Tasks for second coding exercise

You will have to implement an algorithm to solve the cartpole challenge from the *gym.openai* platform. The gym.openai platform is hosted by OpenAI, that provides different environments for benchmarking deep reinforcement learning agents. See: https://www.youtube.com/watch?v=D795oNqa-Vk, https://gym.openai.com

- You don't need to understand the environment nor the physics behind it, we provide you with a template that contains all the relevant information
- There are 4 state variables: cart position, cart velocity, pole angle, pole angular velocity
- There are 2 actions: push cart to left, push cart to right
- Your agent will then start in some state, take an action, the environment will give you back a reward and a next state, upon which your agent can react with a new action.
- We provide all code simulating the environment in the template. You only need to take care of the DRL part
- The longer your agent gets to hold the pole in upright position, the better. Every time step that the pole remains upright, is rewarded by +1.

Goal:

- **Implement** a DQN algorithm to train an agent to balance the cartpole as long as possible (an average total reward of ~200 over a 100 simulations is a good goal)