Assignment 3 Writeup

play-dreidel.c:

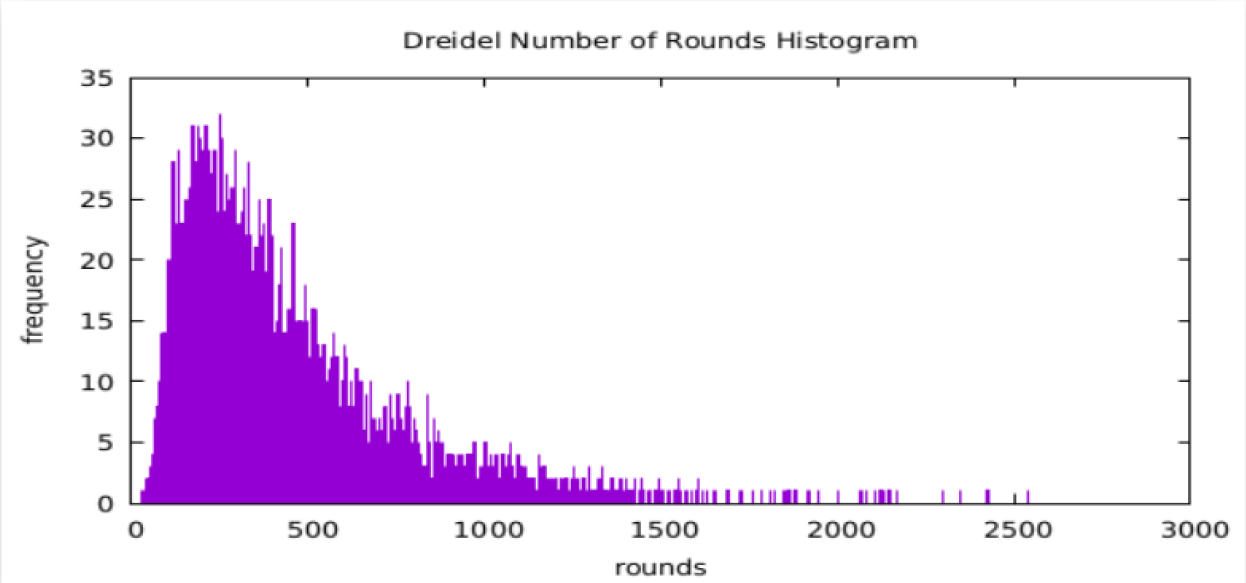
This c file takes in command line arguments:

-p [number of players]
-c [number of coins per player]
-s [random seed]
-v

It then prints the results of a game of dreidel including the winner and the number of rounds the game went on for. If given the option -v then whenever a player is eliminated it prints their name and the round they were eliminated on.

On average, how long does a game of dreidel with 6 players and 4 coins last? What is the longest game, and what is the shortest game?

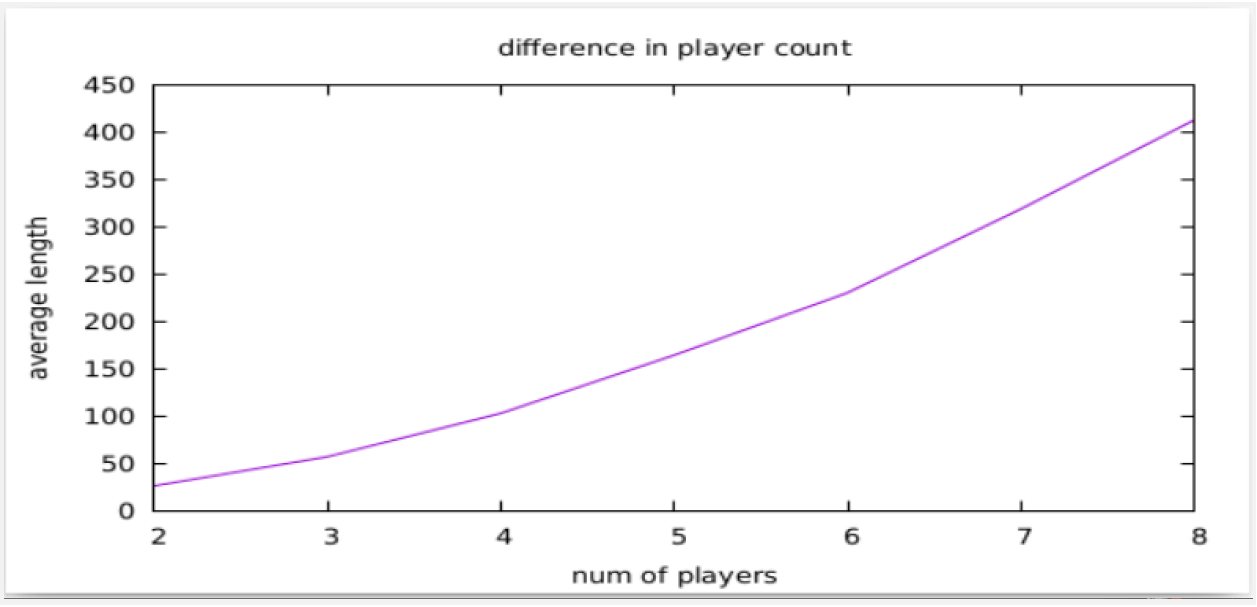
Histogram of frequency of rounds for first 10,000 seeds:



There was an average game length of 401.672 rounds. The shortest game was 26 rounds, and the longest game lasted 2539 rounds.

If there are more players, does the game last more or fewer rounds? Experiment with 3 coins per player to test your idea.

Graph of average game length for different player counts:



The average length of the game increased with the number of players as I expected..

Is there an advantage (or disadvantage) to position in a round? In other words, are players in a particular position more likely to win or lose a game?

Players and win count for first 30,000 seeds for an 8 player game with 4 starting coins.

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Aharon 3653
Batsheva 3732
Chanah 3698
David 3781
Ephraim 3821
Faige 3773
Gamaliel 3788
Hannah 3754
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There is no significant advantage or disadvantage to position in a round. I think that because games of dreidel last a large amount of rounds the difference in starting order is negligible.