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CSC 301  
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## Assignment #10

?- female(ann).  
true.

?- female(jim).  
false.

?- parent(X,bob).  
X = pam ;  
X = tom.

?- parent(tom,X).  
X = bob ;  
X = liz.

?- parent(X,ann),parent(X,pat).  
X = bob.

1. Bob is the parent of Pat.

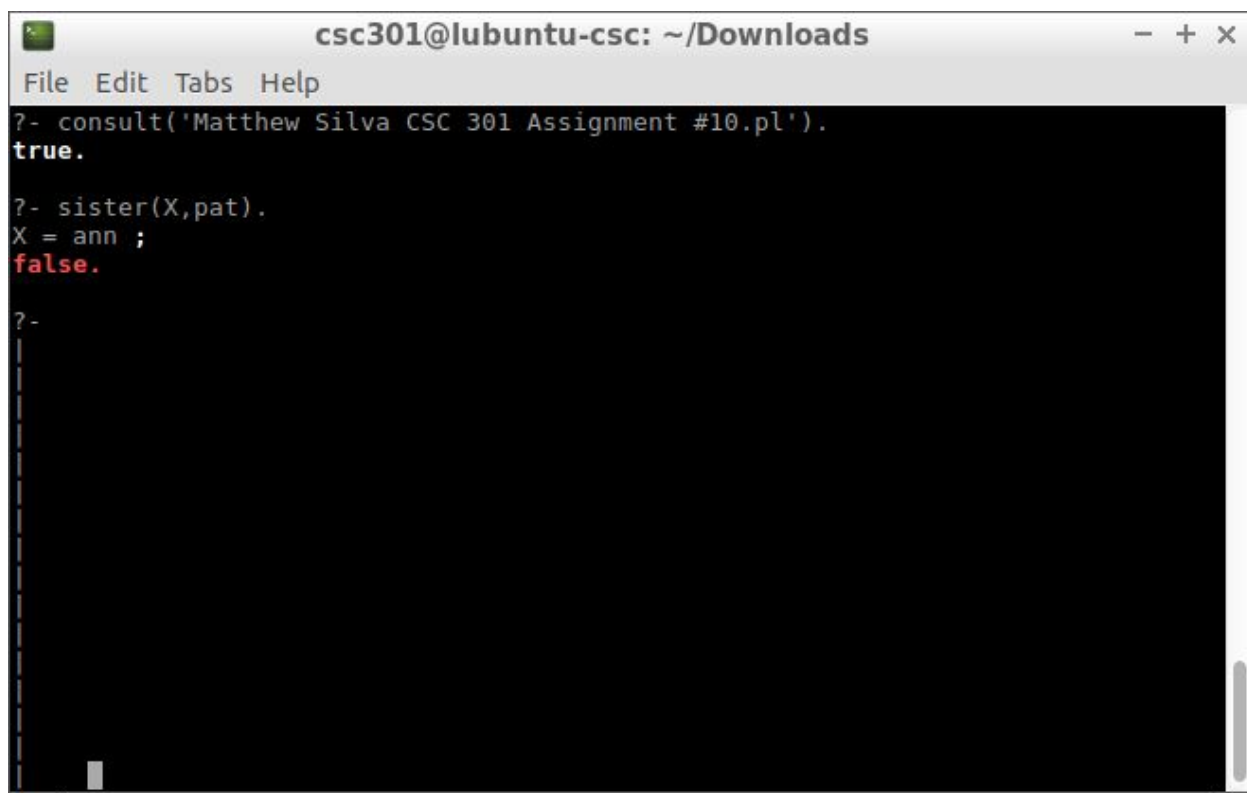
?- parent(X,pat).  
X = bob.

2. Liz does not have a child.

?- parent(liz,X).  
false.

3. Pat's grandparents are Pam and Tom.

?- parent(X,pat),parent(Y,X).  
X = bob,  
Y = pam ;  
X = bob,  
Y = tom.



