Rahul Saxena :- Documentation (GameAI Project)

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1 Introduction

Battleships is a board game involving two players, each having fictional ships placed on a grid, which is hidden from the other player. A player needs to guess the location of the other players ships, and sink them. The first player to sink all his/her opponents ships wins the game. The objective will be to design such an AI which can do this efficiently.

2 Implementation Details

We will implement a text-based version (the visual board will be coded afterward, in common for the multiple teams). Initially, our program will arrange the ships on our grid and print the same.. After this, we will expect that given a 2D array representing a board (with three kinds of markers, Hit, Miss and Outguessed), we will be able to output the best possible next move. We should also be able to detect when a win/loss condition is attained.

3 Week1:

1. Learned python by LPTHW and Udacity. Tried making some simple codes and learned about libraries.
2. Studied commandline and git.
3. Some basic information regarding numpy and scipy from internet.

4 Week2:

1. Created a fully functional game console in python , using just the basic python utilities- list , dictionaries and functions.
2. The game is fully fledged in sense that it has all the utilities of the original battleship game, and the game is very user friendly, fun to play and the code is lucent enough to experimented upon.
3. Had to devote considerable time in the debugging of the code and documenting it properly so that it could be understood and the used accordingly by the other team members.
4. The game is very well broken into separate functions, which makes it easy to experiment upon it and test the outputs.

Code for all the above tasks is stored in github repository- https://github.com/rahul7iitk/Game-API

5 Week3:

1. Started with the Andrew NG's online machine learning course, proceeding ahead slowly so as to grasp the subject completely.
2. made proper notes of the lectures week by week for future references, and for sharing among the team members.
3. Also doing ACA summer school course for Machine Learning , thus getting further notes and study material to supplement learning.
4. Currently discussing and planning on how to generate data sets relevant to the API , using the board's coordinates, and current scenario of the game(reward points) using python libraries and feeding it to the system for learning.