24304- Artificial Intelligence
Universitat Pompeu Fabra
Computer Science

Project 3- Reinforcement Learning, 2020

Deadline: Friday December 4th @ 11:59pm

This project counts towards 10% of the marks for this subject.
This assignment should be done in groups of 3 students.

The purpose of this project is to control the Pacman using a popular and well-established learning technique.

http://inst.eecs.berkeley.edu/~cs188/pacman/project_overview.html

Your task is to complete UC Pacman Project 3 at http://inst.eecs.berkeley.edu/~cs188/pacman/reinforcement.html. You can download the zip with all the necessary files to complete the project, the description of the task is contained within that. Please make sure you follow the instructions in the project specification and in the source code. In particular, you should add your code where it says: *"*** YOUR CODE HERE ***"*

Corrections: From time to time, students or staff find errors (e.g., typos, unclear instructions, etc.) in the assignment specification. In that case, corrected version will be uploaded to the aula global as quickly as possible and an announcement will posted in the forum.

Marking criteria: We will follow the marking criteria specified in the project instructions. Observe that while the automarker is a useful indication of your performance, it is not the ultimate mark. We reserve the right to run more tests and even inspect your code manually (be extra careful).

Submission

Your group must submit the solution to the aula global submission, only one submission per group.

Please make sure you adhere to the following instructions:

1. Your code **must run** on Linux. Staff will not debug or fix any code.
2. Your code should adhere to **Python 2.7**. The whole Pacman infrastructure works under that version (not 3), so please program your solutions for 2.7. Using a different version will risk your program not running with the autograder and may risk losing marks.
3. You are to **submit just one zip file** with extension .zip. It's name must be "p2_uX_uY_uZ.zip". Where X, Y and Z mean each student's personal U number at UPF (not the NIA). Any other compression format (e.g., rar, tar, bzip2, etc.) will not be marked.
4. In the zip file, **include only the `py` files you are to modify** plus **a pdf report**. Do not modify the filenames, otherwise our scripts will fail to execute your code and it will attract zero marks. So in this project you are to submit file `valueIterationAgents.py`, `qlearningAgents.py`, and `analysis.py`, plus the

report file[1]. The report can be used to acknowledge any code you may have re-used from elsewhere and any reflection about your code/solution that you think could be interesting.

5. Put all your `py` files in the **root** of the zip files. Do not create any directory in the zip file submitted.
6. If you have worked in a group, please only **one group member should submit** and include a file "group.txt" which describes the members student u number, full name, and e-mails.

Submissions not compatible with the instructions above will attract zero marks and do not warrant a re-submission. Staff will not debug or fix your submission.

No extensions will be given, please respect the deadline.

Silent Policy: A silent policy will take effect **48 hours** before this assignment is due. This means that no question about this assignment will be answered, whether it is asked on the forum, by email, or in person.

Academic Misconduct

This assignment is worth 10% of the overall course grade. You may not collude with any other individual, or plagiarise their work. Groups are expected to present the results of their own thinking, problem solving, and coding. Never copy another group's work and never give your written work to others. Keep the collaboration verbal and high-level, without sharing or showing code to each other. Never copy your solution, or part of it, from the web or any other resource. Adapting someone else solution does *not* make it your own work: *you are meant to generate the solution to the questions by yourself*. You may however reuse code or techniques that are auxiliary to the problem being solved, as long as you understand well the code being reused and document where it comes from.

Plagiarism is a serious issue. Suspected collusion or plagiarism will be dealt with the highest possible consequences.

Forum postings on assignment: Do not ever post any information on the forum that may disclose how to solve a question or what the solution may be. You can only post assignment related questions for clarification on what is being asked, for example, whether a formal proof is required in a given exercise or to clarify certain notation. Any post discussing possible solutions or strategies may directly be considered plagiarism, see above. **If in doubt, do not post** and ask your question to the tutor instead.

[1] Please note that the extension of a file does not determine its type. So make sure it is a proper pdf file.