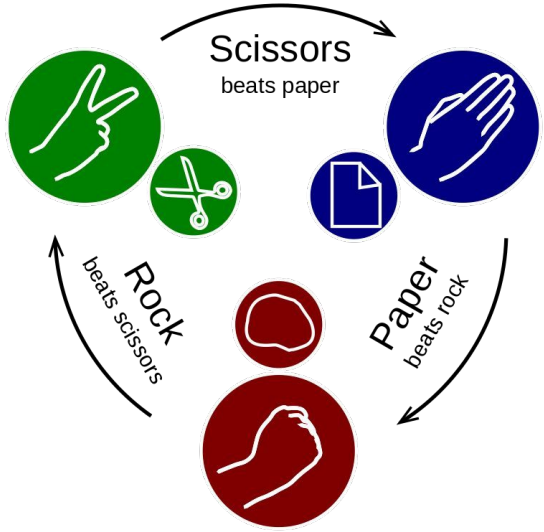
Algorithm Results



Colton Pulliam, Chase Saba, Caleb Neumann, Yohan Sanchez

Explanation of Results

Each algorithm was put up against our other algorithms for 5000 rounds and results were recorded. This was done 3 times in order to get a range of results. Overall success and averages were then calculated for each algorithm.

Colton Algorithm 1

Vs Colton Algorithm 2

Round #1

```
Winning Algorithm: Algorithm 2
Win Percentage: 46%
Tie Percentage: 8%

Losing Algorithm: Algorithm 1
Win Percentage: 45%
Tie Percentage: 8%
```

Round #2

```
Winning Algorithm: Algorithm 1
Win Percentage: 48%
Tie Percentage: 4%

Losing Algorithm: Algorithm 2
Win Percentage: 47%
Tie Percentage: 4%
```

Round #3

```
Winning Algorithm: Algorithm 1
Win Percentage: 48%
Tie Percentage: 4%

Losing Algorithm: Algorithm 2
Win Percentage: 47%
Tie Percentage: 4%
```

Vs Chase Algorithm 1

Round #1

```
Winning Algorithm: Algorithm 1
Win Percentage: 44%
Tie Percentage: 19%

Losing Algorithm: Algorithm 2
Win Percentage: 36%
Tie Percentage: 19%
```

Round #2

```
Winning Algorithm: Algorithm 1
Win Percentage: 44%
Tie Percentage: 18%

Losing Algorithm: Algorithm 2
Win Percentage: 37%
Tie Percentage: 18%
```

Round #3

```
Winning Algorithm: Algorithm 1
Win Percentage: 44%
Tie Percentage: 18%

Losing Algorithm: Algorithm 2
Win Percentage: 37%
Tie Percentage: 18%
```

Vs Chase Algorithm 2

Round #1

```
Winning Algorithm: Algorithm 2
Win Percentage: 33%
Tie Percentage: 34%

Losing Algorithm: Algorithm 1
Win Percentage: 32%
Tie Percentage: 34%
```

Round #2

```
Winning Algorithm: Algorithm 2
Win Percentage: 33%
Tie Percentage: 33%

Losing Algorithm: Algorithm 1
Win Percentage: 33%
Tie Percentage: 33%
```

Round #3

```
Winning Algorithm: Algorithm 2
Win Percentage: 33%
Tie Percentage: 34%

Losing Algorithm: Algorithm 1
Win Percentage: 31%
Tie Percentage: 34%
```

Vs Caleb Algorithm 1

Round #1

```
Player 1 throws >> r
Player 2 throws >> s
Round#2513
Win:1615 Percentage: 64%
Tied: 869 Percentage: 34%
Loss: 29 Percentage: 1%
```

Opposing function seems to only output either losing or tie choices, Algorithm 1 gets a very high win rate and the program closes midway through due to opponent algorithm, specific reason is unknown

Colton Algorithm 1 Results(out of the 10 rounds)

Overall Win Rate: 60%
Overall Tie Rate: 10%

Overall Loss Rate:

30% Avg Win %: 43%

Avg Tie %: 21%

Chase Algorithm 1:

Vs Colton Algorithm 1 | Vs Colton Algorithm 2 | Vs Chase Algorithm 2 | Vs Caleb Algorithm 1

Round #1

```
Winning Algorithm: Algorithm 2
Win Percentage: 44%
Tie Percentage: 19%

Losing Algorithm: Algorithm 1
Win Percentage: 36%
Tie Percentage: 19%
```

Round #2

```
Winning Algorithm: Algorithm 2
Win Percentage: 44%
Tie Percentage: 19%

Losing Algorithm: Algorithm 1
Win Percentage: 35%
Tie Percentage: 19%
```

Round #3

```
Winning Algorithm: Algorithm 2
Win Percentage: 43%
Tie Percentage: 20%

Losing Algorithm: Algorithm 1
Win Percentage: 36%
Tie Percentage: 20%
```

