Project 2 Documentation:

Pirinola Game (Toma Todo)

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**TABLE OF CONTENTS**

**How Pirinola (Toma Todo) Works . . . . . . . . . . . . . . . . . . . . 3**

**Program Version. . . . . . . . . . . . . . .. . . . . . .. . . . . . . . . . . . 4**

**How is it an update from project 1? . . . . . . . . . . . . . . . . . . . 4**

**User Display Console. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . 5**

**Program** **. . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . . .** 7

**How Pirinola (Toma Todo) Works**

*Objective of the game:*

To be the last one remaining with the most chips or that when the pot reaches zero you have the most coins.

*Rules of the Game:*

The game is based off luck. There is a spinning top that has six sides, so each player takes a turn to “spin” the top.

1. Everyone starts off with 10 chips and have to put some chips in the pot to start of the game. Usually its two chips.
2. From their each players takes turns and follow the tops instructions which could be one of the following:
   1. Take One – Player takes 1 chip from the pot.
   2. Take Two – Player takes 2 chips from the pot.
   3. Take Everything – Player takes all the chips from pot.
   4. Put One – Player puts one 1 chip from pot.
   5. Put Two – Player puts 2 chips in the pot.
   6. Everyone Puts – Everyone puts 2 chips in the pot.
3. Once a player is out of chips, or the pot is out of chips the winner is decides based on number of coins.

**Program Version**

The program itself is very similar to the game, just excluding a visual aid and actual money being used. I have the user’s input names, and how many rounds they would like to play, since the game does go by really fast. Something that is very different from the actual game, when all the rounds end the users can see how many times they won and the percentage of wins. From that the winner is decided, of who had the most wins overall.

**A wooden toy with writing on it

Description automatically generated**A group of colorful bobbers

Description automatically generated **A group of colorful objects

Description automatically generated**

**How is it an update from project 1?**

In the first project I just focused on building the main idea around the game, that is just having it working. The foundation that we had reached the class up until that point had given the skills to build the shell of the game. Now in version 2, I stepped up a bit the game. It describes how each round went down and then the stats. I wanted to have like a universal chip amount for both players and have them play until they wished but I had a lot of complication with trying to have a lot of nested type loops. This is like a step down from that idea, it still works, and is fun, and better than project 1 which is the main point of the project.

**User Display Console**

A screenshot of a computer program

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I tried to make the game easy to follow on the console, it tells you how each round ended, and with the style function I have it very clearly distinguish between the rounds and the stats.

A screenshot of a computer

Description automatically generated

At the start too, I have a lot of prompts to help the user follow the game and know what is going on.

**Program**

/\*

\* File: main.cpp

\* Author: Arlin Alzate

\*

\* Created on February 10, 2024, 3:18 PM

\* Purpose: To emulate a Pirinola Game, where the user inputs names and rounds

\* are desired to be played.

\*

\*/

//System Level Libraries

#include <iostream> //in/out put

#include <iomanip> // styling

#include <ctime> //seeding time

#include <vector> //usr chips

using namespace std;

// Function prototypes

void piriGm(const string& usr1, const string& usr2, int numRounds);

float calcWin(int wins, int numRounds);

void winnerDinner(int &wins1, int &wins2,const string& usr1, const string &usr2);

void chpShw(const string&usr1, const string &usr2, int &pot, vector<int> &chips);

void prcn(const string &usr1, const string &usr2, int &wins1, int &wins2, float percentage1, float percentage2);

void display();

void style();

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

//Seeding Time

srand(static\_cast<unsigned int>(time(0)));

// Declare variables

string usr1, usr2;

//both players have ten chips to start off with

vector<int> chips(2, 10);

int numRnd;

// info and game instructions

//starting them off, linux puts in random values

numRnd = 0;

style();

cout << endl << endl<< setw(53) << "Welcome to Toma Todo!" << endl

<< "Toma Todo, or Pirinola as it is best known in Colombia, is a game of chance and MONEY!" << endl

<< "The main point for winning is to be the last one remaining with coins." << endl

<< "If you run out of coins you're OUT, if you still have coins at the end, you WIN!" << endl

<< setw(45) << "GOOD LUCK!" << endl << endl;

style();

// user names

cout << endl << "Input Player 1's Name: ";

cin >> usr1;

cout << "Input Player 2's Name: ";

cin >> usr2;

// # of round users want to play game, toma todo is usually really fast

cout << "This game goes by fast, so please enter the number of rounds to play: ";

cin >> numRnd;

// Start the game

piriGm(usr1, usr2, numRnd);

return 0;

}

//Function defining

void style()

{

for (int i = 0; i < 100; i++)

{

cout << "~";

}

}

// Function to play the Pirinola game

void piriGm(const string& usr1, const string& usr2, int numRnd)

{

// Initialize variables

vector<int> chips(2, 10);

int pot = 0;

bool pPlay = true;

// Number of wins for each player

int wins1 = 0,

wins2 = 0;

for (int round = 1; round <= numRnd; round++)

{

cout << endl << "Round: " << round << "/" << numRnd << endl;

