Joint RL meeting

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June 26, 2023

Brown University

Outline

1. Reducing the number of features in function approximation

2. Deep RL – first draft & issues

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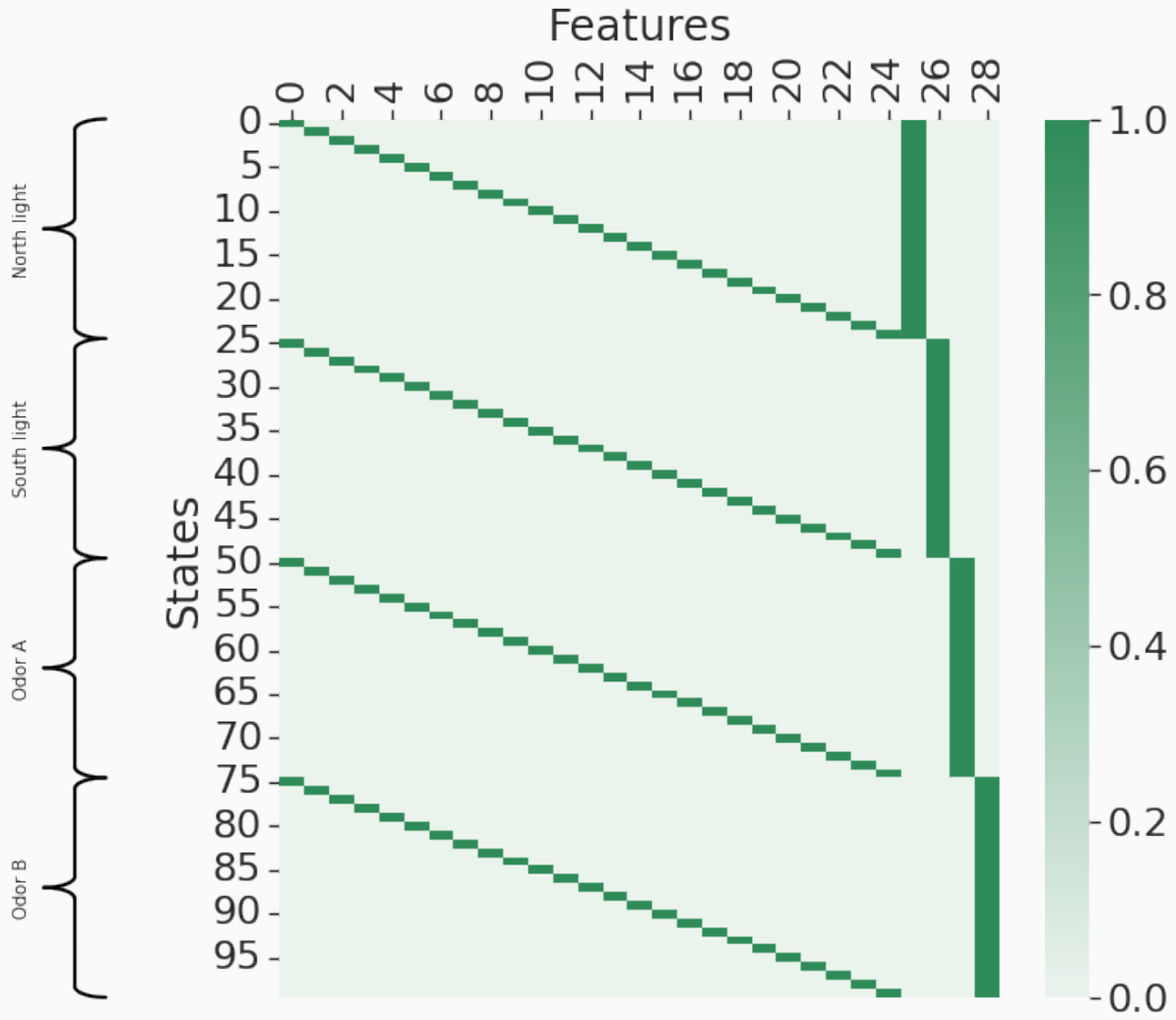
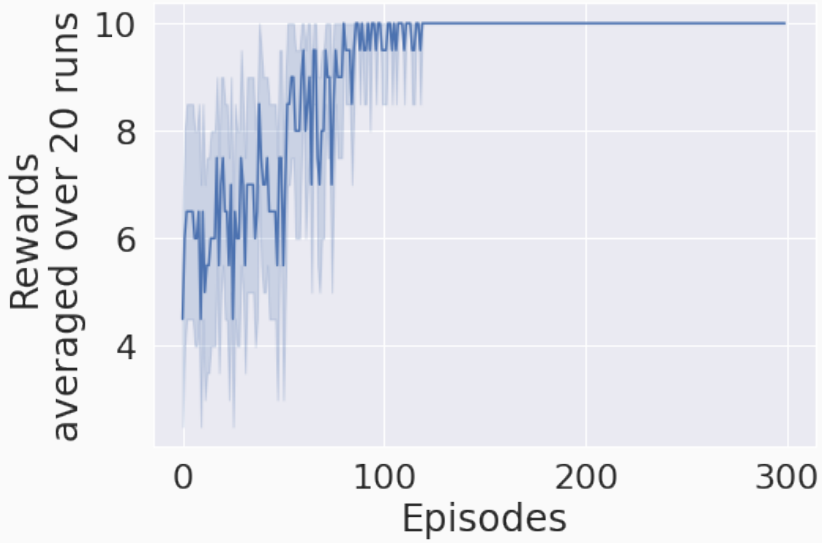
2. Deep RL – first draft & issues

