Deep RL Assignment 4 Amin Ghafari Zeydabadi 25911193

Experiment 1:

The outcome of the model after using the random model.

---------------------------------------

| Iteration | 0 |

| AverageCost | 4.91e+03 |

| StdCost | 456 |

| MinimumCost | 4.24e+03 |

| MaximumCost | 5.5e+03 |

| AverageReturn | -298 |

| StdReturn | 51.7 |

| MinimumReturn | -374 |

| MaximumReturn | -239 |

-------------------------------------

Experiment 2:

Run: python main.py –n 15

The output of iteration is like this

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Iteration | Ave Cost | Std Cost | Min Cost | Max Cost | Ave Ret | Std Ret | Min Cost | Min Cost |
| 0 | -453.192 | 33.265 | -527.565 | -409.412 | 296.762 | 26.788 | 252.429 | 359.70 |
| 1 | -1057.732 | 100.721 | -1163.328 | -797.504 | 925.893 | 74.299 | 724.598 | 996.99 |
| 2 | -1091.201 | 93.007 | -1224.434 | -962.461 | 959.252 | 62.056 | 829.617 | 1053.60 |
| 3 | -1468.792 | 45.802 | -1564.154 | -1385.671 | 1290.117 | 54.462 | 1180.504 | 1406.29 |
| 4 | -1407.839 | 49.401 | -1496.037 | -1320.121 | 1234.221 | 45.496 | 1163.874 | 1322.73 |
| 5 | -1481.133 | 66.709 | -1619.123 | -1387.164 | 1299.511 | 70.914 | 1205.151 | 1450.85 |
| 6 | -1516.790 | 55.837 | -1594.859 | -1419.185 | 1325.898 | 48.534 | 1226.618 | 1386.01 |
| 7 | -1482.058 | 41.575 | -1579.255 | -1436.873 | 1323.812 | 46.830 | 1265.803 | 1414.65 |
| 8 | -1509.829 | 55.703 | -1611.096 | -1427.644 | 1329.584 | 51.203 | 1259.615 | 1427.07 |
| 9 | -1560.775 | 70.812 | -1649.589 | -1401.429 | 1370.184 | 66.911 | 1224.582 | 1445.93 |
| 10 | -1510.952 | 39.665 | -1569.018 | -1421.837 | 1344.224 | 26.657 | 1301.334 | 1391.51 |
| 11 | -1535.992 | 79.433 | -1646.414 | -1394.192 | 1351.676 | 71.819 | 1228.232 | 1457.32 |
| 12 | -1576.106 | 27.004 | -1616.468 | -1538.163 | 1399.090 | 29.331 | 1357.333 | 1452.37 |
| 13 | -1533.568 | 52.304 | -1626.892 | -1453.737 | 1356.544 | 64.162 | 1251.39 | 1441.10 |
| 14 | -1516.517 | 56.152 | -1624.032 | -1405.20 | 1325.817 | 57.550 | 1212.03 | 1430.64 |

And the average return as a function of iteration is plotted in the next page:

