Heuristic Analysis

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Build a Game-playing Agent

This project

Custom Heuristic #1

```python
if game.is_loser(player):
        return float("-inf")
    if game.is_winner(player):
        return float("inf")
    moves = len(game.get_legal_moves(player))
    prob_moves =
len(game.get_legal_moves(game.get_opponent(player)))
    return moves * moves - 1.5 * prob_moves * prob_moves
```

Custom Heuristic #2

```python
if game.is_loser(player):
        return float("-inf")
    if game.is_winner(player):
        return float("inf")
    moves = len(game.get_legal_moves(player))
    opponent_moves =
len(game.get_legal_moves(game.get_opponent(player)))
    return 1.5 * moves * moves - opponent_moves * opponent_moves
```

Custom Heuristic #3

```python
opponent = game.get_opponent(player)
    opponent_moves = game.get_legal_moves(opponent)
    p_moves = game.get_legal_moves()
    common_moves = opponent_moves and p_moves
    if not opponent_moves:
        return float("inf")
    if not p_moves:
        return float("-inf")
    move_convergence = 1 / (game.move_count + 1)
    inverse_convergence = 1 / move_convergence
    return float(len(common_moves) * move_convergence +
inverse_convergence * len(game.get_legal_moves()))
```