

## Lab Assignment 2

**Deadline: 31-01-2024 (11:55 PM)**

**Max Marks (5 marks)**

### **A Gentle Introduction to Python (CCC634)**

1. There are two friends; “A” and “B”. They find some apples in a forest. Given the number of apples as input, type “yes” if they can be distributed equally among the two of them, else print “no”.
2. Given a parameter "X". Show the output as an area of a circle if the choice is the letter "c" or the area of the square if the choice is "s". Round off to 2 decimal places.
3. Write a program to take the sides of a triangle as input and determine whether it is an equilateral, isosceles or scalene triangle.
4. Write a python program to determine the price of the gym membership with GST of 5% on the net amount based on the following table

Month Range	Charges(per month)
1-2	2000/pm
3-9	1500/pm
10-12	1000/pm
>12	800/pm

5. A man has purchased three eatable items like Pizza, Burger, and Pasta at the cost of Rs. X, Rs. Y, Rs. Z. He has paid the bill. He wants to check the largest and the lowest cost mathematically. Design a code to check the item with the largest price for him.
6. Sam’s dog Binary hears frequencies starting from 45 Hertz to 45000 Hertz (both inclusive). If Sam’s commands have a frequency of XX Hertz, find whether Binary can hear them or not.
7. Read 2 integers and a basic operator character(for eg: ‘+’ for addition) from the user as input to perform all basic mathematical computations and print the result based on the user’s choice of the operator.
  - + for addition
  - for subtraction
  - \* for multiplication
  - / for division
8. Take a character as input from the user and determine whether the input character is in Uppercase, Lowercase, or is it a special character or a digit. (use ord())
9. Given y as a function of x where,

$$y = ax^2 - bx + c \quad (x > k)$$

$$y = 0 \quad (x = k)$$

$$y = ax^2 + bx + c \quad (x < k)$$

Write a program to read all the values and return the final answer of y order of inputs (a,b,c,x,k)

10. You are creating a program to simulate a simple game where the user has to guess a random number. Implement a program that generates a random number between 1 and 100 and lets the user guess until they get it right. Provide feedback if the guess is too high or too low.

Hint: import random

Generate random number between 1 to 100 (random.randint(1, 100))

11. A person goes to the US Embassy to apply for a tourist visa. The embassy management grants a visa if it fulfils the following three conditions:

He has negative RT-PCR report. Or

He is fully vaccinated. and

His duration of tour is greater than 1 and not more than 15 days.