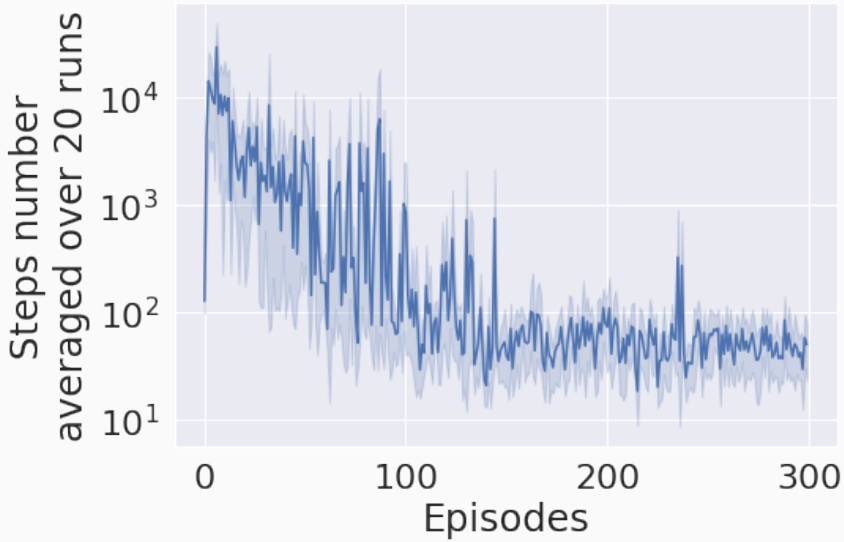
Features matrix – allocentric agent

→ Reduced from 100 to 25 locations + 4 cues

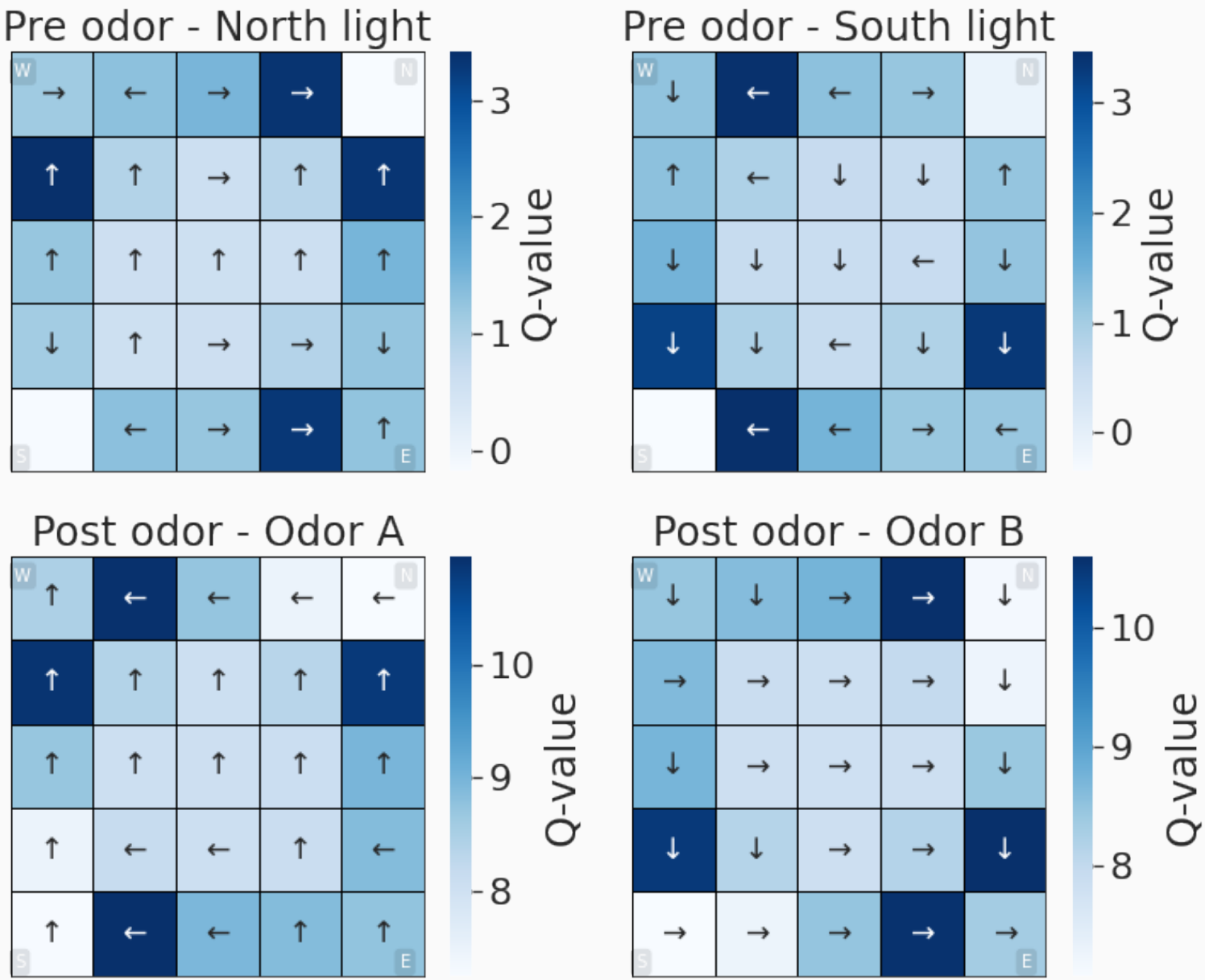


Rewards and steps – allocentric agent



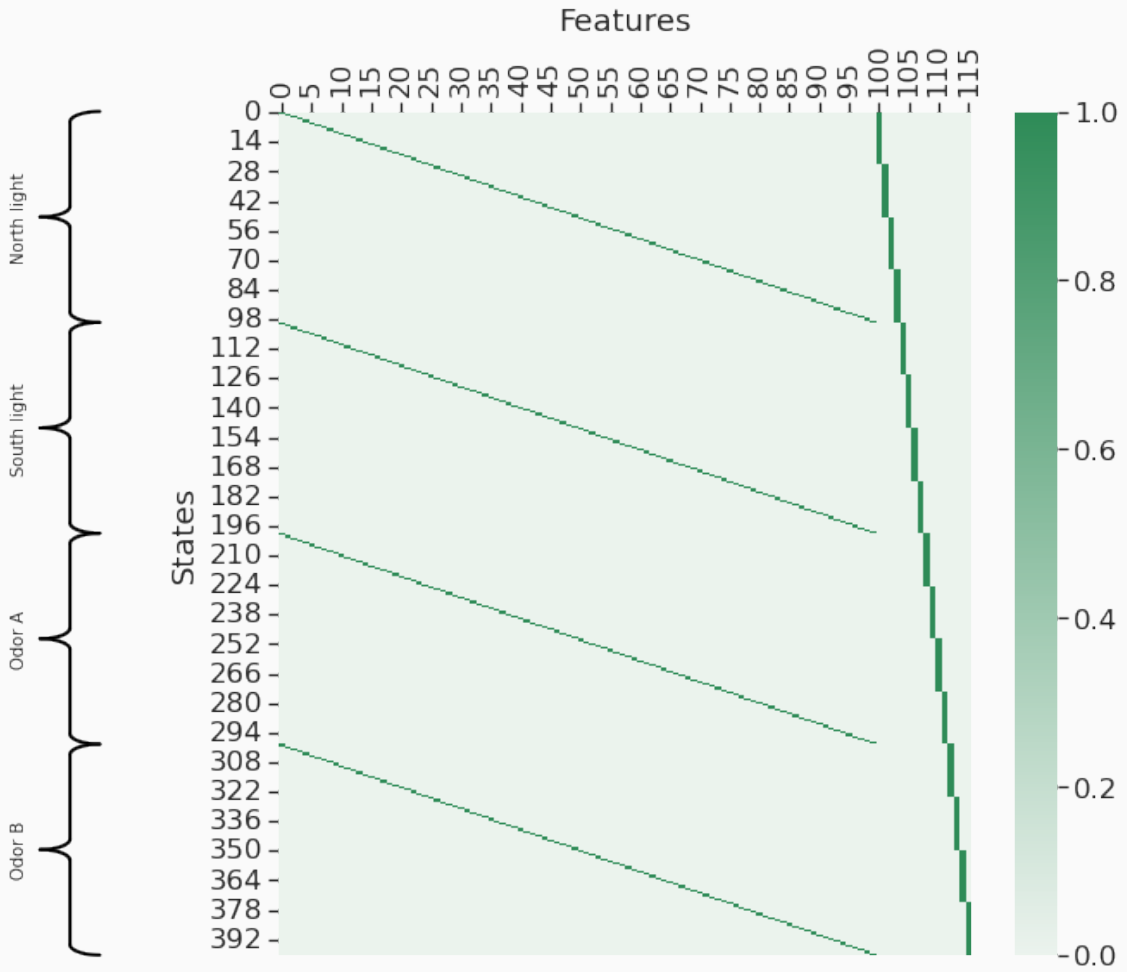


