

ntu 2024spring AI hw4

R12922146 侯善融

Show your autograder results and describe each algorithm:

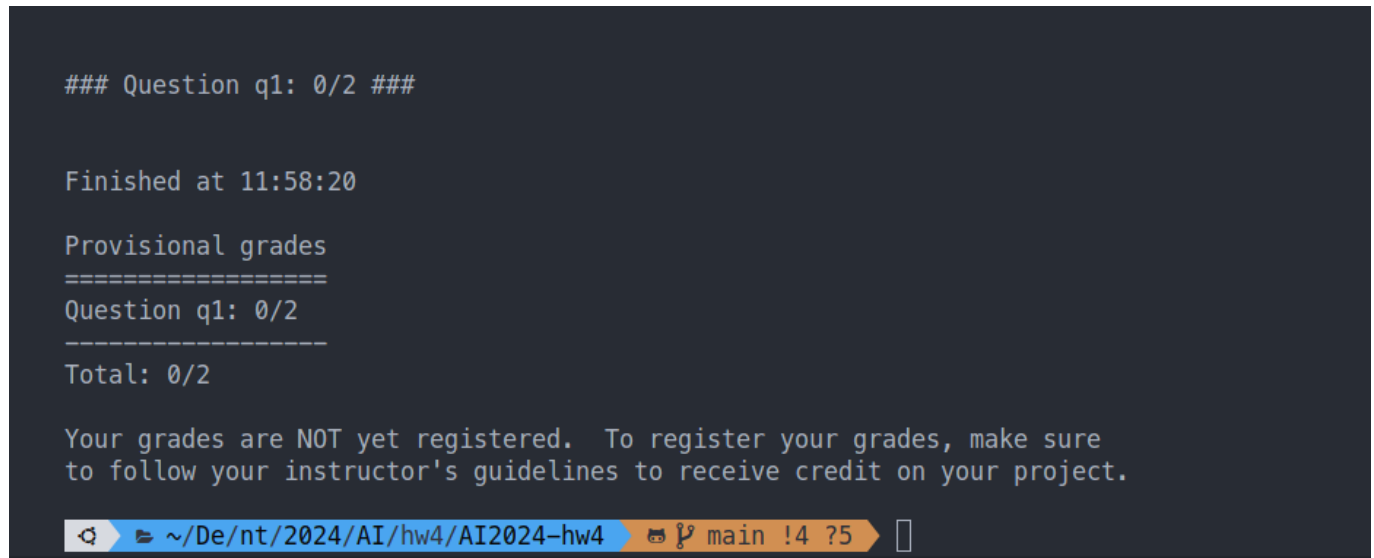
Q1 –

```
### Question q1: 0/2 ###

Finished at 11:58:20

Provisional grades
=====
Question q1: 0/2
-----
Total: 0/2

Your grades are NOT yet registered. To register your grades, make sure
to follow your instructor's guidelines to receive credit on your project.
```



