#include <iostream>

#include <stdlib.h>

#include <time.h>

#include <cstdio>

using namespace std;

///Displays Display Board

void DisplayBoardDisplay (char DisplayBoard[][5]) {

for (int Counter1=0; Counter1<5; Counter1++) {

for (int Counter2=0; Counter2<5; Counter2++) {

cout << DisplayBoard[Counter1][Counter2] << " ";

}

cout << endl;

}

}

///Displays Answer Board

void AnswerBoardDisplay(char AnswerBoard[][5]) {

for (int Counter1=0; Counter1<5; Counter1++) {

for (int Counter2=0; Counter2<5; Counter2++) {

cout << AnswerBoard[Counter1][Counter2] << " ";

}

cout << endl;

}

int main () {

srand(time(NULL));

char DisplayBoard[5][5];

char AnswerBoard[5][5];

int RandXCoord, RandYCoord;

int GoldLeftCount = 10;

int TrapLeftCount = 5;

int GuessCount = 0;

int XGuess, YGuess;

int FuncCounter1, FuncCounter2;

int GoldXCoord, GoldYCoord;

int TrapXCoord, TrapYCoord;

int CheckCount = 0;

///Places 10 random gold pieces

for (int x=0; x<10; x++) {

GoldXCoord = (rand()%5);

GoldYCoord = (rand()%5);

AnswerBoard[GoldXCoord][GoldYCoord] = 'O';

}

///Checking to make sure there are 10 gold pieces placed

do {

CheckCount = 0;

for (int q=0; q<5; q++) {

for (int d=0; d<5; d++) {

if (AnswerBoard[q][d] != 'O') {

CheckCount = CheckCount;

}

else if (AnswerBoard[q][d] = 'O') {

CheckCount++;

}

}

}

if (CheckCount < 10) {

GoldXCoord = (rand()%5);

GoldYCoord = (rand()%5);

AnswerBoard[GoldXCoord][GoldYCoord] = 'O';

}

} while (CheckCount < 10);

///Places 5 random traps

for (int w=0; w<5; w++) {

TrapXCoord = (rand()%5);

TrapYCoord = (rand()%5);

if (AnswerBoard[TrapXCoord][TrapYCoord] != 'O') {

AnswerBoard[TrapXCoord][TrapYCoord] = '#';

}

}

///Checks to make sure that there are five traps

do {

CheckCount = 0;

for (int p=0; p<5; p++) {

for (int c=0; c<5; c++) {

if (AnswerBoard[p][c] != '#') {

CheckCount = CheckCount;

}

else if (AnswerBoard[p][c] == '#') {

CheckCount++;

}

}

}

if (CheckCount < 5) {

TrapXCoord = (rand()%5);

TrapYCoord = (rand()%5);

if (AnswerBoard[TrapXCoord][TrapYCoord] != 'O') {

AnswerBoard[TrapXCoord][TrapYCoord] = '#';

}

}

} while (CheckCount < 5);

///Fills in the rest of the Answer Board

for (int g=0; g<5; g++) {

for (int r=0; r<5; r++) {

if (AnswerBoard[r][g] != 'O' && AnswerBoard[r][g] != '#') {

AnswerBoard[r][g] = '\_';

}

}

}

///Fills in the Display Board

for (int s=0; s<5; s++) {

for (int f=0; f<5; f++) {

DisplayBoard[s][f] = '\_';

}

}

cout << "Hello! It's time to search for gold!" << endl << "You win if you find all of the gold pieces but you lose if you find all of the" << endl << "traps first!" << endl << endl;

///Prompts user for coordinates until they guess all of the gold pieces or all of the trap pieces

do {

cout << "There are " << GoldLeftCount << " gold pieces left and " << TrapLeftCount << " traps left." << endl;

cout << "Guess Number: " << GuessCount << endl << endl;

AnswerBoardDisplay (AnswerBoard, FuncCounter1, FuncCounter2);

cout << endl;

DisplayBoardDisplay (DisplayBoard, FuncCounter1, FuncCounter2);

cout << endl << "Please input your first X coordinate guess (From left to right): ";

cin >> YGuess;

YGuess = YGuess - 1;

cout << "Please input your first Y coordinate guess (From top to bottom): ";

cin >> XGuess;

XGuess = XGuess - 1;

GuessCount++;

if (AnswerBoard[XGuess][YGuess] != 'O' && AnswerBoard[XGuess][YGuess] != '#') {

DisplayBoard[XGuess][YGuess] = ' ';

}

if (AnswerBoard[XGuess][YGuess] == '#') {

DisplayBoard[XGuess][YGuess] = '#';

TrapLeftCount--;

}

if (AnswerBoard[XGuess][YGuess] == 'O') {

DisplayBoard[XGuess][YGuess] = 'O';

GoldLeftCount--;

}

system( "cls" );

} while (GoldLeftCount > 0 && TrapLeftCount > 0);

if (GoldLeftCount == 0) {

cout << "Congratulations! It took you " << GuessCount << " tries to guess them all!" << endl << endl;

cout << "Here's your final board:" << endl;

DisplayBoardDisplay (DisplayBoard, FuncCounter1, FuncCounter2);

cout << endl << "And here's the answer board:" << endl;

AnswerBoardDisplay (AnswerBoard, FuncCounter1, FuncCounter2);

}

else if (TrapLeftCount == 0) {

cout << "Oh no! It's a trap! -Admiral Ackbar. Unfortunately, you found all of the traps before you found all of the gold pieces." << endl;

cout << "It took you " << GuessCount << " to die." << endl;

cout << "Here's your final board:" << endl;

DisplayBoardDisplay (DisplayBoard, FuncCounter1, FuncCounter2);

cout << endl << "And here's the answer board:" << endl;

AnswerBoardDisplay (AnswerBoard, FuncCounter1, FuncCounter2);

}

return 0;

}