

# Documentation(Aakarsh Gupta)- GameAI Pclub Project -mentored by Prannay Khosla

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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 Unguessed), 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:**

I was not present in the campus.

### **4 Week2:**

1. PYTHON - by LPTHW and Code Academy. All sample files that were used for learning python are added to the github repositories.
2. Python Libraries NUMPY, SCIPY and MATPLOTLIB - these will be used for implementation from <http://cs231n.github.io/python-numpy-tutorial/> and other resources.
3. COMMANDLINE and GIT - tutorials from Code Academy

### **5 Week3:**

1. MACHINE LEARNING - Learned Machine Learning from Andrew Ng on-line course on coursera (till week 2) - <https://www.coursera.org/learn/machine-learning/home/welcome>
2. Made alterations in the main code for creating a no ship region

Code for the above in github repository- <https://github.com/rahul7iitk/Game-API>