**Lab Exercise – 1**

Q1: Write a Python program which accept the radius of a circle from the user and compute the area.

*Sample Output :*   
r = 1.1  
Area = 3.8013271108436504

import math

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

area = math.pi \* radius \*\* 2

print("The area of the circle is:", area)

Q2: Temperature of a city in Fahrenheit degrees is input through the keyboard. Write a program to convert this temperature into Centigrade degrees.

fahrenheit = float(input("Enter the temperature in Fahrenheit: "))

centigrade = (fahrenheit - 32) \* 5/9

print("The temperature in centigrade is:", centigrade)

Q3: Write a Python Program to make a simple calculator that can add, subtract, multiply and divide

x=float(input("enter the first number"))

y=float(input("enter the second number"))

multiplication=x\*y

print("the multiplication is", multiplication)

addition=x+y

print("the addition is", addition)

subtract=x-y

print("the subtraction is", subtract)

divide=x/y

print("the division is", divide)

Q4: Write a Python Program to calculate the square root.

import math

number=float(input("Enter number to find square root"))

sqrt= number\*number

print("The Square root is", sqrt)

Q5: Write a Python Program to Solve the quadratic equation ax\*\*2 + bx + c = 0

# Coeffients a, b and c are provided by the user

[Hint: import complex math module - import cmath]

import cmath

a=float(input("Enter coefficient a"))

b=float(input("Enter coefficient b"))

c=float(input("Enter coefficient c"))

d= b\*\*2-4\*a\*c

sol1=(-b-cmath.sqrt(d))/(2\*a)

sol2=(-b+cmath.sqrt(d))/(2\*a)

print("Solution 1 is",sol1)

print("Solution 2 is",sol2)

Q6: Write a Python Program to find the area of triangle

# Three sides of the triangle a, b and c are provided by the user

import math

a=float(input("enter side a"))

b=float(input("enter side b"))

c=float(input("enter side c"))

s=(a+b+c)/2

area=math.sqrt(s\*(s-a)\*(s-b)\*(s-c))

print("The area of triangle is", area)

Q7: If a five-digit number is input through the keyboard, write a program to calculate the sum of its digits without using any loop. (Hint: Use the modulus operator ‘%’)

num = int(input("Enter a five-digit number: "))

digit\_1 = num % 10

digit\_2 = (num // 10) % 10

digit\_3 = (num // 100) % 10

digit\_4 = (num // 1000) % 10

digit\_5 = (num // 10000) % 10

digit\_sum = digit\_1 + digit\_2 + digit\_3 + digit\_4 + digit\_5

print("The sum of the digits in the number is:", digit\_sum)

Q8: Write a Python program to print the following string in a specific format

Text, letter

Description automatically generated

a='''Twinkle, twinkle, little star,

    How I wonder what you are.

        Up above the world so high,

        Like a diamond in the sky.

    Twinkle, twinkle, little star,

        How I wonder what you are.'''

print(a)

Q9: Write a Python program to display your details like name, age, address in three different lines.

name=input("Please enter your name")

age=input("Please enter your age")

address=input("Please enter your address")

print(name)

print(age)

print(address)

Q10: Create a string containing both a single quote and double quote

mystring = '''This string contains both single' and double" quotes'''

print(mystring)

Q11: Create a triple quoted string that contains single and double quotes.

mystring = '''This string contains both single' and double" quotes'''

print(mystring)

Q12: Create a character, then obtain its integer representation.

my\_char = input("Enter Character")

my\_char\_int = ord(my\_char)

print("The integer representation of Chracter is", my\_char\_int)

Q13. Create a single string containing 5 copies of the string 'abc'.

a = "abc"

b = a\*5

print(b)

Q14. Use the multiplication operator to create a "line" of 50 dashes.

a = "-"

b= a\*50

print(b)

Q15. Convert a string to all upper case.

lowercasestring="hello world"

uppercase = lowercasestring.upper()

print(uppercase)

Q16 : Write a Python program to get a string made of the first 2 and the last 2 chars from a given a string.

givenstring = "First two and last two"

ft = givenstring[0]+givenstring[1]

lt = givenstring[-1]+givenstring[-2]

print("The first two  are", ft, "and last two characters are", lt)

Q17: a Python program to get a string from a given string where all occurrences of its first char have been changed to '$', except the first char itself.

Sample String : 'restart'  
Expected Result : 'resta$t'

str1 = "restart"

a = str1[0]+str1[1:].replace("r","$")

print(a)

Q18: Write a Python program to get a single string from two given strings, separated by a space and swap the first two characters of each string.

Sample String : 'abc', 'xyz'   
Expected Result : 'xyc abz'

str1= "abc"

str2= "xyz"

mod\_str1= str2[0:2]+str1[2:]

mod\_str2= str1[0:2]+str2[2:]

print(mod\_str1 + " " + mod\_str2)