

Hi, Leah

The attachment is the project folder. I recommend Eclipse to open it.

According to professor's hint, I will provide some necessary guidance for the project.

how to set the amount of time / number of episodes between the different teaching/no teaching methods,





the amount of time is set by DataContainer.java in pacman folder. the step variable is for the steps for each player. You can initial it in the humantrain function in pacman.Experiments.java.

```
for (int i = 0; i < 3; i++) { // three group
    while (data.getStep() > 0 && i < 2) {
        if (i != 1) {
            data.setDelay(50);
            episode(pacman, true, data);
            // System.out.println(data.getStep() + " " + data.getScore()
            // + "\n");
        } else {
            data.setDelay(50);
            episode(pacman, false, data);
            System.out.println("xasdasd");
            // System.out.println(data.getStep() + " " + data.getScore()
            // + "\n");
        }
        try {
            Thread.sleep(1000);
        } catch (Exception e) {
        }
    }
}
```

This is the internal for-loop of humantrain function, the integer i in the for loop determines the round. i=0 round 1, i=1 round 2, etc.

how to set the number of method and Knowing the details of the different teaching methods would be useful

All teaching methods are implemented and stored in pacman.teaching folder.

- ▶  AlternativeAdviceImportantStates.java
- ▶  AlternativeCorrectImportantMistakes.java
- ▶  DynamicAdviceImportantStates.java
- ▶  DynamicCorrectImportantMistakes.java

these for methods are agent-human related teaching methods. You can set them in pacman.Experiments.java file humantrian function by strings. You can find string settings in create function pacman.Experiments.java

here are some examples of different teaching methods

```
// human student and agent teacher
else if (learner.startsWith("human")) {

    BasicRlPacMan student = new HumanStudent();
    BasicRlPacMan teacher = TEACHER.endsWith("S") ? new SarsaPacMan(
        teacherProto) : new QPacMan(teacherProto);
    teacher.loadPolicy("myData/" + TEACHER + "/teacher/policy");

    // Front-load the advice budget
    if (learner.startsWith("humanrandom")) {
        TeachingStrategy strategy = new RandomAdvice(0.01);
        return new Student(teacher, student, strategy,
            new KeyBoardInput());
    }

    // Improved important states
    if (learner.startsWith("humanadvised")) {
        int threshold = Integer.parseInt(learner.substring(12));
        // int threshold = 10;
        TeachingStrategy strategy = new DynamicAdviceImportantStates(
            threshold, 100, 0.9);
        return new Student(teacher, student, strategy,
            new KeyBoardInput());
    }

    // Advise in important states
    if (learner.startsWith("humanadvise")) {
        int threshold = Integer.parseInt(learner.substring(11));
        // int threshold = 10.
```

how to turn the teaching methods on/off.

All experiments begin in the main() function and control by the string commands in pacman.Experiments.java file

humantraincontrol("humanadvised50"); is the function for the no advice

humantrain("humanadvised50"); is the function for the advice mode

I suggest you to read my paper to know more about the experiment settings.

Here is the link <http://www.eecs.wsu.edu/~taylorm/Publications/14ALA-Zhan.pdf>

If you have any questions please email me.

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Yours

Sincerely

Yusen Zhan

<http://eecs.wsu.edu/~yzhan/>