

Honor Pledge

On my honor, I have neither given nor received any unauthorized aid on this quiz.

By typing your first and last name in the space provided below you are electronically signing to indicate that:

- (1) You are the person who is taking this quiz.
- (2) You read and understood the Honor Pledge and you agree to be bound by it.

Write your answer below:

Xinhao Luo

Clear Use Most Recent Submission

Question 1. (1pt) Which inference method does Prolog use?

Select one:

- ☐ forward chaining
- ☒ backward chaining

Clear Use Most Recent Submission

Question 2. (2pts) The list [1,2|3] is a proper list.

Select one:

- ☒ false
- ☐ true

Clear Use Most Recent Submission

Question 3. (2pts) The list [1,2|[3]] is a proper list.

Select one:

- ☐ false
- ☒ true

Clear Use Most Recent Submission

Question 4. (1pt) The unification [1,2|3] = [1,2|[3]] succeeds.

Select one:

- ☒ false
- ☐ true

Clear Use Most Recent Submission

Question 5. (2pts) Consider gcd (the Greatest Common Divisor algorithm) in Prolog. The program takes positive integers A and B and “returns” their greatest common divisor in R. Note: % starts a line comment in Prolog.

```
gcd(A,B,R) :- A = B, R = A. %base case: when a=b, then GCD(a,b) = a = b.
gcd(A,B,R) :- A > B, A1 is A-B, gcd(A1,B,R). %when a>b, GCD(a,b) = GCD(a-b,b).
gcd(A,B,R) :- A < B, B1 is B-A, gcd(A,B1,R). %when a<b, GCD(a,b) = GCD(a,b-a).
```

Is this program “invertible”? (That is, given arbitrary positive integers b and d, can we call ?- gcd(A,b,d). to generate a sequence of integers a such that GCD(a,b) = d?)

Select one:

- ☒ no
- ☐ yes

Clear Use Most Recent Submission

Question 6. (2pts) Recall our favorite classmates Prolog program:

```
takes(jane, his).
takes(jane, cs).
takes(ajit, art).
takes(ajit, cs).
classmates(X,Y) :- takes(X,Z),takes(Y,Z).
```

Query ?- classmates(A,B). has this many answers (an answer is a pair of bindings A = . . . , B = . . .):

Enter just one number on a single line in the first line of the text area below with no whitespace.

Write your answer below:

6

Clear Use Most Recent Submission

By clicking "Submit" you are confirming that you have read, understand, and agree to follow the Academic Integrity Policy.

Submit

Select Submission Version:

Version #1 GRADE THIS VERSION

Do Not Grade This Assignment

Note: This version of your assignment will be graded by the instructor/TAs and the score recorded in the gradebook.

Autograding Total (Without Hidden Points)	
10 / 10	Autograding Total (With Hidden Points)
Test 1 Honor Pledge signature submission	Show Details
Test 2 Question 1 submission	Show Details
Test 3 Question 2 submission	Show Details
Test 4 Question 3 submission	Show Details
Test 5 Question 4 submission	Show Details
Test 6 Question 5 submission	Show Details
Test 7 Question 6 submission	Show Details
1 / 1	HIDDEN: Test 8 Question 1
2 / 2	HIDDEN: Test 9 Question 2
2 / 2	HIDDEN: Test 10 Question 3
1 / 1	HIDDEN: Test 11 Question 4
2 / 2	HIDDEN: Test 12 Question 5
2 / 2	HIDDEN: Test 13 Question 6
Test 14 Check Honor Pledge	Show Details
Test 15 Check Time Limit	Show Details