Q-values learned – allocentric agent

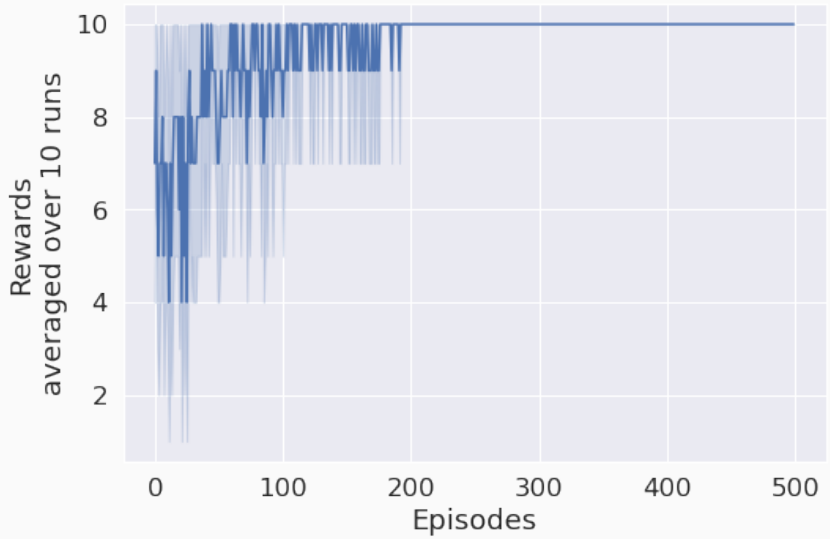


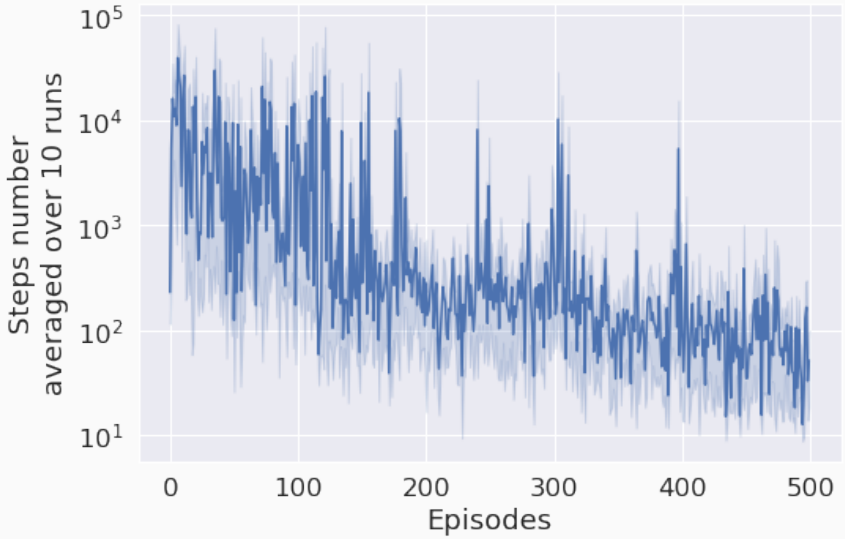
Features matrix – egocentric agent

→ Reduced from 400 to 100 locations (25 locations x 4 head directions) + 16 cues (4 cues x 4 head directions)

