Project report

DQN algorithm has been used to train an agent to navigate and collect bananas in a large, square world. action space is discreet and DQN has shown quite an impressive performance in past.

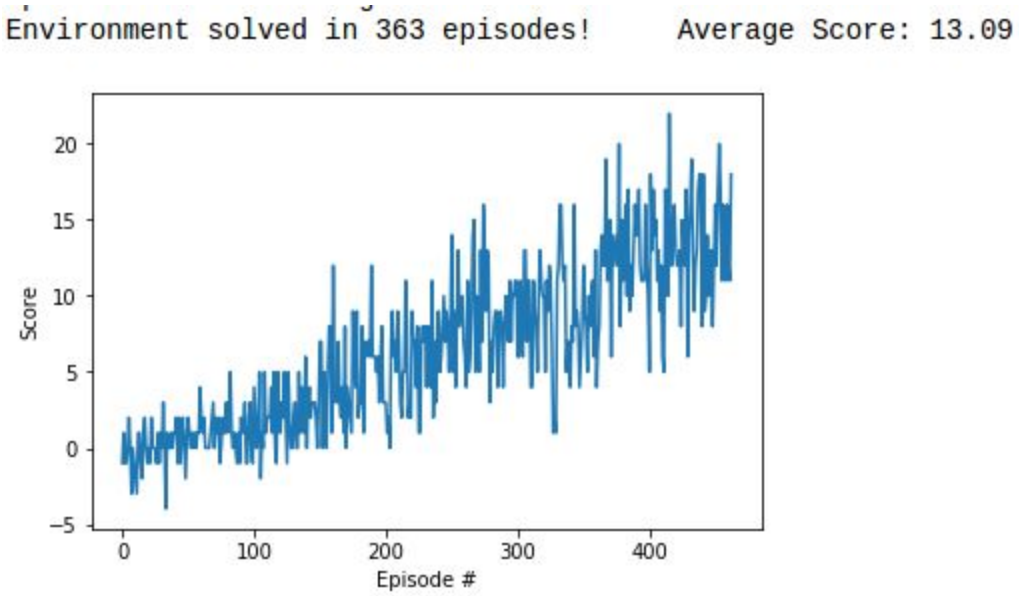
I have used a neural network which contain two fully connected layers. Size of layer 1 is 64 nodes and the size of layer 2 is 32 nodes.

Note: The implementation is highly motivated from the sample code provided in the classroom.

I ended up using the following hyperparameters:

1. Buffer size - 1e5
2. Batch size - 64
3. Gamma - 0.99
4. Tau - 1e-3
5. Learning rate - 5e-4

Plot of rewards:



Work possible in future:

- Variations of DQN such as dueling DQN and Double DQN will be tried in future.
- Training the network using the raw pixels is in itself a challenging task. This will also be tried.