Project 1

Farkle

CSC5
Juan Castellon
4/23/18

Introduction

Title: Farkle

Farkle is point-based game played with 6 six-sided dice. The game is played by the players initially rolling the dice to see who goes first based on the highest rolling player. Players then take turns rolling the dice to see who can get the highest rolls.

The point system is as follows:

Any 1 rolled =	100 pts
Any 5 rolled =	50 pts
3 2s rolled =	200 pts
3 3s rolled =	400 pts
3 4s rolled =	600 pts
3 6s rolled =	800 pts

If none of these combinations get rolled, it will result in a Farkle.
A Farkle halves the amount of points a player has.

The first person to 10,000 points is the winner.

Summary

Project size: 600 lines.
The number of variables: 24

I mainly used a bunch of if statements to filter out the possible outcomes of the dice rolls in order to show the player their options when picking how they want to gain their points. The counters, ones, twos, threes ,fours, fives, and sixes all did this by having their counters incremented by 1 each time a die landed on that number. This method of approach was good for the context of the program (and my knowledge) because it allowed me to manipulate the data of the outcomes into more if statements, asking the player choose whether or not to cash in on their points if they rolled a specific outcome as opposed to writing a long and convoluted if statement depending on the outcome of the rolls. If I had done the latter, I would have needed to code so many more outcomes.

Pseudo Code

Ask for names from both player 1 and player 2

Do
    Menu prompts the user if they want to play Farkle
    If 1 is pressed, the program will continue, If 0 is pressed the program will exit
While decision is not 1 or 0

Do
    Determine which player will go first via dice roll
While the dice rolls are the same

If player 1's dice roll is bigger
    Player 1 will go first
Else
    Player 2 will go first

While player 1's score is less than 10000 and player 2's score is less than 10000
    Start the 1st player's turn with random number function deciding dice rolls
    Initialize roll counters to 0
    Determine values with if statements for number 1-6 with counters
    Display the outcomes of the rolls to the 1st player
    If statements for the player deciding how to score points
    If none of the if statements are true, then player loses points via trailing else statement
    Announce the player's score

    Start the 2nd player's turn with random number function deciding dice rolls
    Initialize roll counters to 0
    Determine values with if statements for number 1-6 with counters
    Display the outcomes of the rolls to the 1st player
    If statements for the player deciding how to score points
    If none of the if statements are true, then player loses points via trailing else statement
    Announce the player's score

If player 1's score is greater than or equal to 10000
    Player 1 gains a win
    Player 2 loses a win (can have negative wins)

If player 2's score is greater than or equal to 10000
    Player 2 gains a win
    Player 1 loses a win (can have negative wins)

Open file
Output score of the two player and their wins to a file called "Scores.txt"
Close file