# Q1 Tables

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Under the folder hw1..., run the following commands to generate the tables

```
conda activate cs285
./run_batch_experiments.sh > output.log
python analyze_results.py > q1_tables.tex
```

**Effect of Evaluation Batch Size**

| Environment | Eval Batch Size | Eval Return | Eval Std | Train Return |
|---|---|---|---|---|
| Ant-v4 | 500 | 4699.91 | 0.00 | 4681.89 |
| | 2000 | 4687.74 | 12.16 | |
| | 5000 | 4607.51 | 147.43 | |
| | 10000 | 4625.42 | 148.28 | |
| | 20000 | 4232.01 | 1189.65 | |
| HalfCheetah-v4 | 500 | 3754.38 | 0.00 | 4034.80 |
| | 2000 | 3829.40 | 75.02 | |
| | 5000 | 3833.50 | 52.09 | |
| | 10000 | 3881.04 | 62.74 | |
| | 20000 | 3844.09 | 83.73 | |
| Hopper-v4 | 500 | 896.78 | 66.58 | 3717.51 |
| | 2000 | 972.74 | 206.87 | |
| | 5000 | 902.46 | 200.39 | |
| | 10000 | 893.88 | 177.89 | |
| | 20000 | 894.29 | 197.35 | |
| Walker2d-v4 | 500 | 443.89 | 280.66 | 5383.31 |
| | 2000 | 983.07 | 1245.04 | |
| | 5000 | 1557.00 | 1632.10 | |
| | 10000 | 1855.26 | 1713.31 | |
| | 20000 | 1561.11 | 1575.65 | |

Table 1: Effect of Evaluation Batch Size

**Effect of Training Steps per Iteration**

| Environment | Train Steps | Eval Return | Eval Std | Train Return |
|---|---|---|---|---|
| Ant-v4 | 100 | -405.46 | 430.81 | 4681.89 |
| | 200 | 87.34 | 136.22 | |
| | 500 | 3935.40 | 93.36 | |
| | 1000 | 4607.51 | 147.43 | |
| | 2000 | 4591.37 | 59.11 | |
| | 4000 | 4627.02 | 89.05 | |
| HalfCheetah-v4 | 100 | 211.27 | 137.08 | 4034.80 |
| | 200 | 1397.48 | 169.79 | |
| | 500 | 3551.48 | 60.15 | |
| | 1000 | 3833.50 | 52.09 | |
| | 2000 | 3934.79 | 110.73 | |
| | 4000 | 4008.57 | 78.70 | |
| Hopper-v4 | 100 | 210.22 | 164.75 | 3717.51 |
| | 200 | 304.11 | 168.52 | |
| | 500 | 1046.30 | 197.08 | |
| | 1000 | 902.46 | 200.39 | |
| | 2000 | 1148.26 | 169.45 | |
| | 4000 | 1227.66 | 165.64 | |
| Walker2d-v4 | 100 | 138.25 | 177.82 | 5383.31 |
| | 200 | 236.95 | 302.46 | |
| | 500 | 463.08 | 494.32 | |
| | 1000 | 1557.00 | 1632.10 | |
| | 2000 | 2281.05 | 2401.67 | |
| | 4000 | 2629.40 | 1799.58 | |

Table 2: Effect of Training Steps per Iteration

**Best Performance by Environment**

| Environment | Best Eval Return | Configuration |
|---|---|---|
| Ant-v4 | 4699.91 | eval_bs=500 |
| HalfCheetah-v4 | 4008.57 | train_steps=4000 |
| Hopper-v4 | 1227.66 | train_steps=4000 |
| Walker2d-v4 | 2629.40 | train_steps=4000 |

Table 3: Best Performance by Environment