

BBM301-Prolog

Toplam puan 0/0 ?

There are 4 questions in this quiz.

Note that, only a single submission is allowed.

Please follow the format instructions. Otherwise your answers will not be graded.

Good luck.

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0 üzerinden 0 puan

Name Surname

a

Student ID

2

Please continue if you accept the following honor code. "On my honor, I pledge that I have neither given nor received any unauthorized assistance on this exam."



Accept

Unification in Prolog

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Consider the following Prolog rulebase. Report the answers that Prolog will produce for the following query, with the substitutions made. Report fail if Prolog would not be able to find an answer. List all the possible answers. First answer is given to help.

p(1,2).

p(3,3).

p(2,1).

q(1,2).

q(2,1).

q(2,2).



$q(3,3).$
 $r(2,1).$
 $r(2,2).$
 $s(X1,Y1) :- p(X1,Y1), q(Y1,X1), r(X1,X1).$
 $s(X2,Y2).$
 $r(X3,Y3) :- q(X3,Y3).$
 $w(X4,Y4) :- p(X4,Y4), q(2,Z4), r(X4,Z4).$

Query:
 $?- w(U,V).$

✗ First Binding List Found (if one):

✗

Doğru cevap

$(U = 2, V = 1) \{X4/2, Y4/1, Z4/1\}$

✗ Second Binding List (if one):

✗

Doğru cevap

$(U = 2, V = 1) \{X4/2, Y4/1, Z4/1, X3/2, Y3/2\}$

✗ Third Binding List (if one):

✗

Doğru cevap

$(U = 1, V = 2) \{X4/1, Y4/2, Z4/2, X3/1, Y3/2\}$

Writing Prolog

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Consider the following knowledge:

John and Mary get sick every year.

Pebbles, the child of Fred and Wilma, will get sick in 1996.
 Every year Maggie sits next to Pebbles on the school bus.
 People who sit next to sick people will get sick [that same year].
 Parents catch [that same year] every cold their children get.
 Having a cold is one way of getting sick.

You may use, without needing to further define them, the predicates: `parentOf(Parent,Child)`,
`hasCold(Person,Year)`, `sitsNextTo(PersonA,PersonB,Year)`.

Write a Prolog program or FOL sentences in the form of Horn clauses for
`sick(Person,Year)` - meaning Person will be (was) sick during Year,

Geri Bildirim

```
sick(john, 1996).␣sick(john, 1997).␣sick(mary, 1996).␣sick(mary, 1997).␣sick(pebbles,
1996).␣parentOf(fred,pebbles),␣parentOf(wilma,pebbles),␣sitsNextTo(maggie,pebbles,199
6).␣sitsNextTo(maggie,pebbles,1997).␣sick(Person, Year) :- hasCold(Person,
Year).␣sitsNextTo(PersonA,PersonB,Year):-
sitsNextTo(PersonB,PersonA,Year).␣sick(PersonA, Year) :- sick(PersonB, Year),
sitsNextTo(PersonA,PersonB,Year).␣hasCold(Parent) :- hasCold(Child), parentOf(Parent,
Child).␣
```

Submit

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This is the end of the quiz. Only a single submission is allowed. Please go back if you would like to check your answers. Otherwise click the submit button to finalize this part.

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