# Isolation - Heuristic analysis

## Purpose

The purpose of this document is to analyze heuristics for Isolation game and its performance as it was measured and evaluated using tournament.py script.

## Process of heuristic ‘design’ and implementation

First I considered the suggestions that were mentioned during the course videos e.g. try to keep to the center of board, try to follow opponent, try to apply differ evaluation in different phases of the game.

I started with a simple heuristic like trying to stay close to diagonals all the time. Then I was running the tournament script and addressing the situations when my agent was significantly losing with some type of agent e.g. AB\_Open, AB\_Center, AB\_Improved.

## custom\_score

## custom\_score\_2

### custom\_score\_3

## Conclusion

Definitely it would help to have more time to run more tournaments to better evaluate and measure the heuristics used. Generally, what has proved to hold is to try to stay at the center of the board as well as evaluate who has higher number of moves. The distance to the opponent player is finetuning of the previous two main features.

1. For each of your three custom heuristic functions, evaluate the performance of the heuristic using the included tournament.py script. Then write up a brief summary of your results, describing the performance of the agent using the different heuristic functions verbally and using appropriate visualizations.

Submit the code file: game\_agent.py  
Submit your analysis as: heuristic\_analysis.pdf  
Your analysis should conclude with a comparison of the different heuristics and your reasoning for choosing the heuristic you ultimately use in your submitted agent.