A screenshot of a Prolog interpreter window. The title bar reads "csc301@lubuntu-csc: ~/Downloads". The menu bar includes "File", "Edit", "Tabs", and "Help". The main text area shows the following Prolog session:

```
?- consult('Matthew Silva CSC 301 Assignment #10.pl').
true.

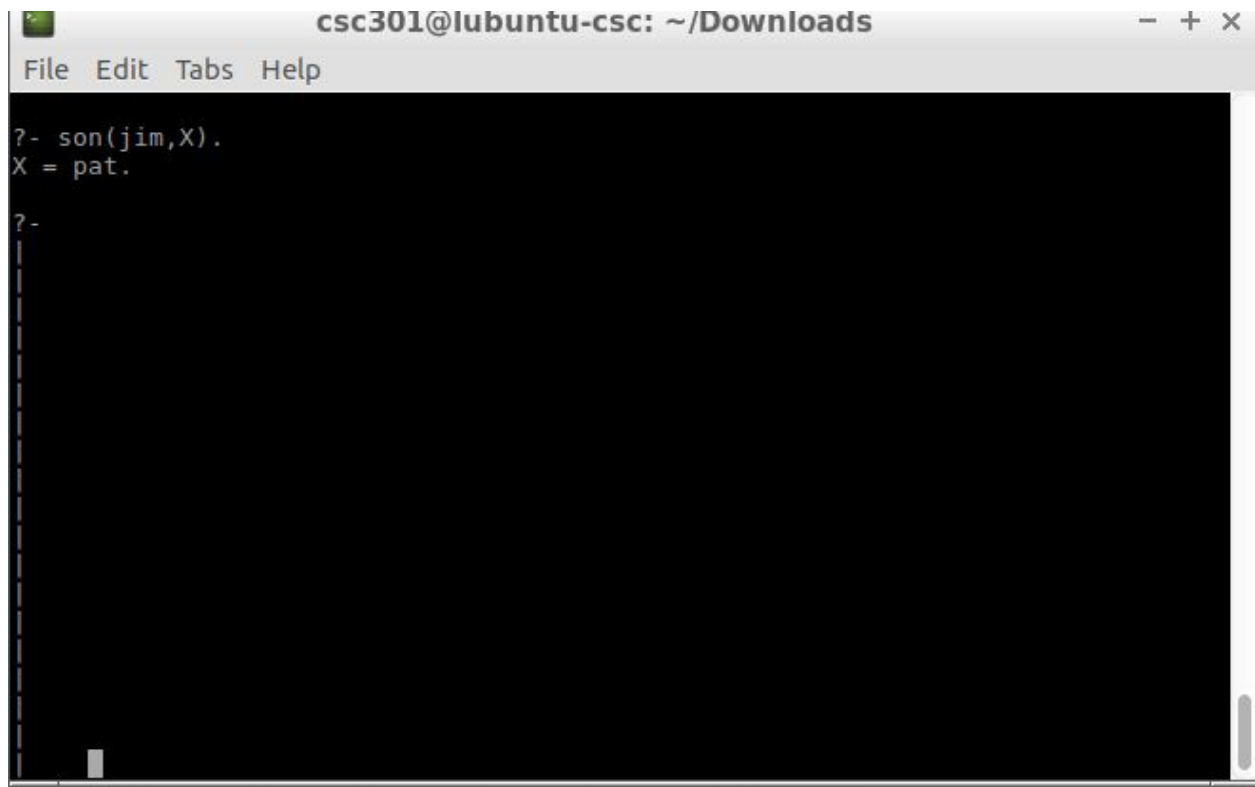
?- sister(X,pat).
X = ann ;
false.

?-
```

