Quiz 5

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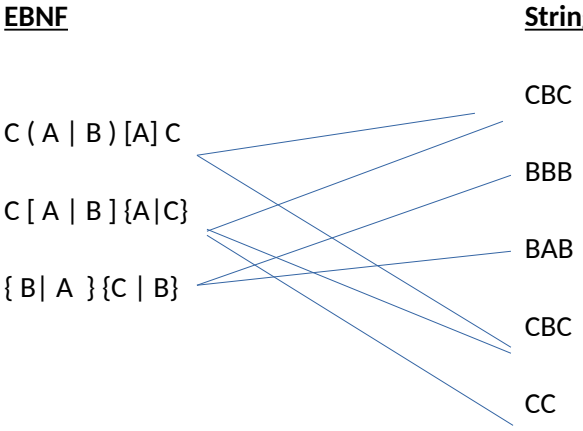
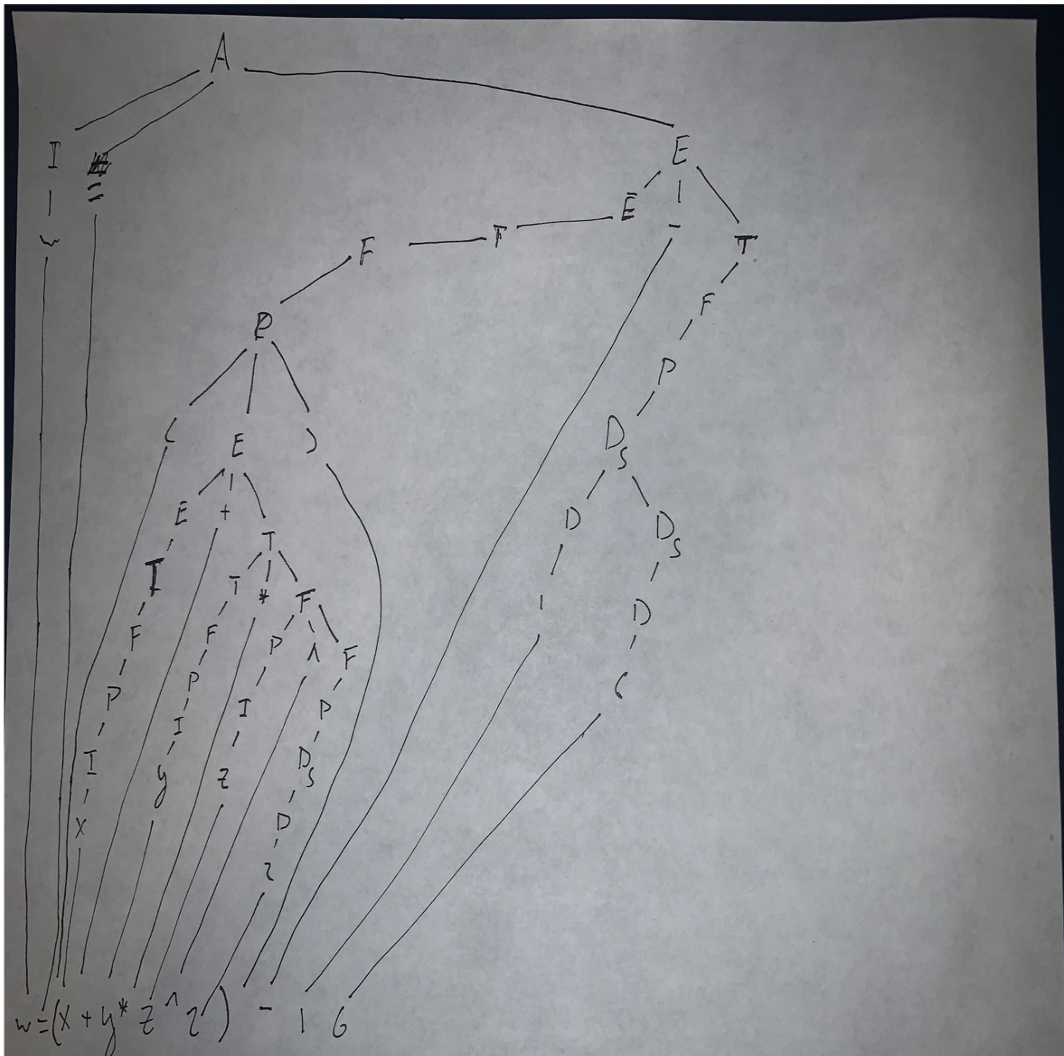
1. (40) Give the parse tree for the following grammar that yields **w=x+y*z^2-16**. **A** is the start symbol.
   A->I = E
   E->E+T | E-T | T
   T-> T*F | T/F | F
   F->P^F | P
   P->(E) | I | Ds
   I->w|x|y|z
   Ds->D Ds | D
   D->0 | 1 | … | 9
   See next page

2. (30) Draw a line for each EBNF pattern on the left to each string on the right that could have come from that pattern. Note that I am using non-terminals, here.



3. (20) Give the EBNF for all strings containing characters **a**,**b**,**c** that contain at least one **a** (and may have 0 or more of **b** or **c**).
   (A) { A | B | C }



$w=(x+y^{*}z^{\wedge}2)-16 \Rightarrow w=x+y^{*}z^{\wedge}2-16$