

Exercise 1: Practice to write assert statement to debug functions

Write a function **qualityPoints** that inputs a student's average and return 4 if it's 90-100 , 3 if it's 80-89 , 2 if it's 70-79, 1 if it's 60-69 , and 0 if the average is lower than 60.

In the main program, write assert statements to debug the above implemented function. You have to write assert statements for boundary values and middle values of the ranges.

Exercise 2: Practice to write assert statements to debug the functions which return float or double values.

Define a function called **hypotenuse** that calculates the length of the hypotenuse of a right triangle when the other two sides are given. The function should take two arguments of type double and return the hypotenuse as a double. In your main program write three assert statements to debug your function for the following scenarios.

Triangle	Side 1	Side 2
1	3.0	4.0
2	5.0	12.0
3	8.0	15.0

Hint : use the **fabs** function and tolerance value.

Exercise 3: Practice to write test functions to debug another function.

Modify the above program to have another function called **testHypotenuse()** which contains the three assert statements you wrote. Call **testHypotenuse()** function in your main program.