Q2 –

joint all of the factors and product all of the probability of the Factors

```
PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS GITLENS COMMENTS

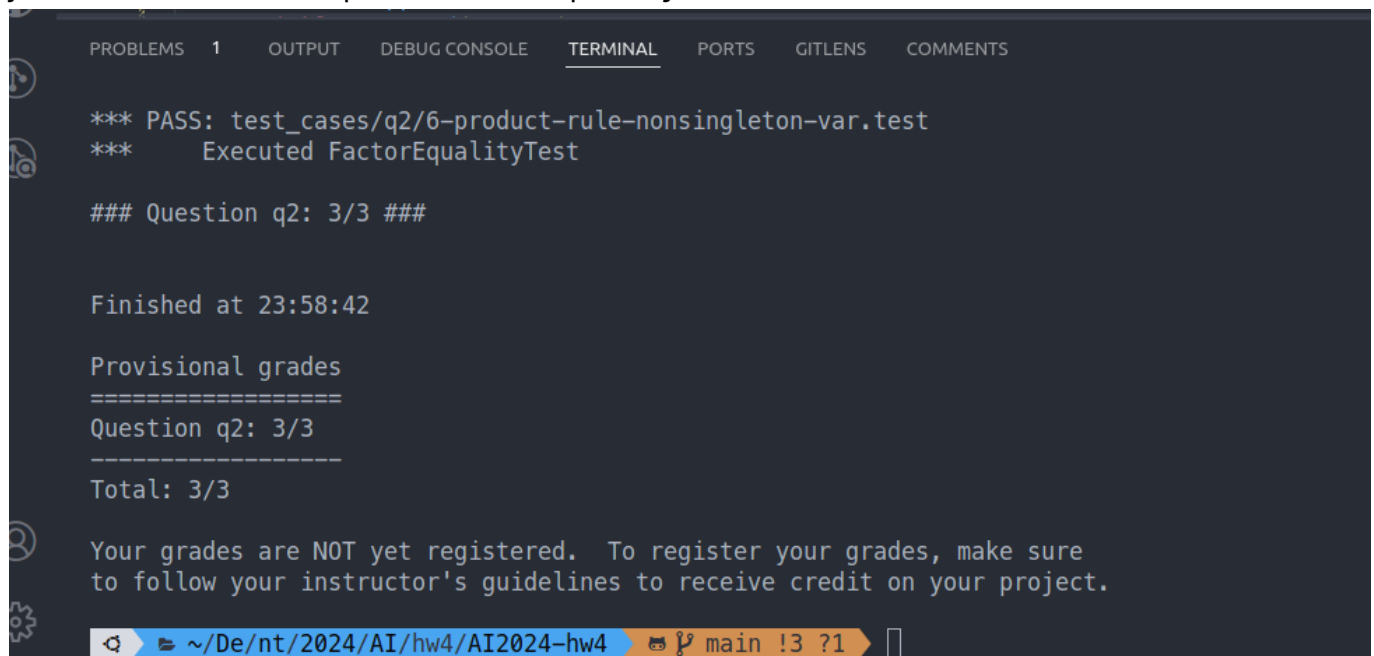
*** PASS: test_cases/q2/6-product-rule-nonsingleton-var.test
*** Executed FactorEqualityTest

### Question q2: 3/3 ###

Finished at 23:58:42

Provisional grades
=====
Question q2: 3/3
-----
Total: 3/3

Your grades are NOT yet registered. To register your grades, make sure
to follow your instructor's guidelines to receive credit on your project.
```



