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Deep Reinforcement Learning Nanodegree
Project 1 – Navigation

In this project, I have trained a simple DQN for an agent which picks bananas.
According to the task, rewards for the agent are 1 if he picks yellow banana and -1 if he picks blue banana. For this task I have used plain vanila DQN without any modifications. State space is represented by 37-dimmension vectors of agent's velocity and its perception of the surroundings.
Both target neural networks and online neural network consists of input state vector, 2 hidden layers with 64 neurons and output layer which represent 4 actions.
For optimization, I have used Adam optimizer which optimized minimal squared error between target Q-value and expected Q-value. Experience replay along with epsilon greedy action selection were implemented as well.

This strategy can be improved by Dueling DQN, Double DQN an prioritized replay techique. I plan to implement those changes along with pixel DQN.