

Assignment #3:

Q1:

1. sunny AND warm True.
2. sunny AND cold False.
3. sunny OR cold True.
4. (sunny OR cold) AND warm True.
5. happy XOR sunny False.
6. warm XOR (not happy) True.
7. early NAND happy False.
8. (late NOR (not early)) AND (windy OR (not warm)) True.
9. (cloudy AND windy) AND (warm AND early) False.
10. (cloudy AND windy) XOR (warm OR early) True.

Q2:

2,3-

?- teaches(bob, X).

X = tom

X = mary

X = joe.

?- teaches(X, mary).

X = bob

X = ann.

4- ?- teaches(ann, joe).
false.

Explain:

5-

?- classmate(mary, X).

X = tom

X = joe

X = tom

false.

?- classmate(mary, tom).

true .

?- classmate(tom, tom).

false.

Q3:

1- ?- [HEAD|TAIL] = [1,2,3].
HEAD = 1,
TAIL = [2, 3].

2- ?- [_|[HEAD|TAIL]] = [1,2,3,4,5].
HEAD = 2,
TAIL = [3, 4, 5].

3- ?- contains1(1,[1,1,2]).
true.

?- contains1(1,[3,1,2]).
false.

4- ?- contains2(1,[3,1,2]).
false.

?- contains2(1,[3,1,2]).
false.

?- contains2([1,2],[3,1,2]).
true.

5- ?- contains1(X,[3,1,2]).
X = 3.