Final Project Requirements Specification

What I decided to do with my project is to make an interactive tutoring program for a pre-algebra/algebra class. The curriculum will include: root numbers, Quadratic Formula, Pythagorean Theorem, Solving basic inequalities, solving linear equations, and being able to interpret the graph of said linear equations.

I will use txt files for each of the lessons for when the student answers an correct question; the question will loop each time they get it wrong and will present them a “show me how” example to help them complete the problem(the “show me how” example will be an additional txt file that will be accessible. At the end, a quiz will be given to the student and all the answers will be stored in a txt file and they will receive their results at the end of the quiz.

I believe that making classes for each of the sections will be much easier to work with ex: Quadratic Formula, inequalities, and the quiz.

A vector for each class will be set up and store the answers in a txt file so at any time the user needs to leave the program, a txt file can be accessed and they will be able to leave off at the question they were working at. This means that my questions will be hard coded into a separate txt file from the answers.txt file for each section. This will allow the student to come back to the question they were working on. A vector will be set up in each class and will be used to store the answers into each of the section’s answers txt file. Each behavior will be accounted for each of the classes. Ex: int a, int b, int c for the quadratic formula and a separate int a, int b, and int c for the Pythagorean Theorem.

I want this code to be clean, simple and smooth to run for the student. I hope that my hand written lessons and examples can be of service to a student that struggles with normal curriculum and wants another way to describe this program. I am hoping that my younger brother will be able to use this program on my computer to help him as he is in algebra at the moment.

Edit:

Due to time restraints and the code containing too many errors, I had to change my project from a tutor program to a more computative program. My project will take in numbers from an equation or question, and then compute the desired result. If the user wants to see how to compute the question on their own, they have an option to pull up a txt file that steps them through an example before heading on to the next subject.