

**ENGINEERING H192  
DAILY ASSIGNMENT B08**

**Selection structures: switch – case I**

A major use of the **switch – case** selection structure in C/C++ is to implement menu-like transfers. For this assignment you are to write a complete C/C++ program to calculate and display a particular geometrical quantity of a right triangle. Your program is to prompt the user to input the base and height of the triangle in inches as well as the parameter to be calculated.

Based on the user's response, your program is to decide which of the following three parameters to calculate and display:

1. The **P**erimeter
2. The **A**rea
3. The **H**ypotenuse

Your program must:

1. Prompt the user to select which calculation is to be performed by entering **P** for **P**erimeter, **A** for **A**rea, or **H** for hypotenuse
2. Display an error message if the user makes an invalid entry
3. Prompt the user to enter the required two side lengths of the right triangle
4. Display only the requested parameter along with the lengths of the entered sides
5. Label all values descriptively and with units
6. Accept either **upper** or **lower** case letters for the selected parameter (i.e., p, P or a, A or h, H).
7. Use only the first letter of each of parameter.

Once you have tested your program and it is working correctly, modify it to open an output file, **b08result.txt**, and write everything to the file that is being written to the screen (See important note below). Test your program for each possible case. Print a copy of your source code file, **b08.cpp**, and a copy of **b08result.txt** file and submit them with this sheet.

**IMPORTANT NOTE:** In the past you have opened output files with the “w” option. However, if you open an existing file with the “w” option, the current contents of the file will be overwritten. Since you want to run your program multiple times and not overwrite the results of the previous run, open your file with the “a” option instead of the “w” option. This will allow the results of subsequent runs to be **appended** to the existing file.

Name \_\_\_\_\_ Instructor \_\_\_\_\_ Seat \_\_\_\_\_ Hour \_\_\_\_\_