

## Homework 6

### OpenNERO—Iterative Deepening Search

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**Due: Thursday, Oct. 10<sup>th</sup>, at beginning of class (11:10AM).**  
**(Submit to Blackboard by due date/time.)**

*[This assignment is the same for all students. Note that you will build upon the code you develop in this exercise in a later programming assignment, so doing poorly on this assignment will negatively impact more than one homework.]*

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### Implementing Iterative Deepening A\* Search using OpenNERO.

You must work with the team arrangement you “declared” in Part 1 of HW 5.

Follow the instructions provided at <http://code.google.com/p/opennero/wiki/HeuristicSearchExercise> to modify existing depth-first search and A\* algorithms in the Maze environment to implement Iterative-Deepening A\* search (IDA\*). (Recall IDA\* from Chapter 3.)

**What to submit to BlackBoard (only one submission per team; either team member may submit on behalf of both):**

In a single (compressed if needed) tarball:

- Your **agent code** (in Python), commented appropriately
- **Instructions** for how to run your code in OpenNERO (in case you change any aspects of OpenNERO other than your agent code)
- A **screenshot** showing the Maze environment after running your IDA\* agent code. (Similar to the provided code, your screenshot should show the nodes considered/visited by the agent during the search.)
- [If working on a team] A **Workload Report** (agreed upon by both team members) that states what each team member did on this project, along with a percentage breakdown (totaling 100%) of how much work each member contributed to the solution. The contribution should be measured over all aspects of the assignment, including conceptual discussions, etc., and should not just be based on how many lines of code each team member wrote.

### How grading will be done for teams:

The grading for this assignment, when working in teams, will be as follows. Both members of the team will receive the same grade as a starting point, based on the submission. Then, the Workload Report information either results in the scores staying the same, or it can result in one student’s score moving down by some amount (maximum of 10 points).