

## DESCRIPTION

You are required to write a C program that will calculate the following:

**Perimeter:** Square, Rectangle, Parallelogram, Triangle, Trapezoid, Circle.

**Area:** Square, Rectangle, Parallelogram, Triangle, Trapezoid, Circle, Cylinder (whole surface).

**Volume:** Cube, Rectangular Prism, Triangular Pyramid, Sphere, Cylinder, Cone.

## DETAILS

Your program must ask the user to choose whether they want to calculate the Perimeter, Area or Volume. Provide a menu.

Once they've chosen their calculation your program will ask the user for the geometric shape they would like to use. Provide a menu of the available geometrical figures. Your program must also ask the user for the appropriate measurements needed to perform the calculations. Make sure that user knows the units in which the calculations are performed.

Your program should print the result of the calculation to 2 decimal places. The user must be able to make as many calculation as he wishes.

Your program must include at least one user defined function.

Make your program as user friendly as possible.

Include comments in your program.

## WHAT TO SUBMIT

You must submit the parent project folder from Code::Blocks (i.e. zip the parent project folder that contains the folders bin and obj, as well as the \*.c, \*.cbp, \*.layout, main and main.o files.) or at the very least you will submit the source code C file(s). You will also submit a word document containing your engineering problem solving methodology, which includes a description of the project, algorithm, formulas, etc.

## EXAMPLE OF OUTPUT

This program calculates the Perimeter, Area, and Volume of certain geometrical figures.

What would you like to calculate?

- 1) Perimeter
- 2) Area
- 3) Volume

User choice: 1

What geometrical figure would you like to use?

- 1) Square
- 2) Rectangle
- 3) Parallelogram
- 4) Triangle
- 5) Trapezoid
- 6) Circle

User choice: 2

Please enter the following values in meters.

Length: 0.25  
Width: 0.50

The perimeter of the rectangle is: 1.50 meters

Would you like to make another calculation (Y/N)? N

Thank you for using this calculator. Goodbye.