Q3 –

make the elimination as the ppt of the course.



```
PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS GITLENS COMMENTS

*** PASS: test_cases/q3/6-simple-eliminate-int.test
*** Executed FactorEqualityTest

### Question q3: 2/2 ###

Finished at 23:59:02

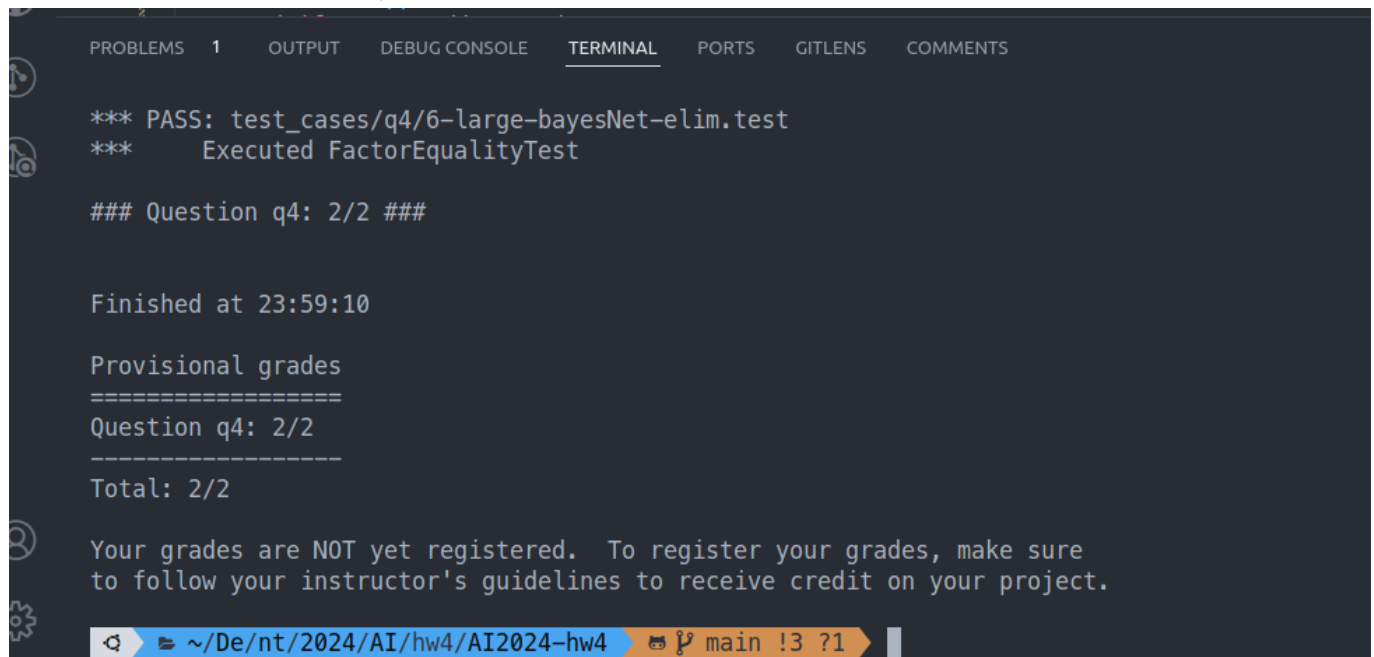
Provisional grades
=====
Question q3: 2/2
-----
Total: 2/2

Your grades are NOT yet registered. To register your grades, make sure
to follow your instructor's guidelines to receive credit on your project.

~/De/nt/2024/AI/hw4/AI2024-hw4 main !3 ?1
```

Q4 –