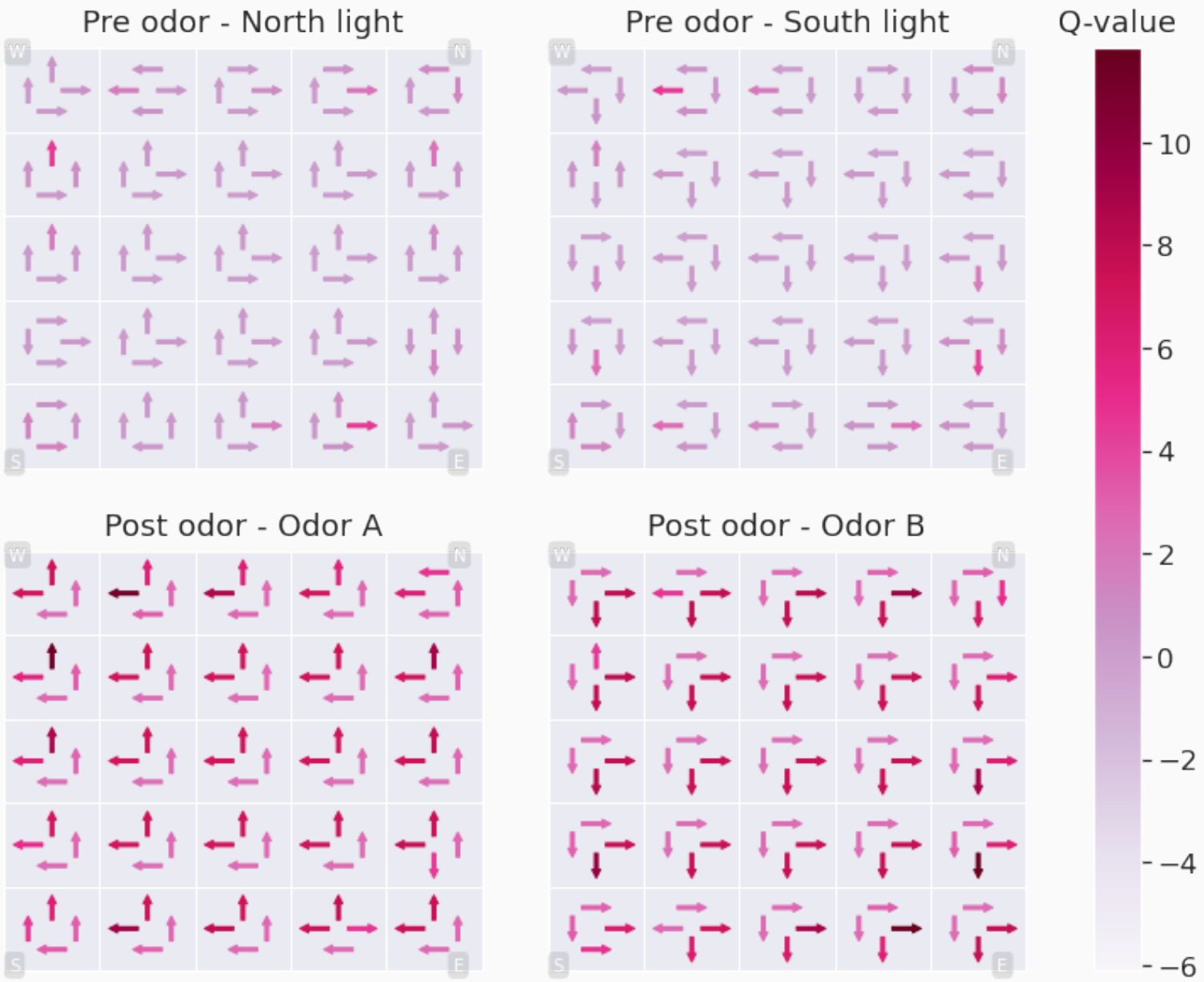


Rewards and steps – egocentric agent





Q-values learned – egocentric agent



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