Requirements

1. A Computer Aided Instruction System for mathematics.
2. Support for addition, subtraction, multiplication, division or a mixture.
   1. Allow the user to choose the operation.
3. Allow the user to choose the level of difficulty of the questions, there shall be four difficulty levels.
4. Ask the user the problem in a form of a question.
   1. Example: “What is 5 times 3?”
   2. The program shall repeat the question until the user gets it correct.
5. Provide the user with multiple responses.
   1. Positive:
      1. “Very Good!”
      2. “Nice Work!”
      3. “Excellent!”
      4. “Keep up the good work!”
   2. Negative:
      1. “No. Please try again.”
      2. “Wrong. Try once more”
      3. “Don’t give up!”
      4. “No. Keep trying.”
6. The program shall track the student’s score over ten correct answers, and reset the program afterwards.

Header Files

// File: UI.h

class ui{

void genHeader();

// Generates a welcome and instructions for the // user

void clearConsole();

// Clears the console using a while loop and endl

};

// File: question.h

class question {

void generateQuestion();

// Generates a new question for the student to work on

// Requrements: 2, 3, 4

bool checkAnswer(int);

// Checks the answer against the currently stored question

// Requrements: 4

bool setLevel(int);

// Changes the level of the questions generated

// Requrements: 3, 4

};

// File: progress.h

class progress {

progress();

// Constructor: Sets the variables

// Requrements: 6

void answerTrue();

// Increments the internal true counter

// Requrements: 6

void answerFalse();

// Increments the internal false counter

// Requrements: 6

void generateStats();

// Outputs the user’s stats to the screen

// Requrements: 6

void resetStats();

// Reset the stats for the new user

// Requrements: 6

};