

CS747: Assignment-2 (MDP) Report

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October 2022

1 Part 1: MDP Planning

1.1 Value Iteration (vi)

implemented from class slides

1.2 Howard's Policy Iteration (hpi)

implemented from class slides

1.3 Linear Programming (lp)

implemented from class slides

Policy Evaluation

implemented from class slides

2 Task 2 - MDP for Cricket Game

Observation: Optimal Policy generated by algorithm is better than random policy as it behaves better in all three plots.

- Figure: 1 With increase in q (probability of out) winning probability will decrease.
- Figure: 2 With increase in the number of runs , the probability of winning increases.
- Figure: 3 From the figure it can be easily see that with increase in Balls probability of winning will increase

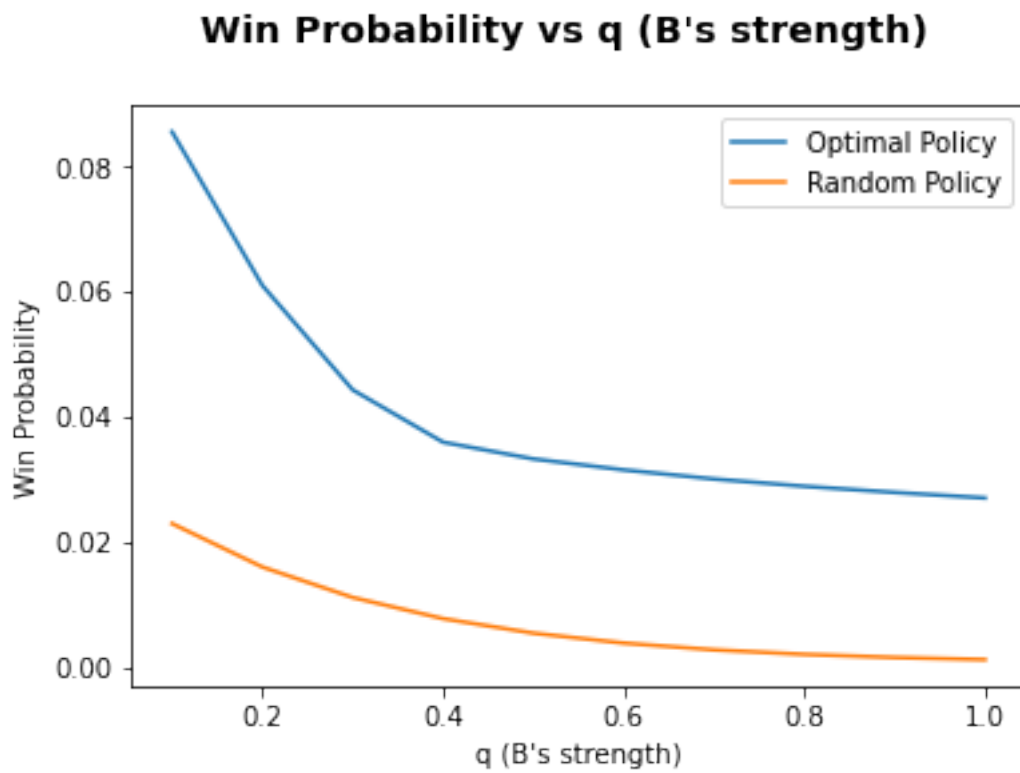


Figure 1: Win Probabilities vs q (B's strength)

