

Individual Reflection

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There are various reinforcement learning algorithms applied to the grid games available. In this, we would be focusing on the Frozen Lake Environment. The frozen lake environment has two types of variants namely the small lake and the big lake. There are different states which are represented by a tile in a square grid in both situations. There are four types of tiles available:

- Start(grey)
- Frozen lake (light blue)
- Hole (dark blue)
- Goal (white)

The initial step we took towards our project was breaking it down to smaller sections:

- Research: We conducted research on the Frozen Lake Environment and learned about various types of model free algorithms, such as Policy Iteration, Value Iteration, Tabular and Non-Tabular Model Free Algorithms.
- Coding: For this step I was responsible to implement Frozen Lake Environment, Policy Iteration and Value Iteration. My teammate Bhagyashree implemented Tabular Model free algorithms and Palak executed Non-Tabular Model free algorithms which are Sarsa Control and Q-Learning using Linear function approximation.
- Report: It was created through the combined efforts of team members.