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CSC - 5

Project #1 Write-up

**Description:**

Have a user play Roulette, allow the user in input whether they would like to bet on a specific number, odd number, or even number. Once they decide output whether they won or lost and display how much they lost or won.

**Pseudocode:**

*Initialize*

*Welcome to Roulette*

*How much money would you like to gamble?*

*User input bet*

*Are you betting on a number (N), odd numbers(O), or even numbers(E)?*

*User input N, O. or E*

*If gametype is N*

*What number would you like to bet on?*

*User input number*

*The ball landed on #*

*If won ouput how much they won multiplied by 35.*

*Else output how much they loss*

*If gametype is E*

*The ball landed on #*

*If won ouput how much they won*

*Else output how much they loss*

*If gametype is O*

*The ball landed on #*

*If won ouput how much they won*

*Else output how much they loss*

*If wins is less than bet*

*You lost a total of $*

*Else*

*You won a total of $*

**Code:**

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\* File: main.cpp

\* Author: Chad Bellinger

\* Created on November 2, 2017, 2:58 PM

\* Purpose: Project #1 - Roulette

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//System Libraries

#include <iostream> //Input/Output Stream Library

#include <cstdlib> //Library set random number seed

#include <ctime> //Libary to seed the random number generator

#include <iomanip> //Format Library

#include <fstream> //File Library

#include <string.h> //String Library

#include <cmath>

using namespace std; //Standard Name-space under which System Libraries reside

//User Libraries

//Global Constants - Not variables only Math/Science/Conversion constants

int const MIN\_NUM=1, MAX\_NUM=36;

//Function Prototypes

bool isEven(int n)

{

if (n%2==0)

return true;

else

return false;

}

//Execution Begins Here!

int main(int argc, char\*\* argv){

//Declare Variables

int num;

int rng;

float bet, wins=0;

char gameT[2];

char evenodd[2];

//Initialize Variables

//Input Data/Variables

cout<<"Welcome to Roulette"<<endl;

cout<<"How much money would you like to gamble?"<<endl;

cin>>bet;

cout<<"Are you betting on a number (N), odd numbers(O), "

"or even numbers(E)? "<<endl;

cin>>gameT;

//Process or map the inputs to the outputs

if(!strcmp(gameT,"N")||(!strcmp(gameT,"n")))

{

cout<<"What number would you like to bet on? "<<endl;

cin>>num;

if (num==00)

{

num=37;

}

srand(time(NULL));

rng=rand()%(MAX\_NUM-MIN\_NUM+1)+MIN\_NUM;

cout<<"The ball landed on "<<rng<<endl;

//Loss

if (num!=rng)

{

cout<<"You lose $" <<bet<<endl;

wins-=bet;

}

//Win

else

{

cout<<"You win $"<<35\*bet<<endl;

wins+=35\*bet;

}

}

//User selects Even #

if((!strcmp(gameT,"E")||(!strcmp(gameT,"e"))))

{

srand(time(NULL));

rng=rand()%(MAX\_NUM-MIN\_NUM+1)+MIN\_NUM;

cout<<"The ball landed on "<<rng<<endl;

if (gameT=="E"||"e")

//Even wins

if(isEven(rng))

{

cout<<"You win $"<<bet<<endl;

wins+=bet;

}

//Even loss

else

{

cout<<"You lose $"<<bet<<endl;

wins-=bet;

}

}

//User selects Odd #

if((!strcmp(gameT,"O")||(!strcmp(gameT,"o"))))

{

srand(time(NULL));

rng=rand()%(MAX\_NUM-MIN\_NUM+1)+MIN\_NUM;

cout<<"The ball landed on "<<rng<<endl;

if (gameT=="O"||"o")

{

//Odd win

if(isEven(rng))

{

cout<<"You lost $"<<bet<<endl;

wins-=bet;

}

//Odd loss

else

{

cout<<"You win $"<<bet<<endl;

wins+=bet;

}

}

}

//Display/Output all pertinent variables

if (wins<bet)

{

cout<<"You lost a total of $"<<abs(wins)<<endl;

}

else

cout<<"You won a total of $"<<wins<<endl;

//Close the file

//Exit the program

return 0;

}