Introduction to Reinforcement Learning using the Frozen Lake Environment

Welcome to this introductory reinforcement learning project, where we will explore reinforcement learning algorithms using the Frozen Lake environment from the OpenAI Gym library.

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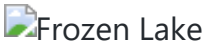
Overview

In this project, we will use the Frozen Lake environment to demonstrate reinforcement learning algorithm (Q learning)

. The environment simulates a frozen lake where an agent must navigate from the start position to the goal without falling into holes.



Installation

Prerequisites

To run this project, you will need to have anaconda or mini conda already installed: create a virtual environment with the following.

Installing Dependencies

for detailed code walk through clone this repo

```
git clone https://github.com/sokistar24/intro_to_rl.git
```

```
conda create --name intro_to_rl python=3.9 jupyterlab numpy matplotlib pytorch
```

Activate the environment uisng

```
conda activate intro_to_rl
```

```
pip install swig
```

Open a notebook and run the code cell below to install the gymnasium API for frozen lake

```
pip install gymnasium[toy-text]
```

```
pip install gymnasium[box2d]
```

Usage

To start the JupyterLab server, run the following command in the terminal or command prompt:

```
jupyter-lab
```

Alternatively this code provided still work on google colab, however please note you may not be able to visualize the trained agent