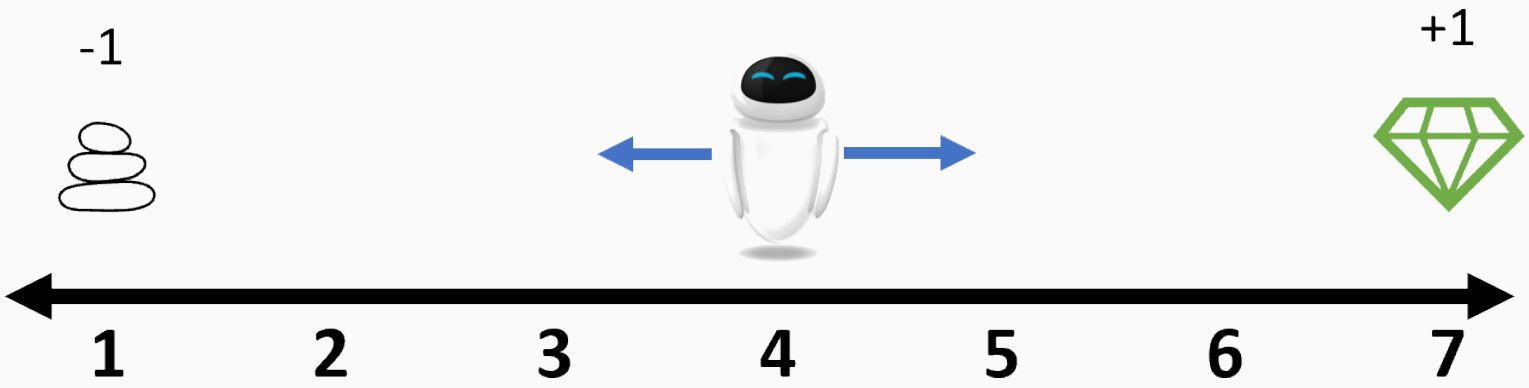
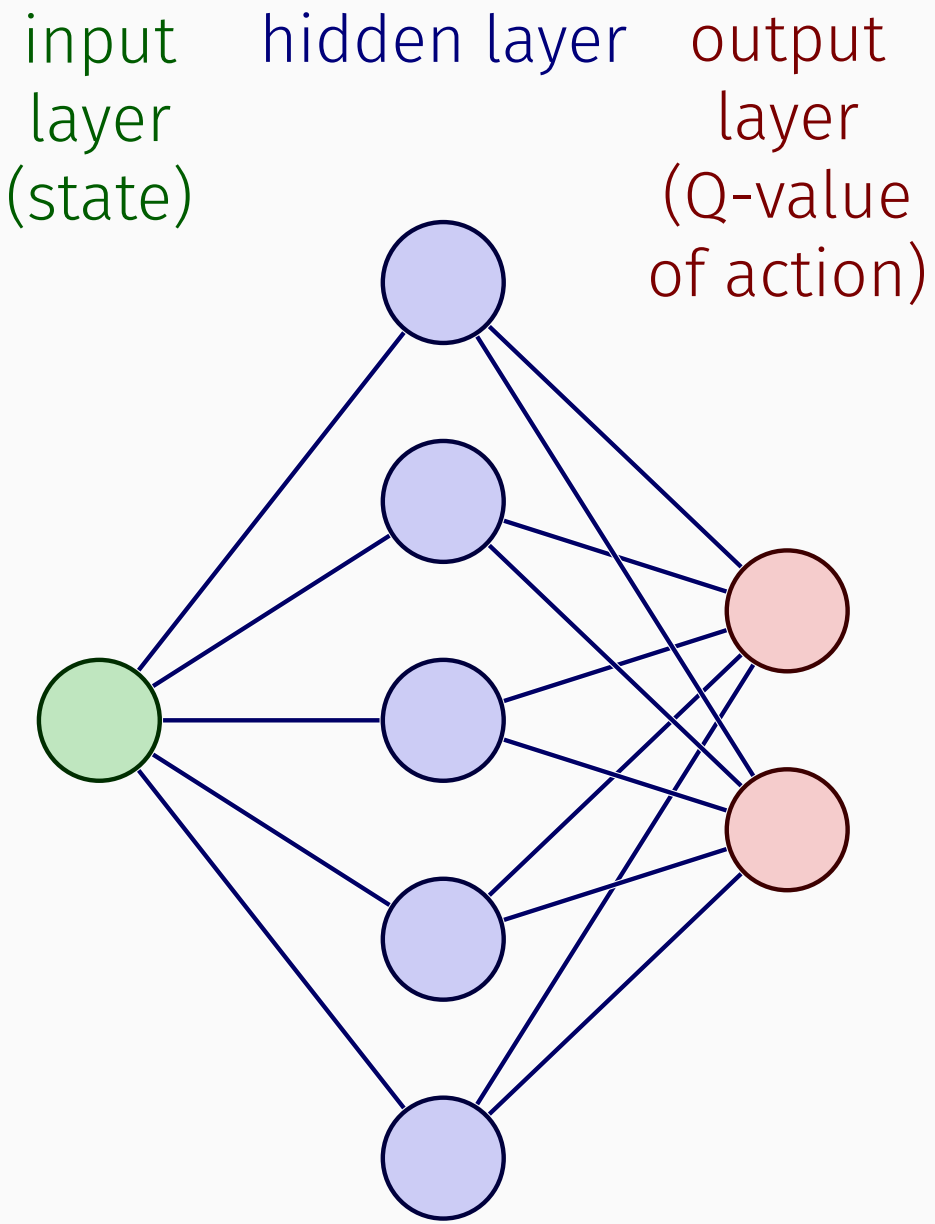
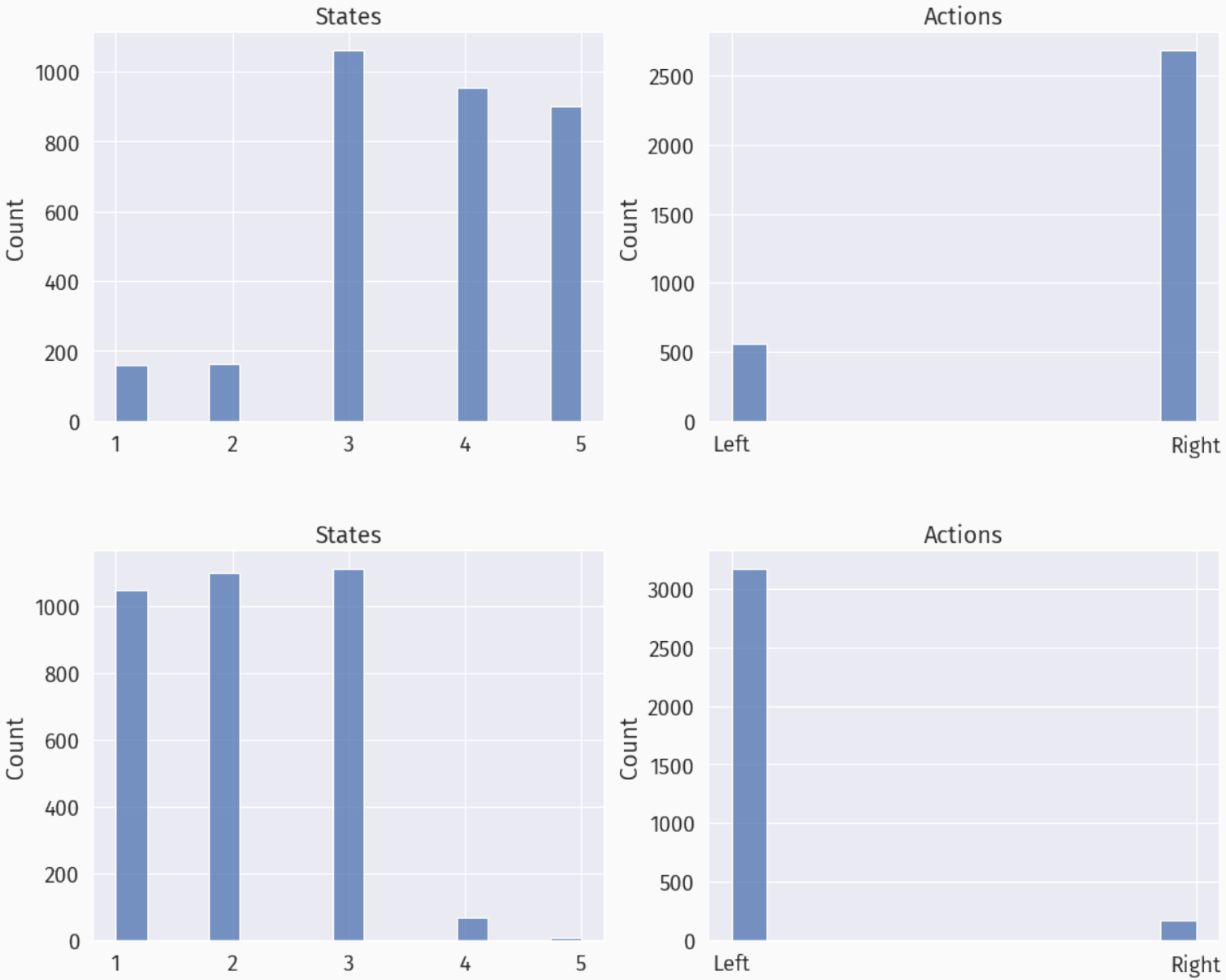
Toy task : Random Walk 1D



