# Assignment Description

You will need to read the data from a file named gradebook.txt.  (A sample has been provided in the starter code.) The file will contain 5 lines of information.  Each line will have a student id, student first name, student last name, percent earned, and letter grade. You will need to read the data into variables of the appropriate data type.  You will then print the data in the console using manipulators to format the data into a table.  The decimal numbers should be formatted to 3 decimal places, and the percent should be displayed with a % sign in the output. Remember that the file provided is just a sample and your code will be tested using files that contain different student and grade information. You can set up your own test by replacing information in the sample file with new data.  Your code should always display what is in the file in the proper format.

# GitHub URL (optional)

[Github link](https://github.com/wesleyhixon/Programming-Assignments/tree/a182920ca5b424540e3b603543c567ad67956e0c/M02 Programming Assignment 1)

# Readme Documentation

Input Information: Input is student id, first name, last name, grade percentage, and letter grade. Input is contained in file called gradebook.txt.

Output Information: Output is a correctly formatted table containing all student ID’s, names, percentages, and letter grades. Decimal numbers are formatted to 3 decimal places and percentages are followed by a % sign.

# Flowchart Screen Shots (optional)

Screen shot(s) here

# UML and Use Case Diagrams (optional)

Screen shot(s) here

# Source Code of All files (.h, .cpp)

#include <iostream>

#include <fstream>

#include <string>

#include <iomanip>

using namespace std;

/\* Program name: Gradebook

\* Author: Wesley Hixon

\* Date last updated: 06/11/24

\* Purpose: Read data from a file and output into a correctly formatted table

\*/

int main()

{

// declaring gradeBook file stream

ifstream gradeBook;

// opening gradebook.txt

gradeBook.open("gradebook.txt");

// outputting table heading

cout << left;

cout << setfill('-') << setw(17) << "+-" << setw(32) << "+-" << setw(12) << "+-" << setw(12) << "+-" << "+" << endl;

cout << setfill(' ');

cout << "| " << setw(15) << "Student Num" << "| " << setw(30) << "Student Name" << "| "<< setw(10) << "Percent" << "| " << setw(10) << "Grade" << "|" << endl;

cout << setfill('-') << setw(17) << "+-" << setw(32) << "+-" << setw(12) << "+-" << setw(12) << "+-" << "+" << endl;

cout << setfill(' ');

while(gradeBook.is\_open()){

// reading gradeBook line by line

string line;

while(getline(gradeBook, line)){

// declaring variables to extract data from gradeBook

string studentFirst, studentLast, studentGrade, studentName;

int studentNum;

double studentPercent;

// converting line into a stringstream s

stringstream s(line);

// extracting data

s >> studentNum >> studentFirst >> studentLast >> studentPercent >> studentGrade;

// manipulating data for proper formatting

studentName = studentFirst + " " + studentLast;

studentPercent = studentPercent \* 100;

// outputting data

cout << setfill(' ') << "| " << setw(15) << studentNum << "| " << setw(30) << studentName << "| "

<< setprecision(5) << right << setw(8) << studentPercent << "%" << left << " | " << setw(10) << studentGrade << "|" << endl;

cout << setfill('-') << setw(17) << "+-" << setw(32) << "+-" << setw(12) << "+-" << setw(12) << "+-" << "+" << endl;

}

gradeBook.close();

}

return 0;

}

# Three Use Case Screen Shots

