THE CODE

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Course: CMPSC 121  
Assignment: Lab 10  
Due date: 11/16/2018  
File: TriviaGame.cpp  
Purpose: This program implements a simple TV/movie trivia game.  
Compiler: CLion  
Operating  
system: MacOS Sierra   
References: Class demo programs (Web references would be included  
 here.)  
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#include <iostream>  
#include <string>  
#include <cctype>  
#include <cstdlib>  
#include <ctime>  
  
//start, asks the question. question processed. if/else. need to convert to upper or lower case. while for check. function that returns valid.  
//function for each round. while inside. request answer function. (y/n) seperate.  
  
**using namespace** std;  
  
**void** convertToLower(string &);  
**void** gameRounds();  
**bool** checkAnswer(**int**);  
**bool** yesOrNo();  
**void** divider();  
  
**const** string QUESTION\_ARR[] = {"What is the full name of the main character of the show?", "Who is the Number One Hero?",  
 "What is Aizawa's hero name?", "What causes Bakugou's explosive power?",  
 "How old is the main character (in words)", "What is the name of the power the main character has?",  
 "What is the color of Gran Torino's cape?", "Who, in the League of Villains, likes to use knives?",  
 "From who did Ochaco learn martial arts from?", "What is Asui Tsuyu's nickname?"};  
**const** string ANSWER\_ARR[] = {"midoriya izuku", "all might", "eraserhead", "sweat", "fifteen", "one for all", "yellow", "himiko toga",  
 "gunhead", "froppy"};  
  
//main function  
**int** main(){  
 divider();  
 cout << "\nWelcome to \"My Hero Academia\" Trivia Game!\n";  
 cout << "\nReady to Play? ";  
 **if**(yesOrNo())  
 gameRounds();  
 divider();  
  
 cout << "\n\nThanks, and goodbye!\n";  
}  
  
//creates a dividing line in the display for user interface  
**void** divider(){  
 cout << "\n------------------------------------------------------------------------------\n";  
}  
  
//checks the player's answer to the yes/no question and returns a bool (true for "yes", false for "no)  
**bool** yesOrNo(){  
 **bool** valid = **false**;  
 **bool** value;  
 string input;  
  
 **while**(!valid){  
 cout << "(Y/N): ";  
 **if**(cin >> input){  
 convertToLower(input);  
 **if** (input == "yes"||input == "y") {  
 value = **true**;  
 valid = **true**;  
 }  
 **else if** (input == "no"||input == "n") {  
 value = **false**;  
 valid = **true**;  
 }  
 **else**{  
 cout << "\nPlease input a valid answer.\n";  
 input = "";  
 valid = **false**;  
 }  
 }  
 **else** {  
 cin.clear();  
 cout << "\nPlease input a valid answer.\n";  
 input = "";  
 }  
 cin.ignore(1000,'\n');  
 }  
 **return** value;  
}  
  
// checks player's answer to trivia question by comparing player's answer to questionbank's answer, returning true if right or false if wrong  
**bool** checkAnswer(**int** n){  
 **bool** output;  
 **bool** valid = **false**;  
 string answer;  
  
 **while**(!valid) {  
 **if** (getline(cin, answer)) {  
 convertToLower(answer);  
 valid = **true**;  
 }  
 **else**{  
 cin.clear();  
 cout << "\nPlease input a valid answer.\n";  
 valid = **false**;  
 }  
 cin.ignore(1000, '\n');  
 }  
 **if** (answer == ANSWER\_ARR[n])  
 output = **true**;  
 **else** output = **false**;  
 **return** output;  
}  
  
//generates a random seed and randomly asks player one of the 10 trivia questions. informing the player if they are correct or wrong.  
**void** gameRounds(){  
 **bool** again = **true**;  
 **unsigned** value = time(0);  
 srand(value);  
  
 **while**(again){  
 **int** random = rand()%10;  
 cout << endl << QUESTION\_ARR[random] <<":";  
 **if**(checkAnswer(random))  
 cout << "\nCorrect!\n";  
 **else** cout << "\nSorry, no...\n";  
 cout << "\nPlay again?";  
  
 **if**(yesOrNo())  
 again = **true**;  
 **else** again = **false**;  
 divider();  
 }  
}  
  
// Function to convert all letters in a string to lowercase  
**void** convertToLower(string &tempString) {  
 **int** i;  
 **for** (i = 0; i < tempString.length(); i++)  
 tempString[i] = tolower(tempString[i]);  
 tempString[i] = '\0';  
}

SAMPLE RUN

Run#1 // answer with ‘YES’ and ‘n from player and wrong answer response.

A screenshot of a cell phone

Description automatically generated

Run#2 // correct response from player.

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Run#3 // early exit from player

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