

CL1002 – Programming Fundamentals Lab

Quiz # 01

Difficulty level: ★☆☆☆☆

Note:

- Submit a pdf containing all your C code with all possible screenshots of every task output on Google Classroom.
- Please submit your file in this format (roll-no-name) i.e. (22P-8743-Zain.pdf).

Problem: 1

Question:

Write a C program to calculate the area of a triangle given its base and height. The program should read the base and height values from the user and display the computed area.

Formula:

The formula to calculate the area (A) of a triangle with a given base (b) and height (h) is:

$$A = (1/2) * \text{base} * \text{height}$$

Provide the code for this program and a sample output for a base of 3.1 meter and a height of 1.5 meter.

Problem: 2

Write a C program that calculates the potential energy of an object using the formula:

$$PE = mgh$$

Where:

- PE represents potential energy.
- m represents the mass of the object.
- h is the height of an object from the surface.
- g is gravitational acceleration.

Your program should prompt the user to enter the mass (in grams) and height (in meters). The value of g is 9.8 m/s^2 . Convert mass in grams to kilogram. Then, it should calculate and display the potential energy of the object.

Provide the code for this program and a sample output for a mass of 550 g and a height of 10 m.