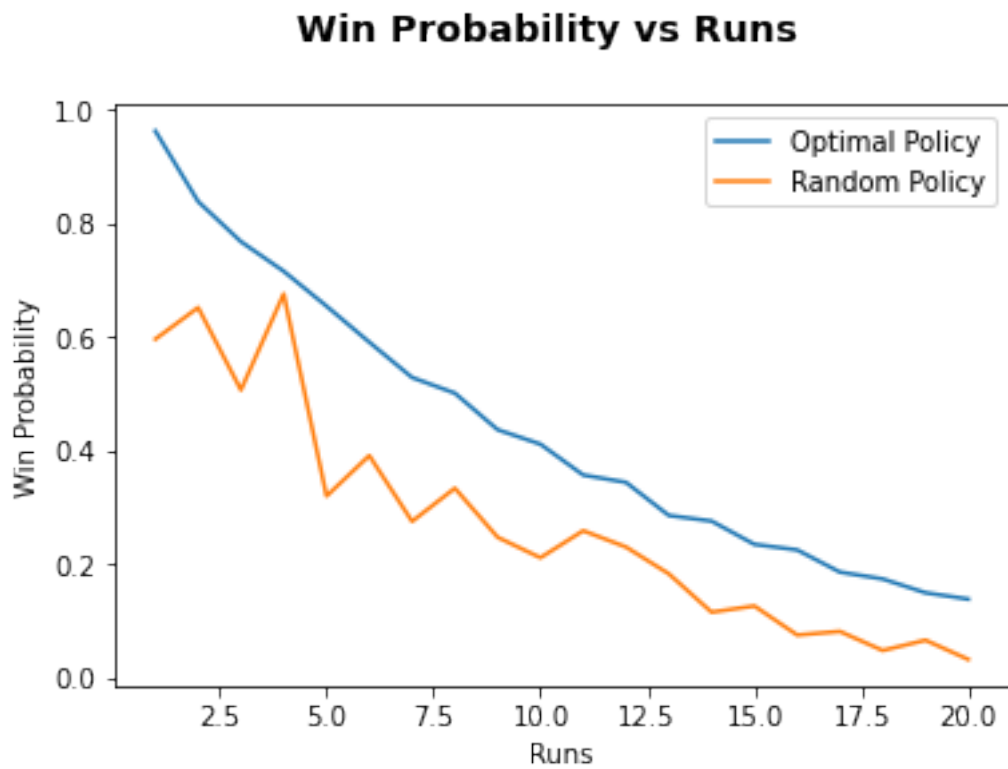


Figure 2: Win Probabilities vs Runs

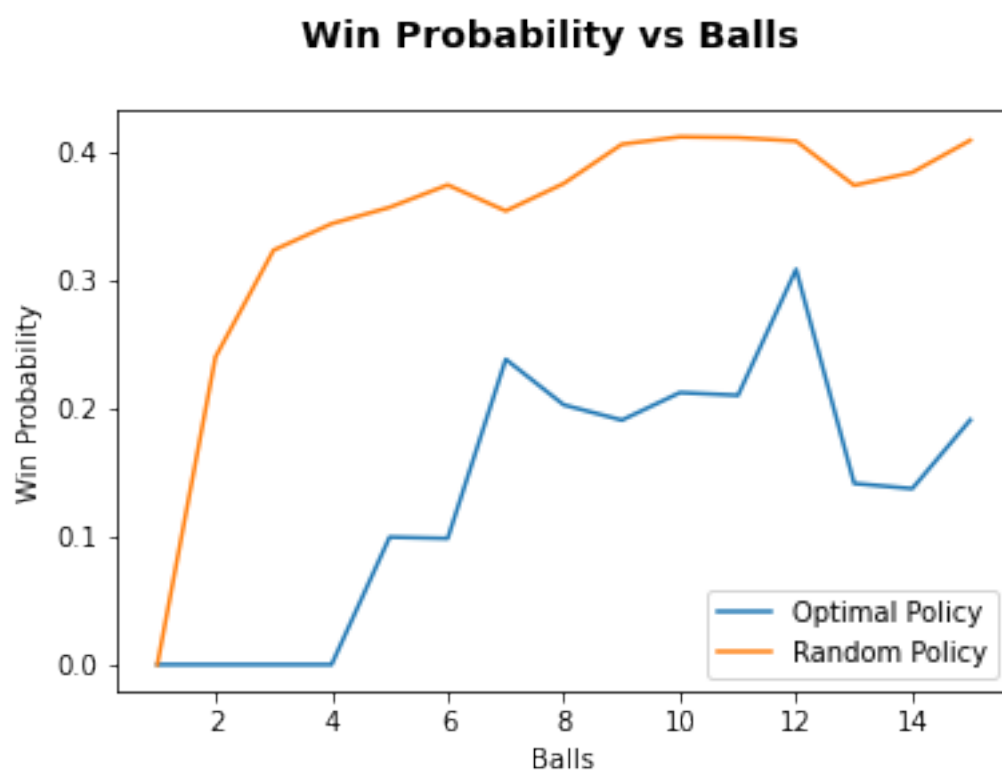


Figure 3: Win Probabilities vs Balls