// =============================================================================

// John Snoap

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// Project 3

// =============================================================================

#include <iostream>

#include <iomanip>

#include <cstdlib>

#include <ctime>

using namespace std;

int main()

{

unsigned int number1; // The first random integer between 0 and 9

unsigned int number2; // The second random integer between 0 and 9

unsigned int randomNumber; // A random number to determine a response to give

int answer; // number1 \* number2

int numberOfAnswersCorrect = 0; // The total number of questions answered correctly

int numberOfAnswersIncorrect = 0; // The total number of questions answered incorrectly

int numberOfQuestions = 0; // The total number of questions

double percentCorrect; // The percent of correctly answered questions

cout << "\tWhy hello there eager student!\n";

cout << "I am going to help you learn your multiplication tables!!!\n\n";

cout << "\tI will ask you a question, let you answer,\n";

cout << "and tell you if you get it right or wrong.\n";

cout << "If you get it wrong, you can keep answering until you get it right!\n";

cout << "That way you will always be able to find out the correct answer!\n";

cout << "When you are done learning, enter -1 for your answer\n";

cout << "and I will show you your results!\n\n";

cout << "Good-luck! Let's get started.\n\n";

srand(time(0));

number1 = rand() % 10;

number2 = rand() % 10;

cout << "What is " << number1 << " X " << number2 << " ? ";

cin >> answer;

//////////////////// Loop of Multiplication Questions //////////////////////////////

while (answer != -1)

{

numberOfQuestions ++;

/////////////////////////// If Answer is Correct ////////////////////////////////

if (answer == (number1 \* number2))

{

numberOfAnswersCorrect ++;

randomNumber = rand() % 4;

switch (randomNumber)

{

case 0: cout << "\tYour mind is keen.\n\n";

break;

case 1: cout << "\tCorrectomundo!\n\n";

break;

case 2: cout << "\tWoW! You're a genius!\n\n";

break;

default: cout << "\tYou're brilliant! Keep on going!\n\n";

}

number1 = rand() % 10;

number2 = rand() % 10;

}

/////////////////////////// If Answer is Incorrect ////////////////////////////////

else

{

numberOfAnswersIncorrect ++;

randomNumber = rand() % 4;

switch (randomNumber)

{

case 0: cout << "\tNope. Try again.\n\n";

break;

case 1: cout << "\tSorry, that answer is not correct.\n\n";

break;

case 2: cout << "\tUmm... give it another go.\n\n";

break;

default: cout << "\tDing Dong! You're Wrong.\n\n";

}

}

cout << "What is " << number1 << " X " << number2 << " ? ";

cin >> answer;

}

/////////////////////////////// Display Results //////////////////////////////////////

if (numberOfQuestions == 0) // Don't divide by zero

{

cout << "\n\nYour results are: \n\n";

cout << setw(28) << left << "Answers Correct: " << setw(8) << right << numberOfAnswersCorrect << endl;

cout << setw(28) << left << "Answers Incorrect: " << setw(8) << right << numberOfAnswersIncorrect << endl;

cout << setw(28) << left << "Total Number of Questions: " << setw(8) << right << numberOfQuestions << endl;

cout << setw(28) << left << "Percent Correct: " << setw(9) << right << "0.00%" << endl << endl;

}

else

{

percentCorrect = ((numberOfAnswersCorrect / static\_cast<double>(numberOfQuestions)) \* 100);

cout << "\n\nYour results are: \n\n";

cout << setw(28) << left << "Answers Correct: " << setw(8) << right << numberOfAnswersCorrect << endl;

cout << setw(28) << left << "Answers Incorrect: " << setw(8) << right << numberOfAnswersIncorrect << endl;

cout << setw(28) << left << "Total Number of Questions: " << setw(8) << right << numberOfQuestions << endl;

cout << fixed << showpoint << setprecision(2);

cout << setw(28) << left << "Percent Correct: " << setw(8) << right << percentCorrect << "%\n\n";

}

return 0;

}