Truth Table Exercises

The sentence below is ambiguous and has two possible interpretations. Create truth tables for the different interpretations of the sentence: *I will eat dinner and study or call my friend.*

E = I will eat dinner.   S = I will study.   C = I will call my friend.

1. One possible interpretation: $(E \wedge S) \vee C$

E	S	C	$(E \wedge S)$	$(E \wedge S) \vee C$
1	1	1		
1	1	0		
1	0	1		
1	0	0		
0	1	1		
0	1	0		
0	0	1		
0	0	0		

2. Another possible interpretation: $E \wedge (S \vee C)$

E	S	C	$(S \vee C)$	$E \wedge (S \vee C)$
1	1	1		
1	1	0		
1	0	1		
1	0	0		
0	1	1		
0	1	0		
0	0	1		
0	0	0		

Convert the following statements into symbolic form and generate a truth table for each one:

3. The sun is hot and it is not snowing.

5. If John doesn't win at checkers then he will become angry and flip over the board.

6. If it rains and you do not open your umbrella then you will get wet.

7. If the ice cream melts then the children will be unhappy and if the children are unhappy then they will throw a tantrum.

8. If the New York Yankees win the world series or the New York Jets win the super bowl then New York fans will be overjoyed and dance in the streets.