Part A of this first programming project consists of providing the analysis and design for the following problem. The work must be entirely your own, except for any help you may get from the instructor. Hand in a clean, readable copy of your analysis and design. The implementation portion of the project will be due on Thursday, November 2.

Problem
Divers at a competition are judged by seven judges. Points for each dive are awarded according to the following procedure:

1. Each judge assigns a score between 0.0 and 10.0 inclusive
2. The high score and the low score are eliminated
3. The five remaining scores as summed and this total is multiplied by 0.6.
4. The result from (3) is multiplied by the degree of difficulty of the dive (1.0 to 4.2 inclusive) to give the final score of the dive.

In the first part of the competition each diver performs 10 dives. The final scores for all 10 dives are added together for each diver. The 12 divers with the highest totals go on to the second part of the competition.

Write the analysis and design for a (entire) program that will compute the final score for one diver. Use the format shown in class and in the on-line handout An Analysis and Design Style Guideline. The program should read in the degree of difficulty and the seven scores for each of 10 dives. The program should output the final score for each dive and the total score for the diver.

Design Criteria
This program must be designed meeting the following criteria:

1. The scores for an individual dive must be stored in an array declared in the main program.
2. There must be at least two functions and a main program in your analysis and design. One function should read in the data for a single dive and one function should compute the final score.
of a single dive. (I.e., you will need to call these functions 10 times each, once for each of 10 dives.)

Example Program Run
The output might look something like:

This program computes the final total score of a diver in competition.

Please enter the degree of difficulty, then the seven scores for Dive 1 (separated by spaces):
2.6 7.1 6.9 7.0 7.0 6.9 7.0 7.1
The final score for this dive is: 54.60

Please enter the degree of difficulty, then the seven scores for Dive 2 (separated by spaces):
2.9 7.1 6.8 7.0 7.0 6.9 7.2 7.1
The final score for this dive is: 61.07

... 

Please enter the degree of difficulty, then the seven scores for Dive 10 (separated by spaces):
3.2 6.9 7.1 7.1 7.1 6.8 7.0 7.1
The final score for this dive is: 67.39
The total score for this diver is: 598.12