## Introduction

- Calculated probabilities, using multiplication and combinatorics

- Created a script in C in order to simulate the game 10,000,000 times in order to get accurate results

- Stored theoretical results and Experimental results in Excel

- Assumed dice were always fair, that my programming is sound, no observations

## Solve

- Calculated theoretical probabilities for the players by first calculating how many outcomes there are, according to Sides of diceNo of dice

- Counted Outcomes 3 of a kind manually (111 222 333 444 555 666 777 888)

= 8

- Calcualted 3 in a row by counting

- 678(3!), 567(3!), 456(3!), 345(3!),234(3!), 123(3!)

= 6\*6

= 36

- 24 was simple as there was only one outcome, 888.

= 1

- >=20 <24 was calculated by adding all the possible outcomes with an 8 (887(3), 886(3), 885(3), 884(3), 877(3), 876(3!), 875(3!), 866(3)) and 7 (777, 776(3)) none for only 6 or lower

= 3+3+3+3+3+6+6+3+1+3

= 3\*6+6\*2+1

= 31

- >=18<20 was calculated by pretty much the same way as above but with different numbers 8 (865(3!), 855(3)) 7 (775(3), 774(3), 766(3), 765(3!)), 6 (666(1))

= 6+3+3+3+3+6+1

= 12+12

= 24

\*\*\*PROBABILITIES WILL PROBABLY BE ALTERED\*\*\*

## Data Table – Experimental House edge isnt calculated yet



## Evaluation – to be done in draft, as it requires more concrete probabilities and better numbers (and more like english than math)

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