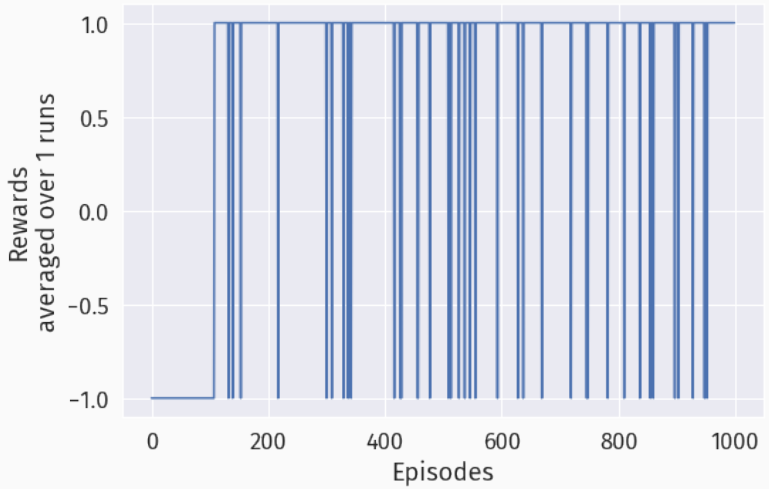
Network used

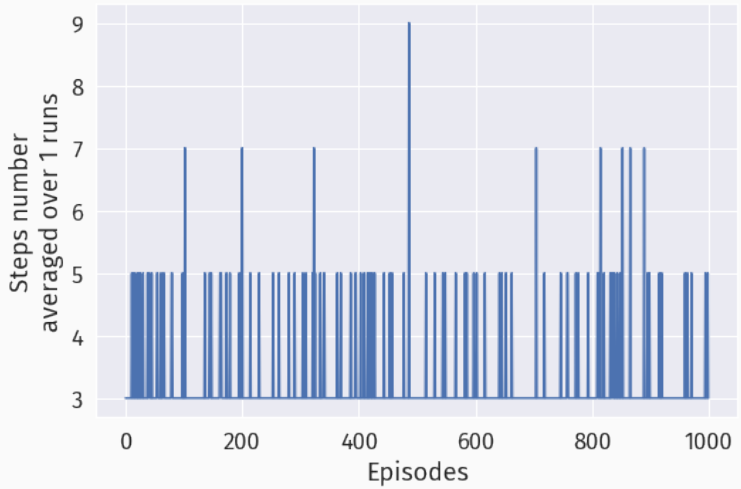


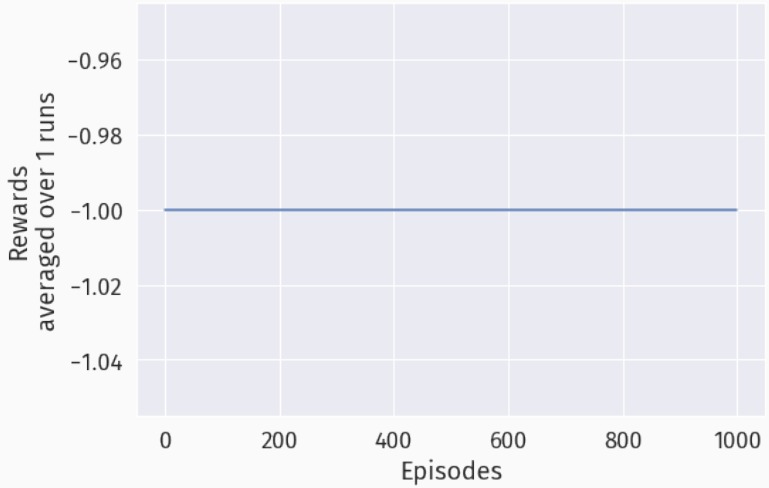
States and actions

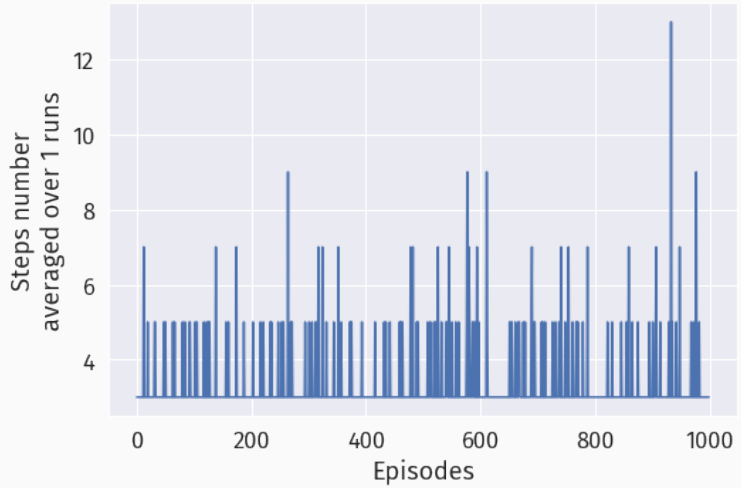


Rewards and steps

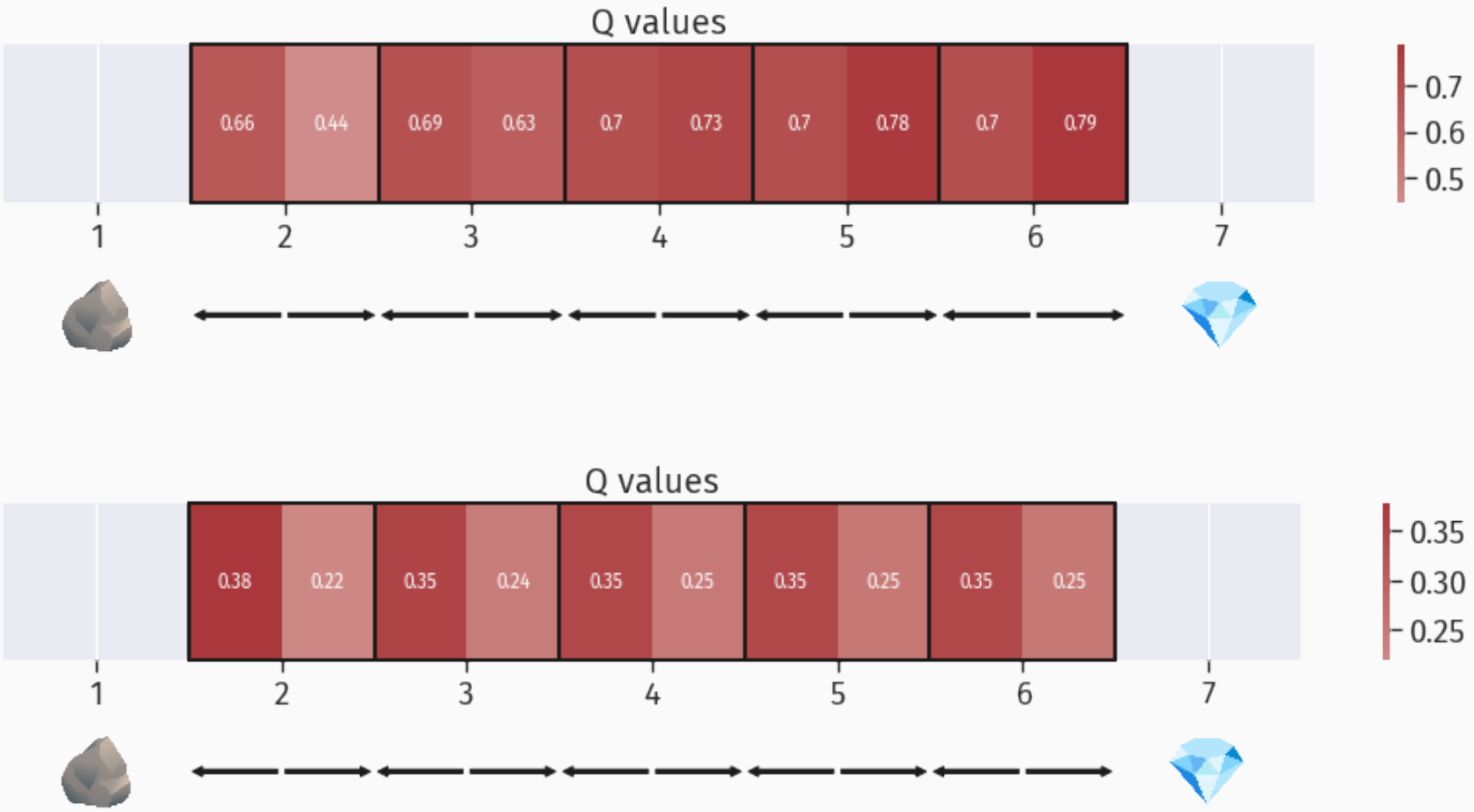






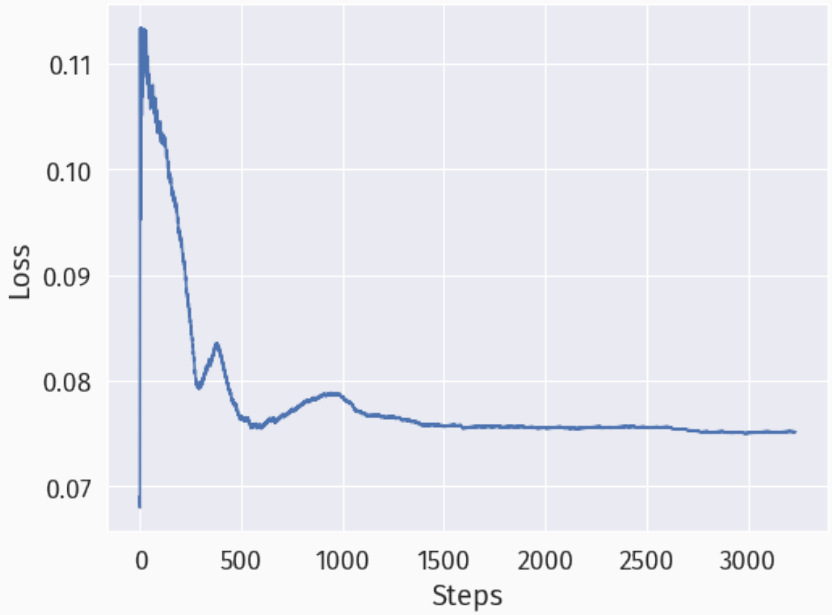


