

CL1002 – Programming Fundamentals Lab

Quiz # 01 BS CS (Section A)

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. (23P-1234-Ali.pdf).

Problem: 1

Question:

"A trapezoid is a four-sided polygon with one pair of parallel sides."

Area of a Trapezoid: The area of a trapezoid can be calculated using the formula:

$$\text{Area} = (1/2) * (\text{sum of the lengths of the parallel sides}) * \text{height}$$

Perimeter of a Trapezoid: The perimeter of a trapezoid is found by adding up the lengths of all four sides.

Write a C program that prompts the user to input the lengths of the two parallel sides and the height of a trapezoid and calculates both its area and perimeter.

Provide the code for this program and a sample output for parallel side lengths of 6.5 units and 8.2 units, and a height of 4.3 units. Display the units of measurement for both the area and perimeter in the output statement.

Problem: 2

Write a C program that calculates the volume of a cylinder using the following formula:

$$V = \pi * r^2 * h$$

Where:

V represents the volume of the cylinder (in cubic meters).

π (pi) is approximately 3.14159.

r represents the radius of the cylinder's base (in meters).

h represents the height of the cylinder (in meters).

Your program should prompt the user to enter the radius and height of the cylinder. Then, it should calculate and display the volume of the cylinder.

Provide the code for this program and a sample output for a cylinder with a radius of 5 meters and a height of 10 meters. Display the unit of measurement for the volume in the output statement.