iteratively performs variable elimination in a Bayesian network, joining factors and eliminating variables until a final result is obtained, which is then normalized.



```
PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS GITLENS COMMENTS

*** PASS: test_cases/q4/6-large-bayesNet-elim.test
*** Executed FactorEqualityTest

### Question q4: 2/2 ###

Finished at 23:59:10

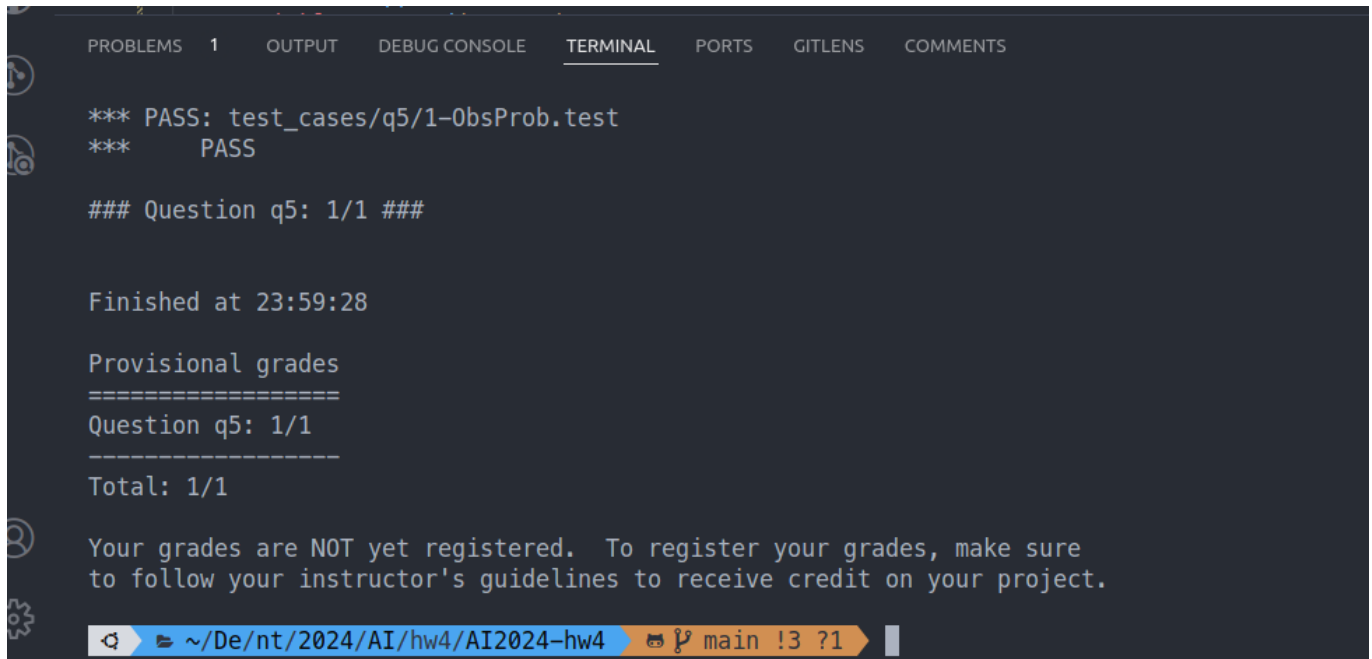
Provisional grades
=====
Question q4: 2/2
-----
Total: 2/2

Your grades are NOT yet registered. To register your grades, make sure
to follow your instructor's guidelines to receive credit on your project.

~/De/nt/2024/AI/hw4/AI2024-hw4 main !3 ?1
```

