**Assignment 1 – Reinforcement Learning**

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| **Group 7** | | |
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1. **Problem 1**

Comparison of Ɛ-Greedy Methods for values 0.01 and 0.1 is implemented in python and the source file is attached. The results are discussed below.

Chart, box and whisker chart

Description automatically generated

Chart

Description automatically generated Chart, line chart

Description automatically generated

We recreated the same experiment conditions and re-implemented the figure 2.2 in the Sutton & Barto book. Comments and documentation regarding running the code is present in the source file.

The Exploration and Exploitation Dilemma: -

The notion to take an optimal decision based on available knowledge assuming it is sufficient and the notion to got with a sub-optimal decision thinking the available knowledge is insufficient, are being discussed by the scientific community for a long time. This dilemma to choose between exploitation and exploration consists of a phenomenal trade-off.