Round #1

```
Winning Algorithm: Algorithm 2
Win Percentage: 46%
Tie Percentage: 12%

Losing Algorithm: Algorithm 1
Win Percentage: 40%
Tie Percentage: 12%
```

Round #2

```
Winning Algorithm: Algorithm 1
Win Percentage: 43%
Tie Percentage: 15%

Losing Algorithm: Algorithm 2
Win Percentage: 41%
Tie Percentage: 15%
```

Round #3

```
Winning Algorithm: Algorithm 2
Win Percentage: 42%
Tie Percentage: 16%

Losing Algorithm: Algorithm 1
Win Percentage: 41%
Tie Percentage: 16%
```

Round #1

```
Winning Algorithm: Algorithm 2
Win Percentage: 35%
Tie Percentage: 44%

Losing Algorithm: Algorithm 1
Win Percentage: 20%
Tie Percentage: 44%
```

Round #2

```
Winning Algorithm: Algorithm 2
Win Percentage: 34%
Tie Percentage: 44%

Losing Algorithm: Algorithm 1
Win Percentage: 21%
Tie Percentage: 44%
```

Round #3

```
Winning Algorithm: Algorithm 2
Win Percentage: 33%
Tie Percentage: 45%

Losing Algorithm: Algorithm 1
Win Percentage: 20%
Tie Percentage: 45%
```

Round #1

```
Round#2577
Win:1980 Percentage: 76%
Tied: 316 Percentage: 12%
Loss: 281 Percentage: 10%
```

Once again, opponent algorithm lost a significant amount of games and threw itself out midway through

Chase Algorithm 1 Results

Overall Win Rate: 20%
Overall Tie Rate: 0%

Loss Rate: 80%

Avg Win %:

36% Avg Tie %:

25%

Caleb Algorithm 1

Vs Colton Algorithm 1 Vs Colton Algorithm 2 Vs Chase Algorithm 1 Vs Chase Algorithm 2

Threw out in every instance, no results could be properly concluded

Colton Algorithm 2

Vs Colton Algorithm 1

Round #1

```
Winning Algorithm: Algorithm 2
Win Percentage: 47%
Tie Percentage: 5%

Losing Algorithm: Algorithm 1
Win Percentage: 46%
Tie Percentage: 5%
```

Round #2

```
Winning Algorithm: Algorithm 2
Win Percentage: 46%
Tie Percentage: 7%

Losing Algorithm: Algorithm 1
Win Percentage: 45%
Tie Percentage: 7%
```

Round #3

```
Winning Algorithm: Algorithm 2
Win Percentage: 48%
Tie Percentage: 4%

Losing Algorithm: Algorithm 1
Win Percentage: 46%
Tie Percentage: 4%
```

Vs Chase Algorithm 1

Round #1

```
Winning Algorithm: Algorithm 2
Win Percentage: 43%
Tie Percentage: 15%

Losing Algorithm: Algorithm 1
Win Percentage: 40%
Tie Percentage: 15%
```

Round #2

```
Winning Algorithm: Algorithm 2
Win Percentage: 43%
Tie Percentage: 15%

Losing Algorithm: Algorithm 1
Win Percentage: 41%
Tie Percentage: 15%
```

Round #3

```
Winning Algorithm: Algorithm 2
Win Percentage: 43%
Tie Percentage: 14%

Losing Algorithm: Algorithm 1
Win Percentage: 42%
Tie Percentage: 14%
```

Vs Chase Algorithm 2

Round #1

```
Winning Algorithm: Algorithm 1
Win Percentage: 2%
Tie Percentage: 96%

Losing Algorithm: Algorithm 2
Win Percentage: 1%
Tie Percentage: 96%
```

Round #2

```
Winning Algorithm: Algorithm 1
Win Percentage: 2%
Tie Percentage: 96%

Losing Algorithm: Algorithm 2
Win Percentage: 1%
Tie Percentage: 96%
```

Round #3

```
Winning Algorithm: Algorithm 1
Win Percentage: 2%
Tie Percentage: 96%

Losing Algorithm: Algorithm 2
Win Percentage: 1%
Tie Percentage: 96%
```

Vs Caleb Algorithm 1

Round #1

```
Round#1505
Win:736 Percentage: 48%
Tied: 121 Percentage: 8%
Loss: 648 Percentage: 43%
```

Threw out

Colton Algorithm 2

Overall Win Rate: 40%
Overall Tie Rate: 0%

Overall Loss Rate:

60% Avg Win %: 31%

Avg Tie %: 35%

Chase Algorithm 2

Vs Colton Algorithm 1

Round #1

```
Winning Algorithm: Algorithm 2
Win Percentage: 33%
Tie Percentage: 35%

Losing Algorithm: Algorithm 1
Win Percentage: 31%
Tie Percentage: 35%
```

Round #2

```
Winning Algorithm: Algorithm 2
Win Percentage: 34%
Tie Percentage: 33%

Losing Algorithm: Algorithm 1
Win Percentage: 32%
Tie Percentage: 33%
```