Q-values learned

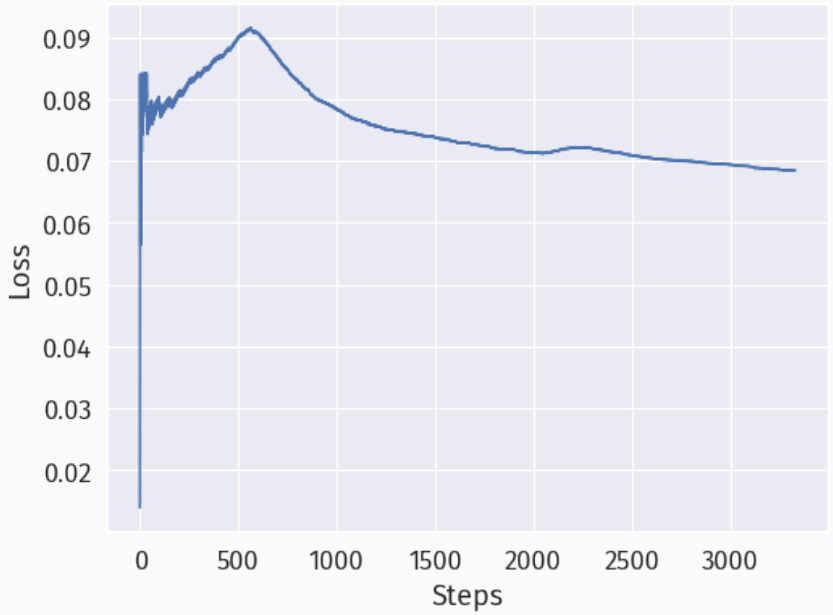


Network loss

Right leaning

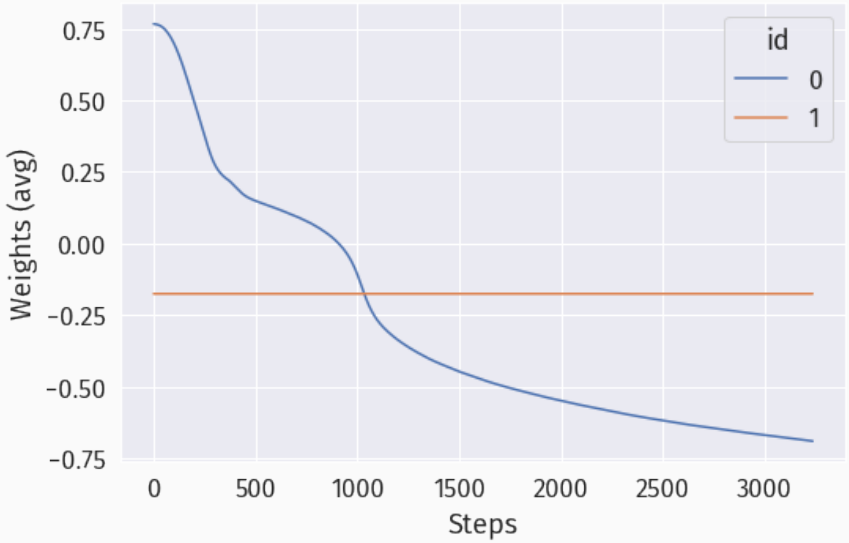


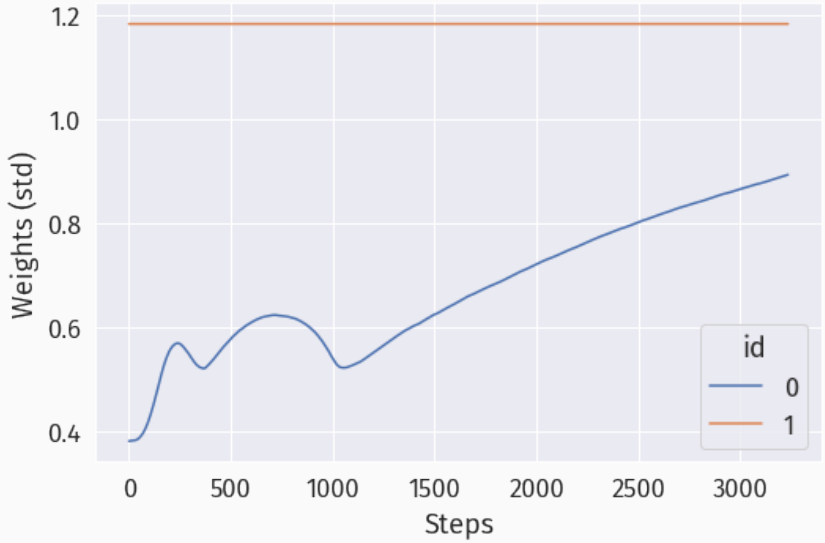
Left leaning



Network weights

Right leaning





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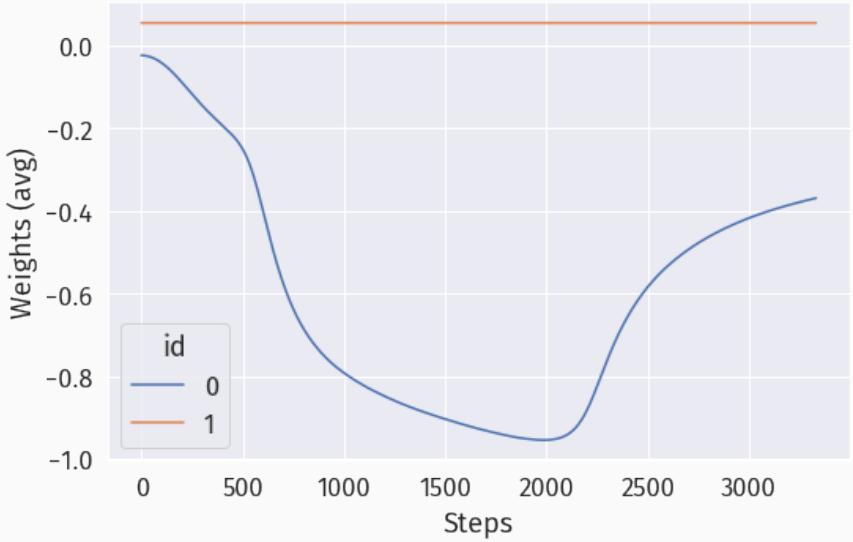