// Reset chips and pot for each round

chips[0] = chips[1] = 10;

pot = 0;

do

{

// Player 1's turn

char spin = rand() % 6 + 1;

switch (spin)

{

case 1:

cout << endl << "TAKE ONE!" << endl

<< "Every players takes one chip from the pot." << endl;

chips[0]++;

chips[1]++;

pot -= 2;

chpShw(usr1, usr2,pot, chips);

break;

case 2:

cout << endl <<"Take TWO!" << endl

<< "Every player takes two chips from the pot" << endl;

chips[0] += 2;

chips[1] += 2;

pot -= 4;

chpShw(usr1, usr2,pot, chips);

break;

case 3:

cout << endl << "TAKE EVERYTHING!" << endl

<< "Player takes all chips from the pot" << endl;

chips[0] += pot;

pot = 0;

chpShw(usr1, usr2,pot, chips);

break;

case 4:

cout << endl <<"Put ONE!" << endl

<< usr1 << " puts one chip in the pot" << endl;

chips[0]--;

pot++;

chpShw(usr1, usr2,pot, chips);

break;

case 5:

cout << endl << "Put TWO!" << endl

<< usr1 << " puts two chips in the pot" << endl;

chips[0] -= 2;

pot += 2;

chpShw(usr1, usr2,pot, chips);

break;

case 6:

cout << endl << "Everyone PUTS!" << endl

<< "Everyone puts two chips in the pot" << endl;

chips[0] -= 2;

chips[1] -= 2;

pot += 4;

chpShw(usr1, usr2,pot, chips);

break;

}

// Player 2's turn

spin = rand() % 6 + 1;

switch (spin)

{

case 1:

cout << endl << "TAKE ONE!" << endl

<< "Every players takes one chip from the pot." << endl;

chips[0]++;

chips[1]++;

pot -= 2;

chpShw(usr1, usr2,pot, chips);

break;

case 2:

cout << endl <<"Take TWO!" << endl

<< "Every player takes two chips from the pot" << endl;

chips[0] += 2;

chips[1] += 2;

pot -= 4;

chpShw(usr1, usr2,pot, chips);

break;

case 3:

cout << endl << "TAKE EVERYTHING!" << endl

<< "Player takes all chips from the pot" << endl;

chips[1] += pot;

pot = 0;

chpShw(usr1, usr2,pot, chips);

break;

case 4:

cout << endl <<"Put ONE!" << endl

<< usr1 << " puts one chip in the pot" << endl;

chips[1]--;

pot++;

chpShw(usr1, usr2,pot, chips);

break;

case 5:

cout << endl << "Put TWO!" << endl

<< usr1 << " puts two chips in the pot" << endl;

chips[1] -= 2;

pot += 2;

chpShw(usr1, usr2,pot, chips);

break;

case 6:

cout << endl << "Everyone PUTS!" << endl

<< "Everyone puts two chips in the pot" << endl;

chips[0] -= 2;

chips[1] -= 2;

pot += 4;

chpShw(usr1, usr2,pot, chips);

break;

}

if (pot <= 0)

{

pPlay = false;

// If pot is empty, the player with more chips wins

if (chips[0] > chips[1])

{

wins1++;

}

else if (chips[1] > chips[0])

{

wins2++;

}

else

{

// If both players have the same number of chips, it's a tie

cout << "Round ended in a tie!" << endl;

}

}

} while ((chips[0] > 0 || chips[1] > 0) && pPlay);

}

// calling the function to do the math

float percentage1 = calcWin(wins1, numRnd);

float percentage2 = calcWin(wins2, numRnd);

// final points with percentages

style();

prcn(usr1, usr2, wins1, wins2, percentage1, percentage2);

winnerDinner(wins1, wins2, usr1, usr2);

}

// Function to calculate win percentage

float calcWin(int wins, int numRnd)

{

return static\_cast<float>(wins) / static\_cast<float>(numRnd) \* 100.0f;

}

void winnerDinner(int &wins1, int &wins2,const string& usr1, const string &usr2)

{

if (wins1 > wins2)

{

cout << usr1 << " wins the game!" << endl;

}

else if (wins1 < wins2)

{

cout << usr2 << " wins the game!" << endl;

}

else

{

cout << "It's a tie!" << endl;

}

}

void chpShw(const string&usr1, const string &usr2, int &pot, vector<int> &chips)

{

// after each move

cout << usr1 << "'s chips: " << chips[0] << endl;

cout << usr2 << "'s chips: " << chips[1] << endl;

cout << "Pot: " << pot << " chips" << endl;

}

void prcn(const string &usr1, const string &usr2, int &wins1, int &wins2, float percentage1, float percentage2)

{

cout << endl << "Final Results:" << endl;

cout << usr1 << " wins: " << wins1 << " times (" << fixed <<

showpoint <<setprecision(2) << percentage1 << "%)" << endl;

cout << usr2 << " wins: " << wins2 << " times (" << fixed <<

showpoint << setprecision(2) << percentage2 << "%)" << endl;

}