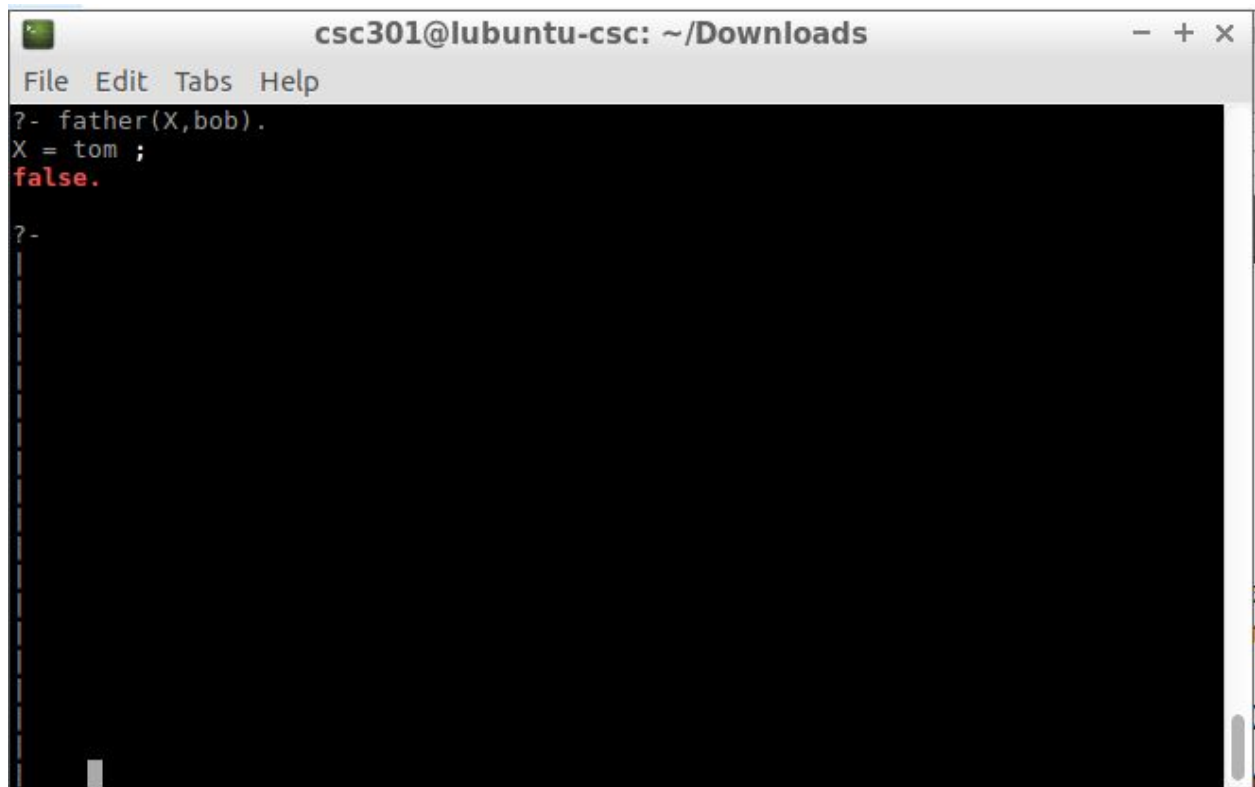
```
?- consult('Matthew Silva CSC 301 Assignment #10.pl').
true.

?- sister(X,Y).
X = liz,
Y = bob ;
X = ann,
Y = pat ;
X = pat,
Y = ann ;
false.


?-
```



A screenshot of a Prolog window titled "csc301@lubuntu-csc: ~/Downloads". The window has a menu bar with "File", "Edit", "Tabs", and "Help". The main area is a black terminal with a dashed vertical line on the left. The text entered is:   
?- son(jim,X).  
X = pat.  
?-



A screenshot of a Prolog window titled "csc301@lubuntu-csc: ~/Downloads". The window has a menu bar with "File", "Edit", "Tabs", and "Help". The main area is a black terminal with a dashed vertical line on the left. The text entered is:   
?- father(X,bob).  
X = tom ;  
**false.**  
?-

