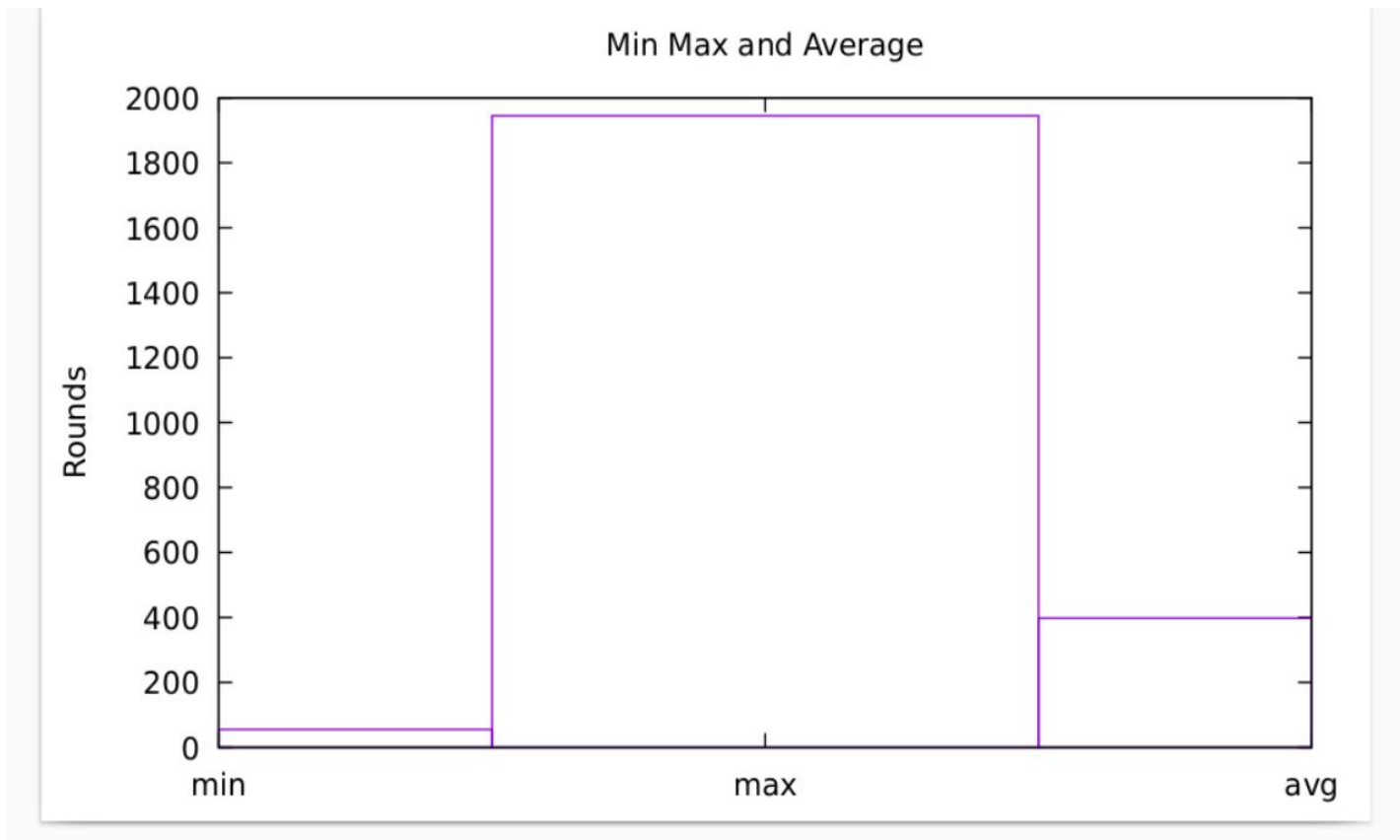


Question 1



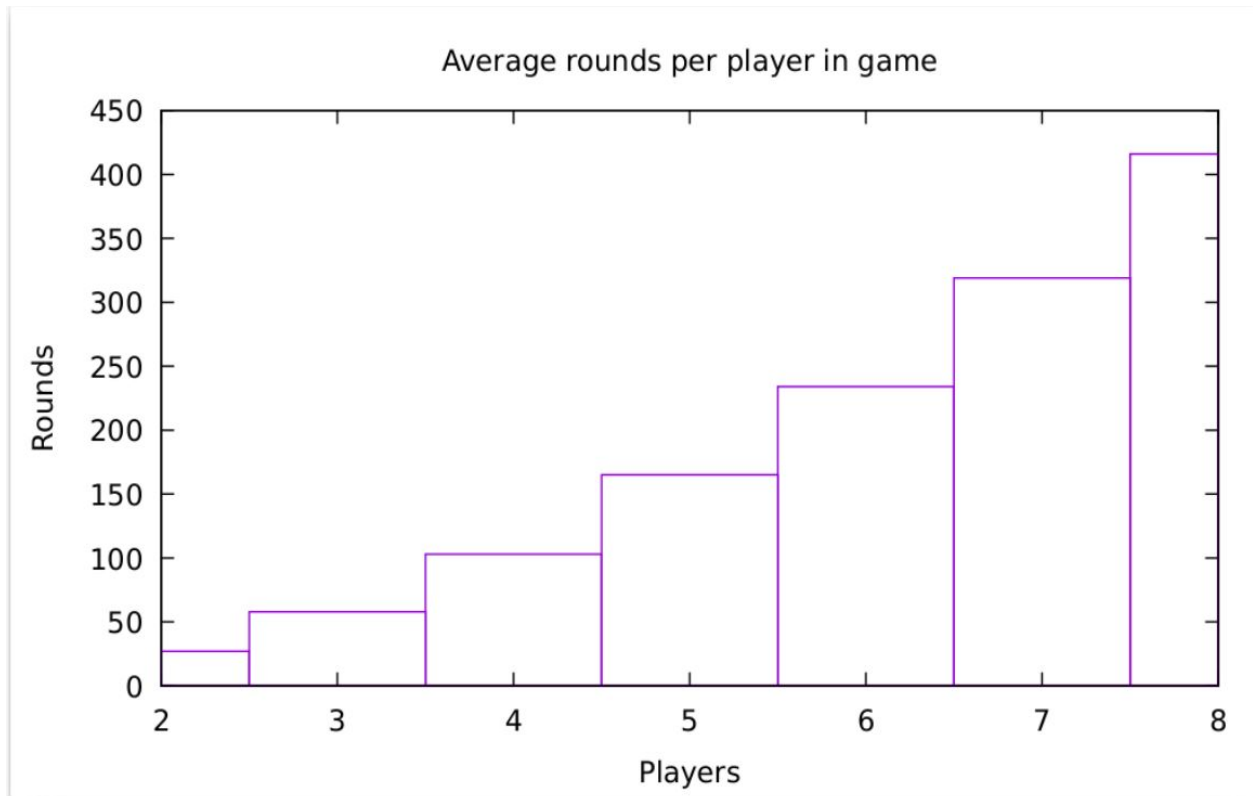
How long does it take for a game with 6 players and 4 coins last on average?

After 1000 games, the average was about 398 rounds. The minimum was 55 rounds while the maximum was 1945 rounds.

This is interesting because the average is not in the middle between the minimum and maximum. This suggests there is a small chance that the game goes on for an extremely long time being multiple times the average rounds. However most of the time the game will not reach close to the maximum.

I reached this conclusion by running the dreidel game on 1000 different seeds, then counting all the rounds of each output and dividing it by 1000. This got me the average and while looping through the rounds, I found the minimum and maximum

