Pseudo Carrom

Documentation For Lab Batch 322

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Introduction

Carrom the Game

Carrom is a generic term used for a family of table top games with gameplay similar to games like pool or billiards but different in the fact that fingers are used instead of cue sticks and balls are replaced by coins usually made of wood or plastic. This program tries to simulate the game of carrom albeit with reduced functionality on a computer screen through the graphical capabilities of C++.

Rules Of The Game

This version of the board used in this game is the one that is native to India and also the one found most commonly in the country. While different scoring systems are followed across the country this game uses a variant called Total Point carrom which is described below.

Board

In India the game is played on a square shaped wooden board of side 29 inches. Four pockets (holes) are present at the corners of the board into which the coins may be pocketed. There is no specific size for the holes. Patterns may be present at the center of the board to indicate where the coins should be placed at the beginning of the game

Carrom Men And The Queen

Carrom Men is the name given to the coins on the board which can be pocketed to score points in the game. There are coins of three colours in the game ten black,ten white and one red Queen.In the scoring system followed in the program,the black coins count for 5 points each, the white for 10 points each and the red queen for 50 points. On pocketing a coin the player is given an additional chance. The red queen requires an additional coin to be pocketed for the player to score the 50 points.

The Striker

The striker is the coin that is struck with the end of the finger. It is used to pocket the other coins on the board. The striker is usually heavier and larger than the other coins on the board. It is used in turns by the players of the game. Pocketing the striker results in a penalty which is usually 5 points.

The striker is passed around till all the coins are pocketed and at the end of the game the player with the most points wins. While up to four players can play the game this program is restricted to a two player version of the game. When the striker is being placed to be struck it can only be placed in between the horizontal lines closest to the side of the player striking it. Pocketing the striker or striking a coin on the diagonal lines closest to the player are considered fouls and are awarded penalties of 5 points.

Operating Instructions

Once the program is executed the player is given three options

1. Play Game

2. Instructions

3. Exit Program

The mouse is the primary input mechanism in the program and depending upon the input received the program either displays operating instructions, the game screen or exits the program. Once the game starts the player currently playing will be given options as to where they can place the striker, the amount of power that the player can apply on the striker and the direction of it's movement. Once the input is given the program simulates the movement of coins according to the variables received from the user. An animated version of events is shown by constantly refreshing the screen multiple times per second until all the coins on screen come to rest. This process is repeated until the game ends at which point the player is redirected back to the welcome screen.

Algorithm

Future Improvisations

This basic model of the game may be expanded to incorporate different variations of the game and single player gameplay with the player playing against the computer. The physics used in the game can also be expanded to use a model which more closely resembles the real life version of the game than the one currently used. Different difficulty levels may be added to the single player mode as well. The user may be allowed to configure the dimensions of the board according to his requirements and a basic tutorial can be organised for new comers to the game.

System Requirements

Batch Details

The batch has been split into 5 teams with each one handling a specific part of the program

1. Collisions

2. Allowed Positions

3. Input

4. Output

5. Design