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Assignment 1 Design

Description:

This program creates a game called "Left, Right, Center". It uses a random seed and a number of players from the user. The game checks the validity of these inputted values and then plays the game. Each player is initially given $3. If the player has 3 or more dollar's they get 3 dice rolls, if they have $2 they get 2 dice rolls, and finally, if they only have $1 they have one dice roll. The dice used in this game has 6 sides: 3 faces, 1 left, 1 right, and 1 center. If left is rolled, $1 is given to the player on the left, likewise, if a right is rolled a $1 is given to the player on the right. And if a Center is rolled, $1 is placed into the center. The game ends when 1 player remains, and the money in the center then goes to this winning player.

Files:

lrc.c: This current file that runs the game
philos.h: This file contains all the names of all the philosophers/players of the game

Initial Design:

Ask User for number of players
Checks if the number of players is between 2 and 14
Assigns each player $
Sets dice to have certain faces - •, •, •, L, R, C
Iterate through players and make each roll the dice depending on how many dice they can have until one player remains
    When L is rolled, $1 is given to player on left
    When R is rolled, $1 is given to player on right
    When C is rolled, $1 is placed into center
    When • is rolled, nothing happens

Final Design

Function
    Returns position of the player on the left
Function
    Returns the position of the player on the right
Function
    Returns randomized number from 1-6
Main function
  Asks user for seed
  IF seed no valid
    Return "Pseudorandom number must be non-negative (%d)\n", seed)
  ELSE
    Asks user for players
    IF the player number is valid
      Initializes array with the length of players to assign lives

```
        FOR gives each player 3 lives
        Initilaizes center
        Initializes number of players out of the game
        WHILE iterates till only one player remains
                FOR iterates through players in the game
                        Rolls is set to the amount of money the player has
                        IF the rolls > 0
                                Print ("%d: %s rolls... ", rounds, names[j])
                                Numrounds is set to rolls of player
                                IF rolls > 2
                                        numRound = 3
                                ELSE
                                        numRounds = rolls
                                FOR iterates through numRounds
                                        rollVal = roll function value
                                        IF rollVal = 0
                                                Get position of left player
                                                Give left player $1
                                                Deduct player by $1
                                                printf("gives $1 to %s ",
                                        names[leftPlayer])
                                        ELSE IF rollVal = 1
                                                Get position of rightt player
                                                Give right player $1
                                                Deduct player by $1
                                                printf("gives $1 to %s ",
                                        names[rightPlayer])
                                        ELSE IF rollVal = 2
                                                Give center player $1
                                                Deduct player by $1
                                                printf("puts $1 in the pot ")
                                        ELSE
                                                printf("gets a pass ");
                        deadCount = 0
                        FOR iterates through players to determine number of deadCount
                        IF only one player remains
                                break;
        Determine which player is the winner
        printf("\n%s wins the $%d pot with $%d left in the bank"...
ELSE
         printf("Number of players must be from 1-14 \n");
Return 0
```