Stack States

If you write the grammar on page 188 of Dr. Pedersen's book with stack states as subscripts, it looks like this:

1. $S \to A_2$
2. $A \to b_1$
3. $A \to a_3 A_4$

In this example, Dr. Pedersen is using stack state 2 instead of 1.

If you write the grammar on page 202 of Dr. Pedersen's book with stack states as subscripts, it looks like this:

1. $S \to E_1$
2. $E \to E_{1,6} +_5 F_7$
3. $E \to F_3$
4. $F \to (_4 E_6)_8$
5. $F \to \mathbf{id}_2$

Here is a simple ambiguous grammar, where the action table resolves the ambiguity. (This example is not from Dr. Pedersen's book.) The ambiguity is resolved by the entry in row 6, column e, of the action table. Can you write the tables?

1. $S \to a_2$
2. $S \to w_3 S_4$
3. $S \to i_5 S_6$
4. $S \to i_5 S_6 e_7 S_8$

Here is a more complex example. Can you guess the stack states, then write the tables? Don't try to compute the states using the formal method given in Dr. Pedersen's book. You will learn that in CS 460/660.

1. $S \to a$
2. $S \to wS$
3. $S \to iS$
4. $S \to iSeS$
5. $S \to bLn$
6. $L \to LS$
7. $L \to \varepsilon$