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Exercise 5

Task 1 - Random Walk

Task 2 - Sarsa and Q-learning on the FrozenLake

a)

see Figure 1 & Figure 2 & Figure 3.

$\rightarrow \uparrow \leftarrow \uparrow \leftarrow \leftarrow \leftarrow \leftarrow \downarrow \downarrow \leftarrow \leftarrow \leftarrow \downarrow \uparrow \leftarrow$

b)

see Figure 4 & Figure 5 & Figure 6.

$\downarrow \downarrow \downarrow \downarrow \downarrow \leftarrow \downarrow \leftarrow \rightarrow \rightarrow \downarrow \leftarrow \leftarrow \rightarrow \downarrow \leftarrow$

c)

No exploration is done, so the best neighbor is always chosen.
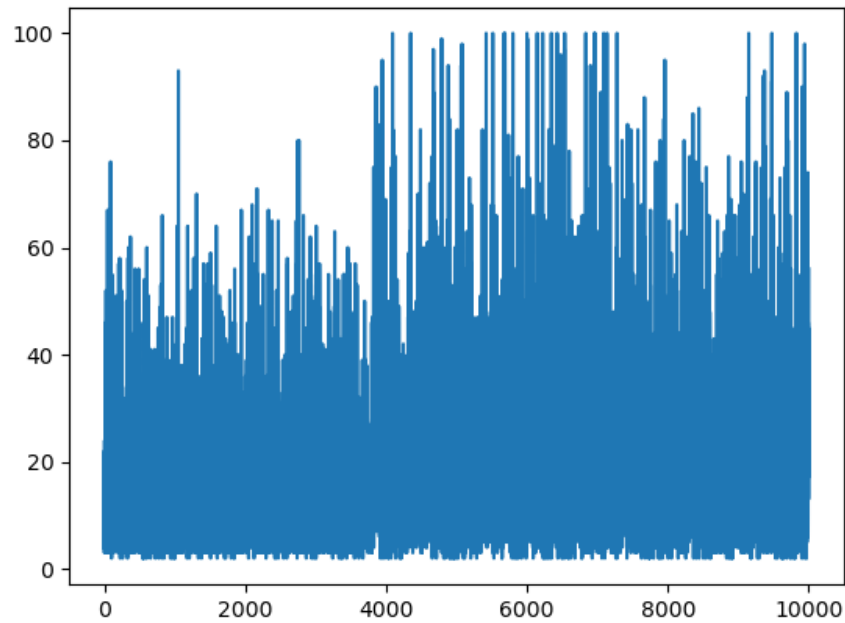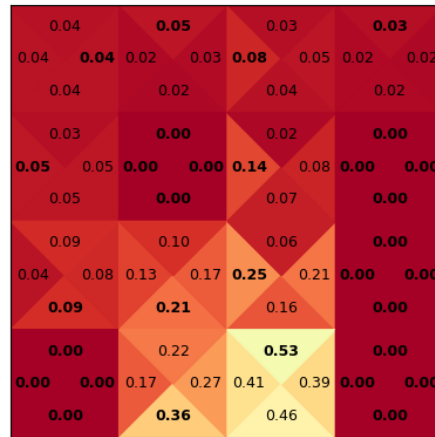
d)

Figure 1: Sarsa training length

Figure 2: Sarsa V

Figure 3: Sarsa Q

Figure 4: Q-Learning training length

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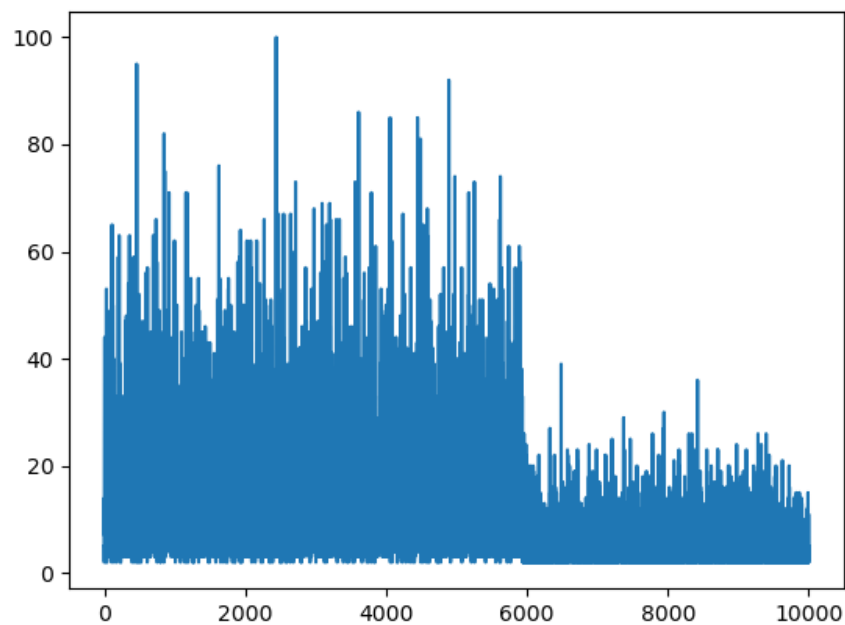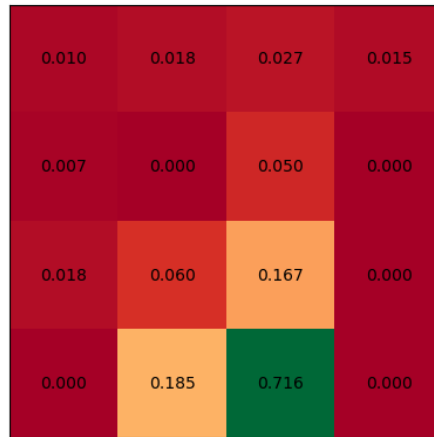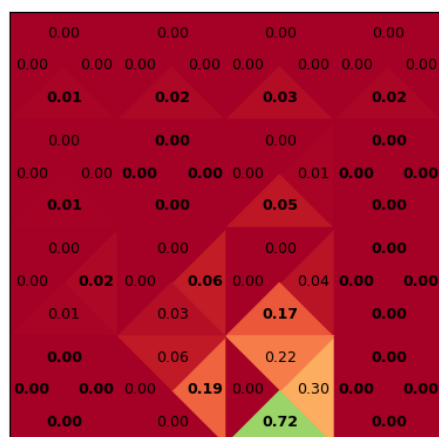

Figure 5: Q-Learning V

Figure 6: Q-Learning Q