CSCI 240

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Homework #2

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Properties: This project can run a game called roulette.

Users need to choose their type of wager.

The project can outcome a random number between 0-36.

Then, users' choosen will be evaluated.

Inputs: Type of wager, number of chips

Outputs: Result of roulette, users' gaming imformation

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#include <iostream>

#include <string>

#include <fstream>

#include <cstdlib>

#include <ctime>

#include <iomanip>

using namespace std;

int main() {

const int startChips = 1000;

int chips = startChips;

int winingNum;

const int high = 36;

const int low = 0;

int wager;

int totalWin;

int Case;

int guessNum;

string type;

int valid = 0;

char confirm;

// Payout form

cout << setw(12) << setfill(' ') << "" << "Welcome to roulette game. Good luck!";

cout << setw(12) << setfill(' ') << "" <<endl;

cout << setw(62) << setfill('-') << "" << endl;

cout << "| Payout |" << setw(51) << setfill(' ') << left << " Wager" << "|" << endl;

cout << setw(62) << setfill('-') << "" << endl;

cout << "| 1 to 1 |" << setw(20) << setfill(' ') << left << " Odd numbers";

cout << setw(31) << setfill(' ') << " ( 1, 3, 5, ..., 35)" << "|" << endl;

cout << "| 1 to 1 |" << setw(20) << setfill(' ') << left << " Even numbers";

cout << setw(31) << setfill(' ') << " ( 2, 4, 6, ..., 36)" << "|" << endl;

cout << "| 1 to 1 |" << setw(20) << setfill(' ') << left << " 1st half";

cout << setw(31) << setfill(' ') << " ( 1, 2, 3, ..., 18)" << "|" << endl;

cout << "| 1 to 1 |" << setw(20) << setfill(' ') << left << " 2nd half";

cout << setw(31) << setfill(' ') << " (19, 20, 21, ..., 36)" << "|" << endl;

cout << "|35 to 1 |" << setw(20) << setfill(' ') << left << " Exact guess";

cout << setw(31) << setfill(' ') << "" << "|" << endl;

int run = 1;

// Roulette game loop

while (run == 1){

cout << setw(62) << setfill('-') << "" << endl;

cout << setw(61) << setfill(' ') << left << "| [1] Even" << "|" << endl;

cout << setw(61) << setfill(' ') << left << "| [2] Odd" << "|" << endl;

cout << setw(61) << setfill(' ') << left << "| [3] 1st half" << "|" << endl;

cout << setw(61) << setfill(' ') << left << "| [4] 2nd half" << "|" << endl;

cout << setw(61) << setfill(' ') << left << "| [5] Exact" << "|" << endl;

cout << setw(62) << setfill('-') << "" << endl;

// Input type and wager

while (valid == 0){

cout << endl;

cout << "Please choose a type of wager: " << endl;

cin >> Case;

switch(Case){

case 1:

type = "Even";

valid = 1;

break;

case 2:

type = "Odd";

valid = 1;

break;

case 3:

type = "1st half";

valid = 1;

break;

case 4:

type = "2nd half";

valid = 1;

break;

case 5:

type = "Exact guess";

valid = 0;

break;

}

}

valid = 0;

cout << "Current chips: " << chips << endl;

cout << "How many chips would you like to wager? (Between 1-" << chips << ")" << endl;

cin >> wager;

cout << endl;

cout << endl;

while (wager <= 0 || wager > chips){

cout << "Invalid input!" << endl;

cout << "How many chips would you like to wager? (Between 1-" << chips << ")" << endl;

cin >> wager;

cout << endl;

cout << endl;

}

cout << "You have decided to wager " << wager << " chips on " << type << "." << endl;

cout << endl;

cout << "Is this correct?" << endl;

cout << "Enter 'Y' to proceed with the game" << endl;

cout << "Or enter 'N' to take back your wager:" << endl;

cin >> confirm;

if(confirm == 'Y' || confirm == 'y'){

valid = 0;

}

else if(confirm == 'N' || confirm == 'n'){

valid = 1;

}

// Begin spining

while(valid == 0){

chips -= wager;

winingNum = rand() % (high - low) + low;

switch(Case){

case 1:

type = "Even";

cout << setw(30) << setfill('-') << "" << endl;

cout << setw(28) << setfill(' ') << "| Wining number is " << winingNum << "|" << endl;

cout << setw(30) << setfill('-') << "" << endl;

if(winingNum % 2 == 1){

totalWin = wager \* 2;

cout << "You get " << wager << " chips!" << endl;

chips += totalWin;

}

else{

cout << "Unlucky, try again!" << endl;

}

valid = 1;

break;

case 2:

type = "Odd";

cout << setw(30) << setfill('-') << "" << endl;

cout << setw(28) << setfill(' ') << "| Wining number is " << winingNum << "|" << endl;

cout << setw(30) << setfill('-') << "" << endl;

if(winingNum % 2 == 0){

totalWin = wager \* 2;

cout << "You get " << wager << " chips!" << endl;

chips += totalWin;

}

else{

cout << "Unlucky, try again!" << endl;

}

valid = 1;

break;

case 3:

type = "1st half";

cout << setw(30) << setfill('-') << "" << endl;

cout << setw(28) << setfill(' ') << "| Wining number is " << winingNum << "|" << endl;

cout << setw(30) << setfill('-') << "" << endl;

if(winingNum <= 18){

totalWin = wager \* 2;

cout << "You get " << wager << " chips!" << endl;

chips += totalWin;

}

else{

cout << "Unlucky, try again!" << endl;

}

valid = 1;

break;

case 4:

type = "2nd half";

cout << setw(30) << setfill('-') << "" << endl;

cout << setw(28) << setfill(' ') << "| Wining number is " << winingNum << "|" << endl;

cout << setw(30) << setfill('-') << "" << endl;

if(winingNum > 18){

totalWin = wager \* 2;

cout << "You get " << wager << " chips!" << endl;

chips += totalWin;

}

else{

cout << "Unlucky, try again!" << endl;

}

valid = 1;

break;

case 5:

type = "Exact guess";

cout << "PLease enter your choosing number: " << endl;

cin >> guessNum;

cout << setw(30) << setfill('-') << "" << endl;

cout << setw(28) << setfill(' ') << "| Wining number is " << winingNum << "|" << endl;

cout << setw(30) << setfill('-') << "" << endl;

if(winingNum == guessNum){

totalWin = wager \* 36;

cout << "You get " << wager\*35 << " chips!" << endl;

chips += totalWin;

}

else{

cout << "Unlucky, try again!" << endl;

}

valid = 1;

break;

default:

cout << "Invalid value!" << endl;

valid = 0;

}

}

valid = 0;

if( chips > 0){

cout << endl;

cout << "Your current chips are " << chips << endl;

cout << "Do you want to try again?" << endl;

cout << setw(60) << setfill('-') << "" << endl;

cout << "Enter 'Y' to try again" << endl;

cout << "Or enter 'N' to exit:" << endl;

cout << setw(60) << setfill('-') << "" << endl;

cin >> confirm;

if(confirm == 'Y' || confirm == 'y'){

run = 1;

}

else if(confirm == 'N' || confirm == 'n'){

run = 0;

}

}

else if( chips <= 0){

cout << endl;

cout << "You don't have any chips now!" << endl;

run = 0;

}

}

cout << "Your current chips are" << endl;

cout << chips << endl;

if ( chips > startChips){

cout << "Good job!" << endl;

}

else if ( chips == 0){

cout << "Tough break, kid" << endl;

}

return 0;

}