Question 2

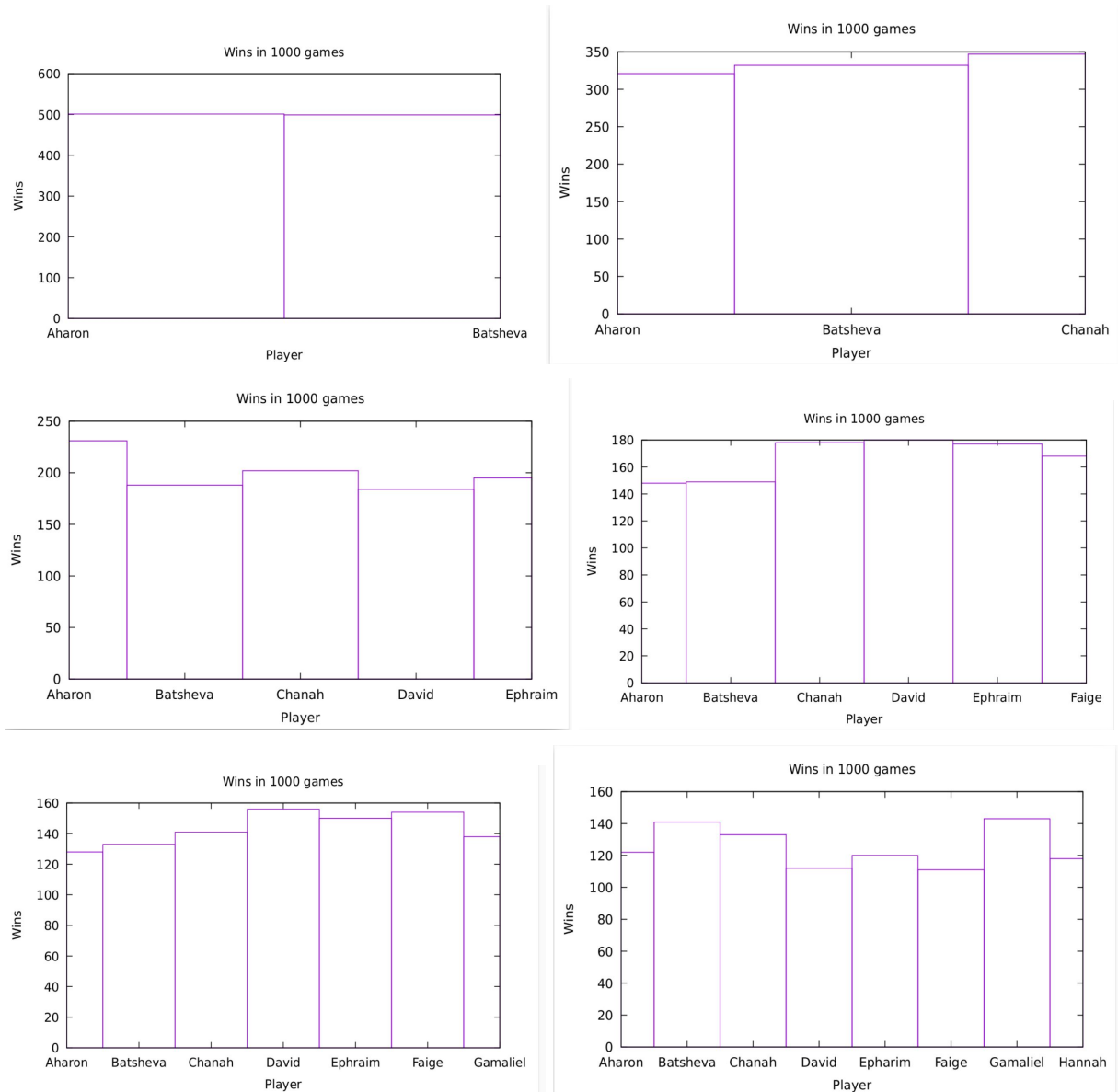


What happens to game length as the amount of players increases?

As the number of players in the game increases, the average rounds the game takes increases as well. I believe that this is partly caused by the fact that every time a player is added, the total number of coins in the game increases. This means that there must be more S rolls that occur to get the players to lose those coins. It also means that there is less of a chance of winning the pot per player since the number of turns between one player turn increases so the odds that they gather all the coins become much harder to do quickly.

I created this graph by finding the average of each game with N players running 1000 times each. I then plotted the number of players with the average rounds.

Question 3



Is there an advantage based on position in dreidel?

As the number of players increases, the amount of wins per player seems to be similar to everyone else in the game. This leads me to believe that there is little to no advantage in your position in a game of dreidel. This is probably because as the rounds

increase, every player rolls practically the same number of times so there is no real advantage to your position in a game.

I made this graph by creating a plot of every player's wins after 1000 games for each number of players from 2 to 8. This data was then plotted which shows that there seems to be a similar amount of wins per player across all of the games. This suggests that there is no advantage tied to your position in a game of dreidel.