

Author: Ben Scherer
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Project: Average Quiz Grade

Description

User inputs studentID and quiz grades, which is then written to an output file. File is then read in, and scores are used to calculate an average score

Scope

- Limited to user input. Leverages while loop and sentinel for multiple inputs.
- Input file expects the first field to be the studentID, then a fixed amount of scores.

Header files

`iostream`
Used for cin/cout
`math`
Used for basic arithmetic
`iomanip`
Used to format console output
`limits`
Needed for numeric_limits
`string`
Used for string variables

Functions

`void pauseProgram();`
Pauses program until user hits enter key
`bool populateQuizData(string fileName,int numQuiz);`
Gets user input and writes to file. Utilizes ofstream variable for file writes. Return bool
`int getInput(string questionToAsk, string errorMsg);`
Basic input validation, returns int
`int getInput(string questionToAsk, string errorMsg, int lowRange, int highRange);`
Input validation for int that must fall within a numeric range. Returns int
`double calculateClassAverage(int numQuiz, string fileName);`
Reads data from file and calculates average score. Utilizes ifstream variable for file reads. Returns double
`char getSentinel();`
Input validation for sentinel. simple y/n

Input variables

`int studentID`
unique id of student
`int score`
temporary placeholder for quiz score prior to be written to file
`string filename`
name of file to open for write/read
`int numQuiz`

number of scores to enter. Used in for loops

Output Variables

double classAvg

average score based on all scores in input file

Program Workflow