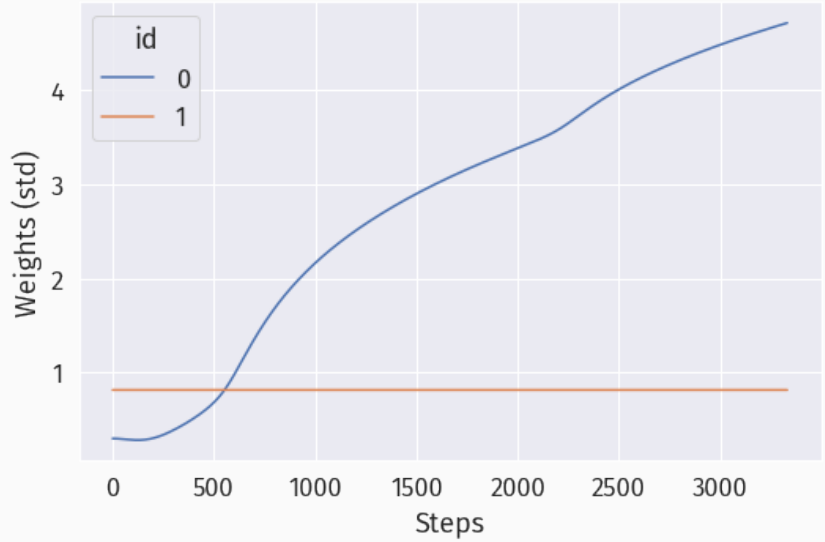
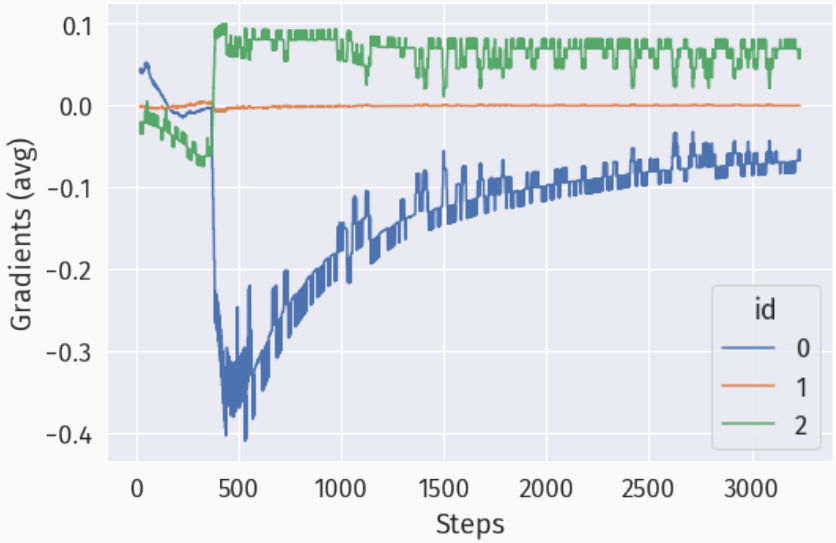
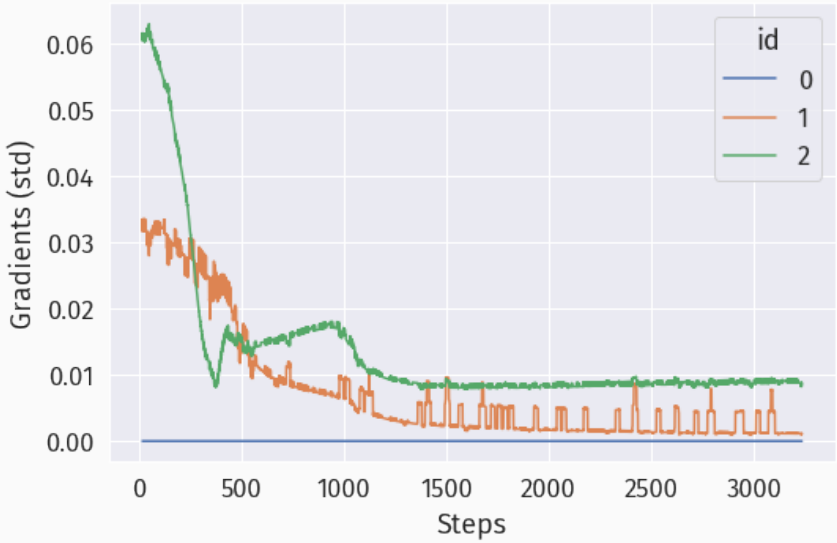




Network gradients

Right leaning





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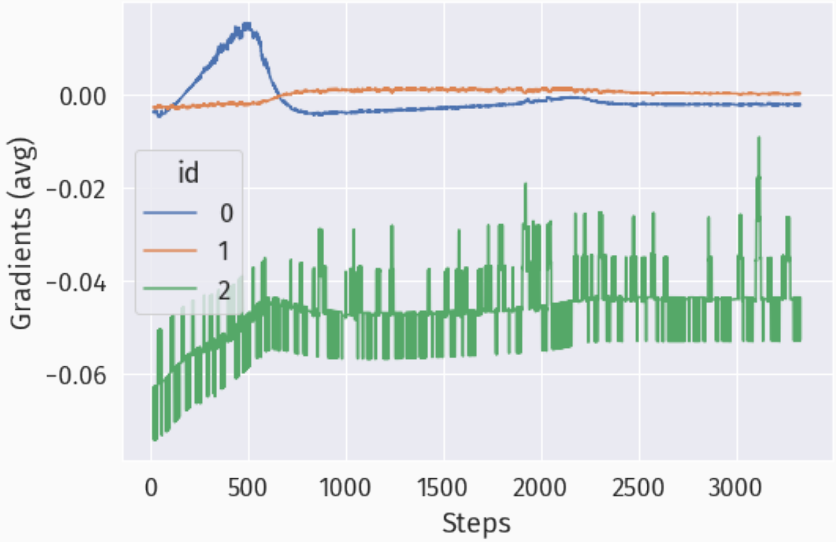

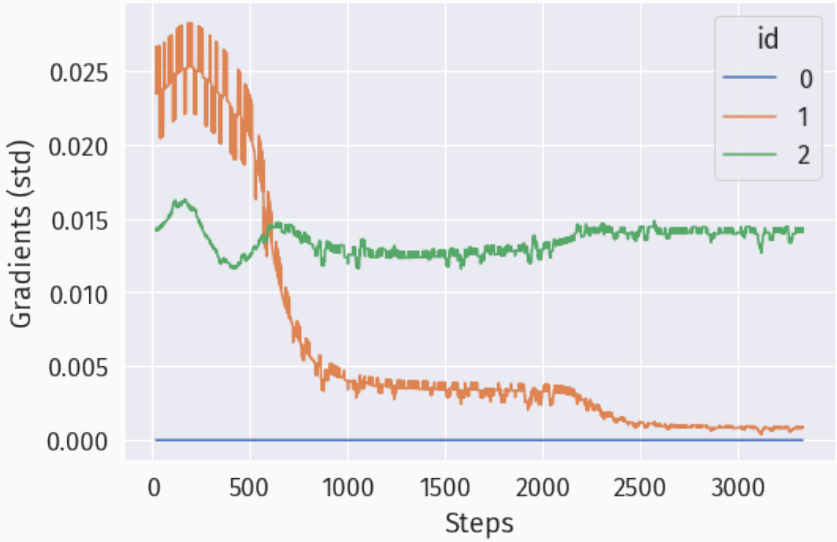

Questions ?