#include <iostream>

#include <string>//for space in name

#include <windows.h>// for system cls

#include<fstream> // for file reding and writing

#include<vector>// for storing questions

#include <algorithm> // for std::shuffle

#include <random>     //  for shuffle

using namespace std;

struct Question{ // used for representing single guestions from txt file

    string questiontext;

    string optionA;

    string optionB;

    string optionC;

    string optionD;

    string correctoption;

    void displayQuestion(){  //used for the display format(how the questions will be displayed)

   cout << questiontext << endl;

    cout<<"  A"<<optionA<<endl;

    cout<<"  B"<<optionB<<endl;

    cout<<"  C"<<optionC<<endl;

    cout<<"  D"<<optionD<<endl;

   }

};

  class Quizgame{

   private:

   vector<Question> ListOfQuestion;  //it will store the data after the fileload is completed

   int score;

   public://The constructor runs when an object of Quizgame is created. It sets the score to 0 and loads the file.

   Quizgame(){

    score=0;

    fileload(); // to load all the data which is being fetched from the below code

   }

   void fileload(){

    ifstream fin("question.txt");  //for file reading and fin(object) for passing info

    Question ques; // for loading question

    if(fin.is\_open()){// to open the file

        while (getline(fin,ques.questiontext)) //tell where you want to place the data

        {

            getline(fin,ques.optionA);

            getline(fin,ques.optionB);

            getline(fin,ques.optionC);

            getline(fin,ques.optionD);

            getline(fin,ques.correctoption);

            ListOfQuestion.push\_back(ques); // for loading data after reading

        }

        random\_device rd;

        mt19937 g(rd());

        shuffle(ListOfQuestion.begin(), ListOfQuestion.end(), g);

        fin.close(); //used for closing the file

    }else{

        cout<<"file not found"<<endl;

    }

   }

  void StartQuiz(){

    for(auto& Q : ListOfQuestion) //it will get quetions from listofquestions

    {

     Q.displayQuestion(); // for displaing question on console

     string answer;

     cout<<"enter your answer  :" ;

     getline(cin,answer);//for getting answer fron user and storing it in answer variable

     if (toupper(answer[0]) == toupper(Q.correctoption[0])){

        score++;

     cout<<"correct answer"<<endl;

    }else{

        cout<<"wrong answer!"<<endl;

    }

    }

  }

  void displayresult(){

    system("cls");

    cout<<"total score"<<score<<"/"<<ListOfQuestion.size()<<endl;

  }

};

   int main(){

    char choice;

    string name;

    int Enrollment;

    do{

        cout<<"\n\n\t\t\*\*\*\*\*\*\*\*\*\*\*\*"<<endl;

        cout<<"\t\t  Quiz  Game "<<endl;

        cout<<"\t\t\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"<<endl;

        cout<<"\t\t Enter Your Name"<<endl;

        getline(cin,name);//using get line to use space in name

        cout<<"\t\t Enter Your Enrollment"<<endl;

        cin>>Enrollment;

        cin.ignore(); // clear leftover newline

        Quizgame qa;

        qa.StartQuiz();

        qa.displayresult();

        cout<<endl;

        system("cls");// to clear the screen and move on to next screen

        cout<<"press 'Y' or 'y' to continue or any other key to terminate";

        cin>>choice;

        cin.ignore(numeric\_limits<streamsize>::max(), '\n'); //this fixes the infinite space issue

    }while(choice=='y'||choice=='Y');

    return 0;

}