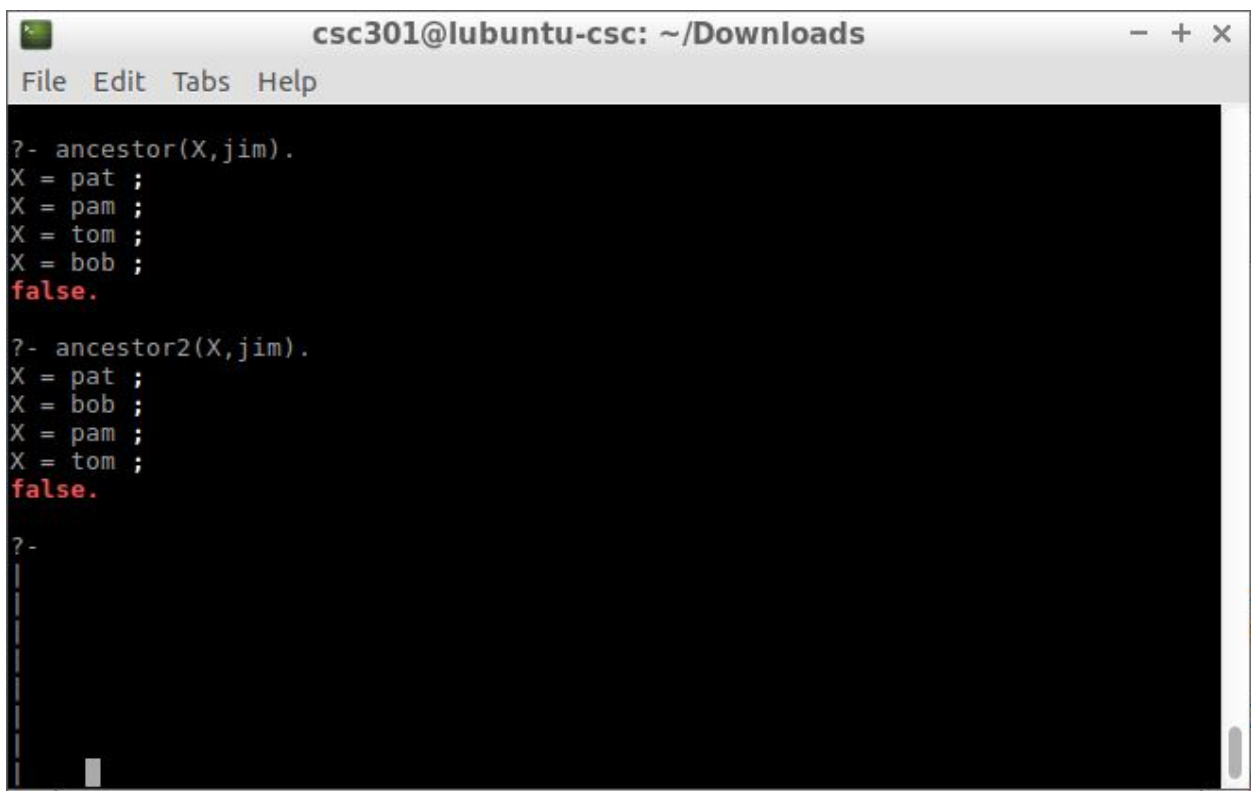


```
csc301@lubuntu-csc: ~/Downloads
File Edit Tabs Help

?- grandmother(X,ann).
X = pam ;
false.

?-
```

I decided to write a second ancestor function to try using recursion differently. You can look at the code for it if you would like.



```
csc301@lubuntu-csc: ~/Downloads
File Edit Tabs Help

?- ancestor(X,jim).
X = pat ;
X = pam ;
X = tom ;
X = bob ;
false.

?- ancestor2(X,jim).
X = pat ;
X = bob ;
X = pam ;
X = tom ;
false.

?-
```