# Isolation Heuristic Analysis

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## 1 Heuristicsc

For my heuristics I've decided to focus on the number of moves between the oponent and the player. As so we can define the following variables: $p$ for the number(length) of player moves, $o$ for the number(length) of oponent moves, $w$ for the weight.

### 1.1 Heuristic 1

For the first heuristic we simply calculate the diference of moves between the player and the oponent, to try and minimize the opponents move:

$$p - o \tag{1}$$

### 1.2 Heuristic 2

The second heuristic we add a weight $w$, variable and multiply the weighted player moves with the oponent moves, trying to maximize the number of the players moves. Given the following equation:

$$p - w * o \tag{2}$$

### 1.3 Heuristic 3

The final heuristic measures the *centrality*, which is the distance from the center to a certain location in the board.

The centrality is given by:

$$w = (\alpha - X) * 2 + (\beta - y) * 2 - (x - X) * 2 - (y - Y) * 2 \tag{3}$$

Where $\alpha$ is the board width, $\beta$ is the board height, ($x$, $y$) are the player coordinates, and ($X$, $Y$) are the central positions of the board.

And the heuristic is measured as, where our weight variable is the given centrality:

$$p + w * o \tag{4}$$

## 2 Evaluation