Q5 –

just simply finished what the README.md said.



A screenshot of a terminal window with a dark background. At the top, there are tabs: PROBLEMS, 1, OUTPUT, DEBUG CONSOLE, TERMINAL (selected), PORTS, GITLENS, and COMMENTS. The terminal output shows:
*** PASS: test_cases/q5/1-0bsProb.test
*** PASS

Question q5: 1/1 ###

Finished at 23:59:28

Provisional grades
=====

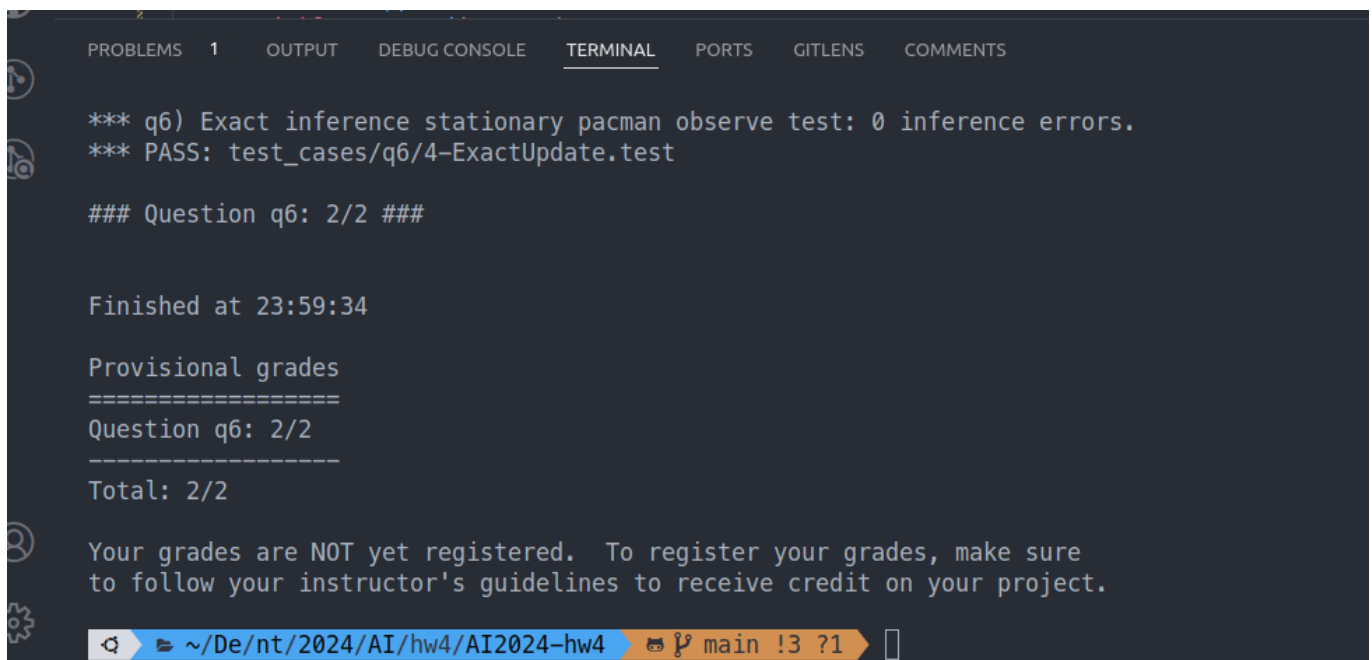
Question	Grade
Question q5: 1/1	1/1

Total: 1/1

Your grades are NOT yet registered. To register your grades, make sure to follow your instructor's guidelines to receive credit on your project.

The terminal prompt is `~/De/nt/2024/AI/hw4/AI2024-hw4` and the status bar shows `main !3 ?1`.

Q6 –



A screenshot of a terminal window with a dark background. At the top, there are tabs: PROBLEMS, 1, OUTPUT, DEBUG CONSOLE, TERMINAL (selected), PORTS, GITLENS, and COMMENTS. The terminal output shows:
*** q6) Exact inference stationary pacman observe test: 0 inference errors.
*** PASS: test_cases/q6/4-ExactUpdate.test

Question q6: 2/2 ###

Finished at 23:59:34

Provisional grades
=====

Question	Grade
Question q6: 2/2	2/2

Total: 2/2

Your grades are NOT yet registered. To register your grades, make sure to follow your instructor's guidelines to receive credit on your project.

The terminal prompt is `~/De/nt/2024/AI/hw4/AI2024-hw4` and the status bar shows `main !3 ?1`.

Q7 –

Predict beliefs in response to a time step passing from the current state.

```
PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS GITLENS COMMENTS

*** q7) Exact inference elapsedTime test: 0 inference errors.
*** PASS: test_cases/q7/4-ExactPredict.test

### Question q7: 2/2 ###

Finished at 23:59:46

Provisional grades
=====
Question q7: 2/2
-----
Total: 2/2

Your grades are NOT yet registered. To register your grades, make sure
to follow your instructor's guidelines to receive credit on your project.

~/De/nt/2024/AI/hw4/AI2024-hw4 main !3 ?1
```

Q8 –

```
PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS GITLENS COMMENTS

*** smallHunt) Games won on q8 with score above 700: 10/10
*** PASS: test_cases/q8/3-gameScoreTest.test

### Question q8: 1/1 ###

Finished at 23:59:55

Provisional grades
=====
Question q8: 1/1
-----
Total: 1/1

Your grades are NOT yet registered. To register your grades, make sure
to follow your instructor's guidelines to receive credit on your project.

~/De/nt/2024/AI/hw4/AI2024-hw4 main !3 ?1
```

Q9 –

initializeUniformly: evenly distributed the particle across positions
getBeliefDistribution: converts a list of particles into a belief distribution

```
PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS GITLENS COMMENTS

*** q9) numParticles initialization test: 0 inference errors.
*** PASS: test_cases/q9/2-ParticleInit.test

### Question q9: 1/1 ###

Finished at 0:00:01

Provisional grades
=====
Question q9: 1/1
-----
Total: 1/1

Your grades are NOT yet registered. To register your grades, make sure
to follow your instructor's guidelines to receive credit on your project.

~/De/nt/2024/AI/hw4/AI2024-hw4 main !3 ?1
```

