

Programming Assignment 3 - Part II

Solution of the "Clinical Decision Making Problem [Puterman]" and study of optimal policies

- Download Chapter 3 of the MDP book by Puterman and Chan from <http://chan.mie.utoronto.ca/book/>
- Read Section 3.6 - Clinical Decision Making Problem (also discussed in class)
- The notation used in the following is from the textbook.
- Suppose we assume that $H = 2$ and $L = 2$.
- Let us also assume that the following are given:
 - $\gamma(1|1) = 0.8, \gamma(2, 1) = 0.1, \gamma(1|2) = 0, \gamma(2|2) = 0.6$
 - Write down what would be $\delta(1)$ and $\delta(2)$?
 - $\beta(1|1) = 0.2, \beta(2|1) = 0.5$ and $\beta(1|2) = 0.3, \beta(2|2) = 0.5$
 - Write down what would be $\phi(1)$ and $\phi(2)$?
 - $R(1, 1) = 5, R(2, 1) = 2, R(1, 2) = 3, R(2, 2) = 1$
- Write down what $p(j|s, a)$ is
- Obtain the optimal policy for the above problem
- What is the discount factor to be used? Is there any difference between this problem and the ones that we have studied in class?
- For this assignment you have to submit a Jupyter notebook containing the required answers (can be written in Markdown cells). The study of the optimal policy can be descriptive text (again using Markdown cells). The submission file should have the format "[SCCODE]_[NAME]_PA32.ipynb" (where you have to insert your SCCODE and NAME).