are considered part of the same block. It enhances readability and enforces a consistent structure, making the code more maintainable. Incorrect indentation can lead to syntax errors or unexpected behavior.

Example:

If 5 > 2:

Print(“Five is greater than two!”)

If 5 > 2:

Print(“Five is greater than two!”)

6.Write a program to perform set difference operation

A)A = {0, 2, 4, 6, 8};

B = {1, 2, 3, 4, 5};

# union

print("Union :", A | B)

# intersection

print("Intersection :", A & B)

# difference

print("Difference :", A - B)

# symmetric difference

Print("Symmetric difference :", A

Output:

(‘Union :’, set([0, 1, 2, 3, 4, 5, 6, 8]))

(‘Intersection :’, set([2, 4]))

(‘Difference :’, set([8, 0, 6]))

(‘Symmetric difference :’, set([0, 1, 3, 5, 6, 8]))

7.Write a Python program to print numbers from 1 to 10 using a while loop

A)i = 1

while(i<=10):

print(i) i += 1

8.Write a program to calculate the factorial of a number using a while loop

A)def calculate\_factorial(number): result = 1

while number > 1:

result \*= number

number -= 1

return result

number\_to\_factorial = 5 factorial

result = calculate\_factorial(number\_to\_factorial)

print(f"The factorial of {number\_to\_factorial} is {factorial\_result}")

9.Write a Python program to check if a number is positive, negative, or zero using if-elif-else Statements

A)num = float(input("Enter a number: "))

if num > 0:

print("Positive number")

elif num == 0:

print("Zero")

else:

print("Negative number")

Output:

Enter the number 2

Postive number

10.Write a program to determine the largest among three numbers using conditional Statements.

A)Num1 = float(input(“Enter the first number: “))

Num2 = float(input(“Enter the second number: “))

Num3 = float(input(“Enter the third number: “))

If num1 >= num2 and num1 >= num3:

Largest = num1

Elif num2 >= num1 and num2 >= num3:

Largest = num2

Else:

Largest = num3

Print(“The largest number is:”, largest)

11.Write a Python program to create a numpy array filled with ones of given shape

A)Import numpy as geek

A = geek.ones(3, dtype = int)

Print(“Matrix a : \n”, a)

B = geek.ones([3, 3], dtype = int) Print(“\nMatrix b : \n”, b)

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