Review Test Submission: Week07 Quiz Prolog1

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Course	CS 6364.001 - Artificial Intelligence - F15
Test	Week07 Quiz Prolog1
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Status	Completed
Attempt Score	30 out of 30 points
Time Elapsed	58 minutes out of 1 hour
Results Displayed	All Answers, Submitted Answers, Correct Answers

Question 1

2 out of 2 points

Assume that you have member/2 where member(X, Y) checks whether X is an element of a list Y, complete the first clause of the following Prolog program subset/2 where subset(A, B) will establish a relationship of A being a subset of B.

subset([X|R],S) :-
subset([ ],_).

Selected Answer: ✓ member(X,S), subset(R,S).

Answers: ✓ member(X,S), subset(R,S).

member(X,R), subset(R,S).

member(R,S), subset(R,S).

subset(R,S).

None of the above

Question 2

2 out of 2 points

What would it be the result of the following prolog query?
?- [a, b, c] = [X, Y | Z].

Selected Answer: ✓ X=a, Y=b, Z=[c].

Answers:
X=a, Y=b, Z=c.
X=a, Y=[b], Z=[c].
X=a, Y=[b, c], Z=[ ].
✓ X=a, Y=b, Z=[c].
None of the above

Question 3

2 out of 2 points

Complete the second clause of the following Prolog program for member/2 where member(X, Y) checks whether X is an element of a list Y.

```
member(X,[X|R]).
member(X,[Y|R]) :-
```

Selected Answer: ✓ member(X,R).

Answers:
✓ member(X,R).
member(X,Y).
member(_,R).
member(Y,R).
member(X,Y).

Question 4

2 out of 2 points

Negation in Prolog is negation by ____

Selected Answer: ✓ failure

Answers:
default
✓ failure
proof
inference
success

Question 5

2 out of 2 points

What would it be the result of T for the following prolog query?
?- [a, b, c] = [X, Y, Z | T].

Selected Answer: ✓ T=[ ].

Answers:
✓ T=[ ].

T=c.

T=[[ ]].

T=[a, b, c].

None of the above

Question 6

2 out of 2 points

Complete the second clause of a Prolog program (factorial/3 or factorial(N,A,F)) to compute a factorial F of an integer N, in tail-recursion with an accumulating variable A.

```
factorial(0,F,F).


factorial(N,A,F) :-
```

Selected Answer:
```
N>0, A1 is N*A, N1 is N-1,
factorial(N1,A1,F).
```

Answers:
```
N>0, A is N*A1, N is N1-1,
factorial(N1,A1,F).
```

```
N<0, A is N*A1, N1 is N-1,
factorial(N1,A1,F1).
```

```
N>0, A is N*A1, N1>N-1, factorial(N1,A1,F).
```

```
N>0, A1 is N*A, N1 is N-1,
factorial(N1,A1,F).
```

```
A1 is N*A, factorial(N1,A1,F), N1 is N-1.
```

Question 7

2 out of 2 points

What would it be the result of the following prolog query?
?- [a, b, c] = [X | Y].

Selected Answer: X=a, Y=[b, c]

Answers:

X=a, Y=b.

X=a, Y=c.

X=a, Y=[b, c]

X=[a, b], Y=[c]

None of the above

Question 8

2 out of 2 points

For the following Prolog query, X will be ____.

?- X=[1 | X].

Selected Answer: all of the above

Answers:
- a circular list
- a self-referenced list
- an infinite list
- X=[1, 1, 1, ...]
- all of the above

Question 9

2 out of 2 points

Consider the following bachelor Prolog program.

```
bachelor(P) :- male(P), not married(P).
male(henry).
male(tom).
married(tom).
```

What would be the incorrect result of a query?

Selected Answer: ?- male(P).
no

Answers:

```
?- bachelor(henry).
yes
```

```
?- bachelor(tom).
no
```

```
?- bachelor(Who).
Who=henry
```

```
?- married(X).
X=tom
```

?- male(P).
no

Question 10

2 out of 2 points

What would it be the result of the following prolog query?
?- p(X, f(Y), a) = p(a, f(a), Y).

Selected Answer: X=a, Y=a.

Answers: X=a, Y=f(a).

X=f(a), Y=a.

X=f(a), Y=f(a).

✓ X=a, Y=a.

None of the above

Question 11

2 out of 2 points

How does prolog define the negation?

Selected Answer: not(P) :- call(P), !, fail. not(P).

Answers:

not(P) :- call(P); fail.

not(P) :- call(P), !, fail. not(P).

not(P) :- call(P), !, \+ fail. not(P).

not(P) :- (call(P) -> true; fail).

not(P) :- (call(P) -> true).

Question 12

2 out of 2 points

Select the second clause of the following Prolog program (factorial/2) to compute a factorial.

factorial(0,1).
factorial(N,F) :-

Selected Answer: N>0, N1 is N-1, factorial(N1,F1), F is N*F1.

Answers:

N>0, N is N-1, factorial(N1,F1), F1 is N*F.

N>0, N is N1-1, factorial(N1,F1), F1 is N1*F.

N>0, N1 is N-1, factorial(N1,F1), F is N*F1.

N>0, N1 is N+1, factorial(N1,F1), F is N*F1.

N>0, N is N1-1, factorial(N,F), F is N*F1.

Question 13

2 out of 2 points

Explain the behavior or goal of the following program (mystery/3). What would be the result of the query below?

```
mystery(A,B) :- mystery(A,[],B).
mystery([X|Y],Z,W) :- mystery(Y,[X|Z],W).
mystery([],X,X).
```

?- mystery([1,2,3], A).

Selected Answer: A=[3,2,1]

Answers:
A=[1]
A=[1,2,3]
A=[2,3]
A=[ ]
A=[3,2,1]

Question 14

2 out of 2 points

What would it be the result of the following prolog query?
?- p(X, f(Y), a) = p(a, f(b), Y).

Selected Answer: None of the above

Answers:
X=a, Y=f(a).
X=f(a), Y=a.
X=f(a), Y=f(a).
X=a, Y=a.
None of the above

Question 15

2 out of 2 points

What is it called for the variable matching process in Prolog?

Selected Answer: unification

Answers:
equalization
simplification
binding
back-tracking
unification

Saturday, October 31, 2015 7:19:48 PM CDT

← OK