Round #3

```
Winning Algorithm: Algorithm 2
Win Percentage: 33%
Tie Percentage: 35%

Losing Algorithm: Algorithm 1
Win Percentage: 31%
Tie Percentage: 35%
```

Vs Colton Algorithm 2

Round #1

```
Winning Algorithm: Algorithm 2
Win Percentage: 3%
Tie Percentage: 96%

Losing Algorithm: Algorithm 1
Win Percentage: 0%
Tie Percentage: 96%
```

Round #2

```
Winning Algorithm: Algorithm 2
Win Percentage: 3%
Tie Percentage: 96%

Losing Algorithm: Algorithm 1
Win Percentage: 0%
Tie Percentage: 96%
```

Round #3

```
Winning Algorithm: Algorithm 2
Win Percentage: 2%
Tie Percentage: 96%

Losing Algorithm: Algorithm 1
Win Percentage: 1%
Tie Percentage: 96%
```

Vs Chase Algorithm 1

Round #1

```
Winning Algorithm: Algorithm 2
Win Percentage: 33%
Tie Percentage: 44%

Losing Algorithm: Algorithm 1
Win Percentage: 22%
Tie Percentage: 44%
```

Round #2

```
Winning Algorithm: Algorithm 2
Win Percentage: 34%
Tie Percentage: 45%

Losing Algorithm: Algorithm 1
Win Percentage: 19%
Tie Percentage: 45%
```

Round #3

```
Winning Algorithm: Algorithm 2
Win Percentage: 34%
Tie Percentage: 45%

Losing Algorithm: Algorithm 1
Win Percentage: 20%
Tie Percentage: 45%
```

Vs Caleb Algorithm 1

Round #1

```
Round#2097
Win:0 Percentage: 0%
Tied: 2076 Percentage: 98%
Loss: 21 Percentage: 1%
```

Interestingly enough, there were only ties in this instance

Chase Algorithm 2 Results

Overall Win Rate: 0%

Overall Tie Rate: 10%?

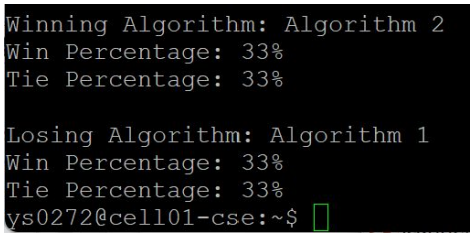
Overall Loss Rate: 90-100%(interestly enough, when place in first alg slot, cannot seem to win)

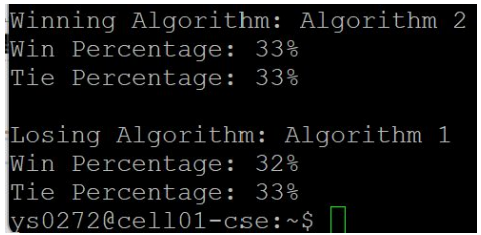
Avg Win %:

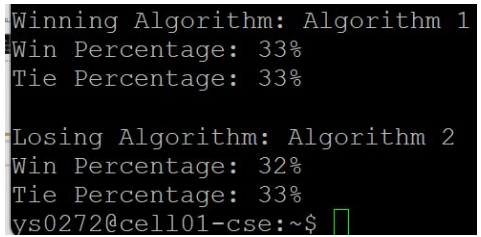
16% Avg Tie %:

62%

Yohan’s Algorithm VS Colton







The results from testing my algorithm (algorithm 2) against Colton’s winning algorithm (algorithm 1) ended up being a tie. This result was from doing 3 trials at 5000 rounds. After some further trials we learned that Colton’s algorithm is weak the lower the rounds get. Anything under 700 rounds results in a win for my algorithm. Attempting more rounds going up to 10,000 rounds still ended up in a draw.

Yohan’s Algorithm VS Chase

```
Winning Algorithm: Algorithm 1
Win Percentage: 32%
Tie Percentage: 34%

Losing Algorithm: Algorithm 2
Win Percentage: 32%
Tie Percentage: 34%
ys0272@cell01-cse:~$
```

```
Winning Algorithm: Algorithm 1
Win Percentage: 33%
Tie Percentage: 34%

Losing Algorithm: Algorithm 2
Win Percentage: 32%
Tie Percentage: 34%
ys0272@cell01-cse:~$
```

```
Winning Algorithm: Algorithm 1
Win Percentage: 34%
Tie Percentage: 33%

Losing Algorithm: Algorithm 2
Win Percentage: 32%
Tie Percentage: 33%
ys0272@cell01-cse:~$
```

Very similarly to Colton’s algorithm my algorithm (algorithm 1) only managed to win against Chase’s algorithm (algorithm 2) by 1-2%. However, after further trials Chase’s algorithm wins by a greater percentage the lower the number of rounds reaching almost double the win percentage. Anything under 300 rounds is usually a win for Chase’s algorithm. When entering higher rounds up to 10,000 both algorithms end up in a tie.

Results Bar Graph