

# MATH4406 (Control Theory), HW6 (Unit 6)

## Infinite Horizon, Average Cost MDP.

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This homework project is deals with infinite horizon average cost MDP. The bulk of the HW deals with the lecture notes “Advanced Finite Regular Markov Chains”. Also, refer to [Put94] where needed.

### **Part 1: Advanced Finite Regular Markov Chains.**

Hand in solutions to 15 exercises of your choice out of the lecture notes “Advanced Finite Regular Markov Chains”. Some of these exercises will be done during class also. You can hand in those solutions.

### **Part 2: Policy Iteration in (Unichain) Average Cost MDP.**

Consider problem 8.46 on page 349 of [Put94] (Bike paths). Solve (c) numerically using policy iteration. Present your solution and the code.