
You are to write the following program as described below. For all programs, include comments in your code that describe the purpose of individual blocks. Remember the appropriate header information.

Program 1: Top-Down Design

Record your work in a document to submit as a PDF.

1. Using a top-down design process, develop a hierarchy for the program your team is working on this week. Break each part into smaller pieces until the code for that portion of the program is “obvious”, and should take only 4-6 lines of code to implement. You may draw the hierarchy (legibility is key), and take a good-quality photo to include in the PDF. If necessary, your hierarchy drawing may take more than one page, but clearly label where each page fits with the other(s). You should create a node and leaf chart as demonstrated in our lecture slides.
 2. How would you divide the coding tasks you’ve charted among 4 team members? Write 3-4 sentences describing why you would make your division as you’ve selected.
 3. Write a 3-4 sentence paragraph on how you would divide the program testing for your team, and why.
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Program 2: Surveying to File

Write a program that will repeatedly ask the user to input a student's sex and age. The program will continue to ask for input until a negative age value is entered, meaning that the user is done inputting data. The program should determine the number of female students and their minimum and maximum ages, and the number of male students and their minimum and maximum ages. The results should be written to a new file using the name ‘Student_Data_19Sp.txt’. The file, when is opened in a text editor, should look like this:

Gender	Number of Students	Minimum Age	Maximum Age
Female	32	17	24
Male	57	17	26

Note the required header line, data spacing, and column alignment