

**Your project description has to be handed to me in final form LATEST on Wednesday March 10.**

A. One project suggested by Nicola today at class is briefly described as follows:

Robocode is a platform developed by IBM that allows virtual tanks to fight each other in a simulated arena. Each tank has sensors to get information about the environment (battle field). It also has actuators to perform actions. To program a tank in Robocode, players are likely to develop strategies or motion patterns. Since the environment in Robocode is dynamic and not fully observable, hand-coded methods are not always the best way.

In this project, a robot with adaptive behaviors has to be implemented. The idea is to use Reinforcement Learning (RL) to allow the robot to learn policies that maximize a given performance measure.

<http://robocode.sourceforge.net/>  
[http://en.wikipedia.org/wiki/Reinforcement\\_learning](http://en.wikipedia.org/wiki/Reinforcement_learning)

**If you are interested in pursuing this project please contact Nicola directly (with copy to me): [nicola.bicocchi@gmail.com](mailto:nicola.bicocchi@gmail.com)**

B. If you plan to define your own project and not use BRAHMS but rather the major AI techniques that we studied at class - then as example of level of difficulty that I expect have a look at the exercises:

From the 3rd Edition of the textbook  
12.5 - 12.6 (page 474); 10.4 (page 397) 7.22 (page 284)

[From the 2<sup>nd</sup> Edition of the textbook: 10.22-10.23; 11.13; 7.11]

Please submit your project description to me ASAP via email so I can give you feedback. We can as well discuss on Monday March 8 at class and after class during my office hours.