Group 17: Maria-Deney Hawkins & Abraham Prasad

**------------------------ ------------------------ Project 1 ------------------------ ------------------------**

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| --- | --- | --- | --- | --- | --- | --- |
| **Evaluation/Skill Level** | **Games Played** | **Games Won** | **Ties** | **Percent Won (of games played)** | **Percent Tied** | **Total percent Won** |
| E1/S1 | 198 | 64 | 70 | 0.323232323 | 0.353535354 | 0.064 |
| E1/S2 | 217 | 75 | 65 | 0.34562212 | 0.299539171 | 0.075 |
| E1/S3 | 238 | 75 | 75 | 0.31512605 | 0.31512605 | 0.075 |
| E2/S1 | 233 | 83 | 121 | 0.356223176 | 0.519313305 | 0.083 |
| E2/S2 | 224 | 80 | 56 | 0.357142857 | 0.25 | 0.08 |
| E2/S3 | 216 | 46 | 74 | 0.212962963 | 0.342592593 | 0.046 |
| E3/S1 | 242 | 69 | 119 | 0.285123967 | 0.491735537 | 0.069 |
| E3/S2 | 238 | 92 | 76 | 0.386554622 | 0.319327731 | 0.092 |
| E3/S3 | 194 | 54 | 68 | 0.278350515 | 0.350515464 | 0.054 |

**Summary**

For our project our 3rd board evaluation was an alteration of the first one. We incentivized the main player to catch more of the opponent’s pieces by having them cost twice as much. Our code from there would use an 2d array to keep track of the number of games won, tied, and played by each evaluation and skill level combination. The final number of the array were printed in the end. These final numbers were used for our analysis.

**Discussion**

The games were iterated by calling the setInterval function. This function would check if the game had completed every 10 seconds. When it had completed it will recursively call a new test function until 1000 trials have been completed. This function could have had an effect on the outcomes of the trials do to the fact that it might have affected the execution of each process.

**Conclusion**

After running 1000 trials, the combination of evaluation 3 with a skill level (depth level) of 2 won the most with a 38.65% win rate. The combination with the least win was evaluation 2 with a skill level of 3 with only a 21% win rate.