Q10 –

Update beliefs by the distance of observation and Pacman's position.

```
PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS GITLENS COMMENTS

*** oneHunt) Games won on q10 with score above 100: 10/10
*** PASS: test_cases/q10/6-ParticleUpdate.test

### Question q10: 2/2 ###

Finished at 0:00:11

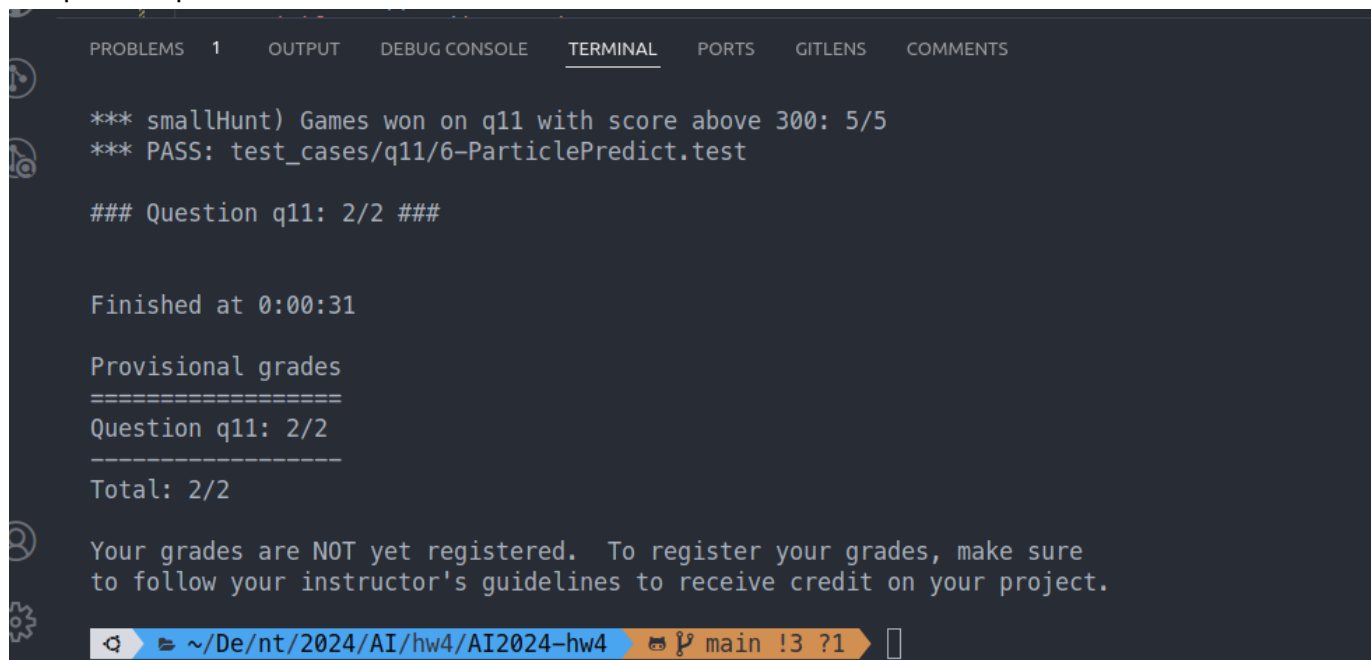
Provisional grades
=====
Question q10: 2/2
-----
Total: 2/2

Your grades are NOT yet registered. To register your grades, make sure
to follow your instructor's guidelines to receive credit on your project.

~/De/nt/2024/AI/hw4/AI2024-hw4 main !3 ?1
```

Q11 –

Sample each particle's next state



The screenshot shows a VS Code terminal window with the following content:

```
PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL PORTS GITLENS COMMENTS

*** smallHunt) Games won on q11 with score above 300: 5/5
*** PASS: test_cases/q11/6-ParticlePredict.test

### Question q11: 2/2 ###

Finished at 0:00:31

Provisional grades
=====
Question q11: 2/2
-----
Total: 2/2

Your grades are NOT yet registered. To register your grades, make sure
to follow your instructor's guidelines to receive credit on your project.

~/De/nt/2024/AI/hw4/AI2024-hw4 main !3 ?1
```