# GADE 7321 Concept Document

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## High Concept Statement

## Game Rules

The game is a two-player game set on a 8x8 checkered-tile board.

* The game is turn-based
* A turn ends either when there are no more possible moves, or when the player declares their turn is over
* Each player has 12 game pieces: 4 guards, 4 mercenaries, 3 shields, and 1 crown
* A guard can move linearly along any number of tiles
* A mercenary can move diagonally along any number of tiles
* A shield can move linearly along 2 adjacent tiles, or diagonally to 1 adjacent tile
* The crown can only move to 1 adjacent block (not diagonally)
* Each player must attempt to capture their opponent’s pieces by moving to the tile behind the target piece
* The game ends when a player captures the enemy crown

## Game State Representation

## Utility Function

The utility function is the “training signal” of a machine learning algorithm by checking the “goodness” of the outcomes generated by the AI.