FBT0015 STRUCTURED ALGORITHM & PROGRAMMING

LAB ASSESSMENT 2

Learning Outcomes

Upon completion of this lab session, learners will be able to:

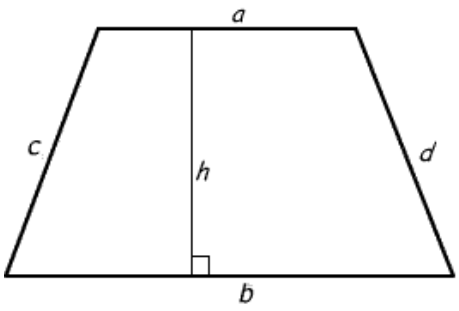
1. grasp the steps in solving computer programming problem.
2. solve a given problem that involves sequence, selection and repetition structure by applying flowchart technique.

Assessment #1

1. Your best friend received an opportunity to pursue her studies in the US. There, she was asked to develop a simple app for her Math class project. The app should calculate the perimeter and area for trapezoid and parallelogram. With her minimal programming skill, she approaches you to design the app. The formula is given as below:

Trapezoid

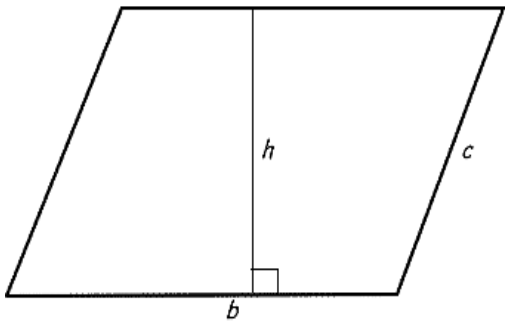
Perimeter $p = a + b + c + d$



Area $A = \frac{(a+b)h}{2}$ or $A = \frac{1}{2}(a+b)h$

Parallelogram

Perimeter $p = b + b + c + c$
or
$p = 2b + 2c$



Area $A = bh$

The app will request for which shape that the user wants to do the calculation (Trapezoid or Parallelogram) and then, user will have to key in all the needed values for the selected shape. Then, it should calculate and display the perimeter and area for either trapezoid or parallelogram. The program will ask the user to enter Q to quit. If the user enter Q, the program will end. Otherwise, the program will go back again and request the user to key in the shape that the user wants. Write the flowchart of the program.

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