Data 640 Summer 2022

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Assignment 5a: TicTacToe QLearning

**Introduction**

Code Overview:

Starting right at the beginning of the Colab notebook are libraries for the TicTacToe project. Numpy for the creation and management of arrays that will be used in the project. Matplotlib used to create and save the plots used to view the results. Lastly the library Random to generate random numbers for the agent. Line 8 is used for the first set of 3 different epsilon values that will be used

3x3 Results:

dlfkj

4x4 Results:

sdlkfjgi

**References**

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**Appendix**

**Appendix A: Model Table**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Model Number | # of layers | Pool Size | Filter #s | # Epochs | Activation |
| 1 | 2 | 2 | 236 128 | 10 | Linear |
| 2 | 2 | 3 | 236 128 | 10 | Relu |
| 3 | 3 | 2 | 238 126 64 | 10 | Linear |
| 4 | 2 | 2 | 236 128 | 15 | Linear |
| 5 | 2 | 3 | 236 128 | 15 | Relu |
| 6 | 3 | 2 | 238 126 64 | 15 | Linear |

**Appendix B: Model Results**

|  |  |  |
| --- | --- | --- |
| Model Number | Loss | Accuracy |
| 1 | 0.8993 | 0.8993 |
| 2 | 1.27498 | 1.27498 |
| 3 | 0.9705 | 0.9705 |
| 4 | 0.69708687 | 0.69708687 |
| 5 | 0.8934 | 0.8934 |
| 6 | 0.7808 | 0.7808 |

**Appendix C: First Image in Fashion MNIST with section of code**

**Graphical user interface

Description automatically generated**