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Program Description: Chapter 5 Assignment

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#include <cstdlib> //defines several general purpose functions, including dynamic memory management, random number generation.

#include <iostream> //Header that defines the standard input/output stream objects

#include <fstream> //Stream class to both read and write from/to files.

#include <iomanip> //included for math formatting

#include <ctime> //includes the time from computer, useful for random numbers

#include <limits> //includes limit commands

using namespace std;

int main()

{

ifstream inputFile("scores.txt");

string name = "name"; //setup the strings for reading the file

string name1 = "unknown";

string name2 = "unknown";

string name3 = "unknown";

int playerScore = 1;

int score; //put scores into variables to read them from the file

int score1 = 99;

int score2 = 99;

int score3 = 99;

int counter = 1;

cout << " Welcome to the Guessing Game \n \n";

cout << " Here are the Top 3 Players \n \n";

if(inputFile.fail())

{

cout << "\t!!FAILED Open of Input File!!: scores.txt\n";

exit(1);

}

while (inputFile)

{

inputFile >> name >> score; //reads the data

switch (counter)

{

case 1:

name1 = name;

score1 = score;

cout << " " << name << " " << score << "\n" << endl;

break;

case 2:

name2 = name;

score2 = score;

cout << " " << name << " " << score << "\n" << endl;

break;

case 3:

name3 = name;

score3 = score;

cout << " " << name << " " << score << "\n" << endl;

break;

}

counter++;

}

inputFile.close(); //closes the file

srand(time(0));

int number = rand() % 100 + 1;

cout << " Enter your name: ";

cin >> name;

cout << "\n Guess a number between 1 and 100, input 0 to end the game \n";

cout << "\n (answer for debug " << number << ")\n";

int guess = -1;

while (guess != number) //starts the guessing game loop

{

// Prompt the user to guess the number

cout << "\n Enter your guess: ";

cin >> guess;

while (cin.fail() || guess < 0 || guess > 100) //this is used if player puts in things other than numbers

{

cin.clear();

cin.ignore(numeric\_limits<streamsize>::max(),'\n');

cout << "\n Please enter a guess between 1 and 100, input 0 to end game: ";

cin >> guess;

}

if (guess == number)

{

cout << "\n Yes, the number is " << number << endl;

}

else if (guess > number)//tells user guess is high

{

cout << "\n Your guess is too high" << endl;

playerScore ++;

}

else if (guess < number)//tells user guess is low

{

cout << "\n Your guess is too low" << endl;

playerScore ++;

}

if (guess == 0) //exits game early with user input

{

exit(0);

}

} // End of loop

if (playerScore <= score1) //overwrites old scores if player did better than them

{

name3 = name2;

score3 = score2;

name2 = name1;

score2 = score1;

name1 = name;

score1 = playerScore;

}

else if (playerScore <= score2)

{

name3 = name2;

score3 = score2;

name2 = name;

score2 = playerScore;

}

else if (playerScore <= score3)

{

name3 = name;

score3 = playerScore;

}

ofstream outputFile ("scores.txt"); //outputs to scores.txt to overwrite old scores with new scores

if(outputFile.fail())

{

cout << "\t!!FAILED Open of output File!!: scores.txt\n";

exit(1);

}

outputFile << name1 << " " << score1 << endl;

outputFile << name2 << " " << score2 << endl;

outputFile << name3 << " " << score3 << endl;

outputFile.close(); //closes the file

cout << "\n Here are the new top players \n \n"; //opens scores.txt to show new scores to the player

counter = 1;

ifstream inputFile2 ("scores.txt");//open output file

if(inputFile2.fail())

{

cout << "\t!!FAILED Open of input File!!: scores.txt\n";

exit(1);

}

while (inputFile2)

{

inputFile2 >> name >> score; //reads the data

switch (counter)

{

case 1:

name1 = name;

score1 = score;

cout << " " << name << " " << score << "\n" << endl;

break;

case 2:

name2 = name;

score2 = score;

cout << " " << name << " " << score << "\n" << endl;

break;

case 3:

name3 = name;

score3 = score;

cout << " " << name << " " << score << "\n" << endl;

break;

}

counter++;

}

inputFile2.close(); //closes the file

return 0;

}

output file:

scores.txt

Alexander 1

Clark 10

Lex 20

