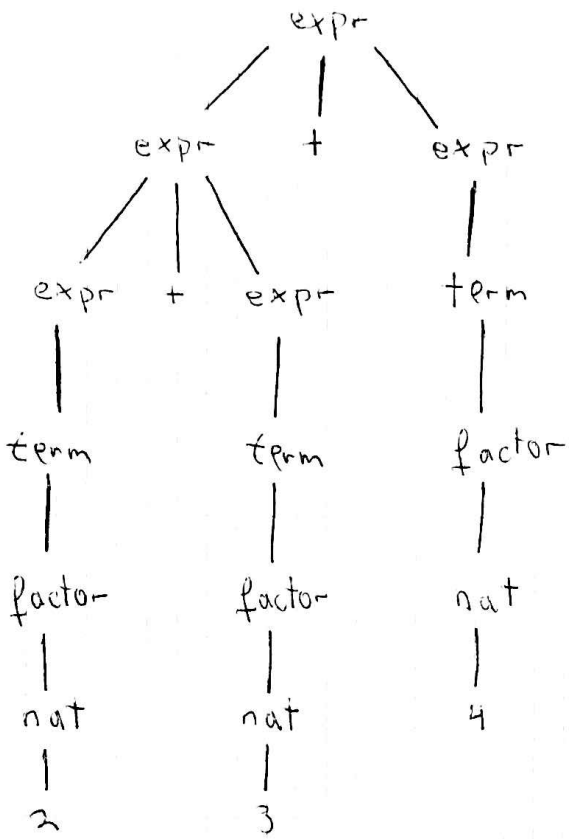
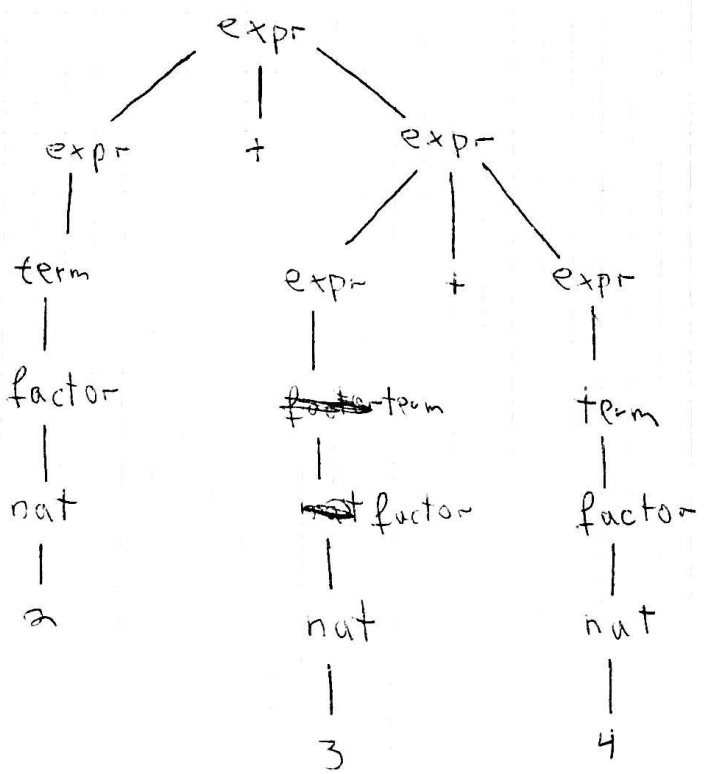
② Option 1:



Option 2:



③

The third grammar is

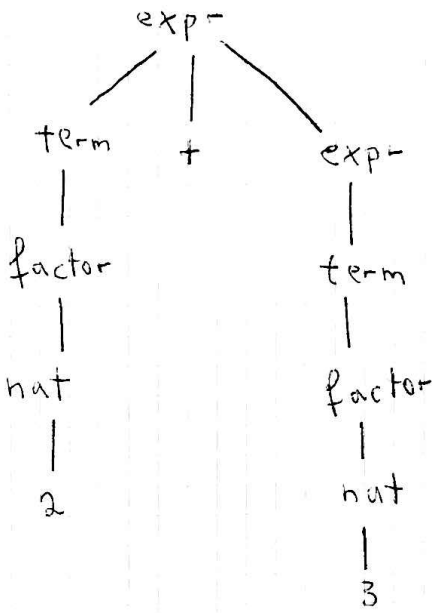
expr ::= term + expr | term

term ::= factor * term | factor

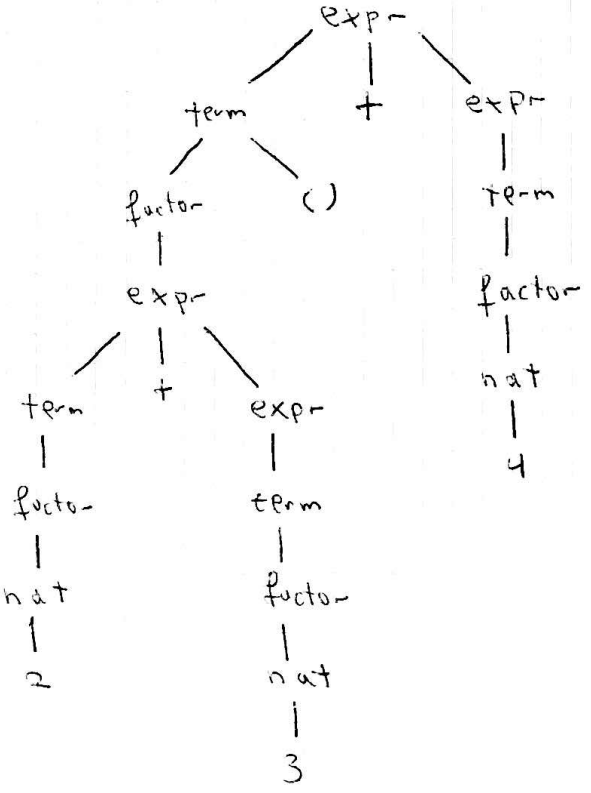
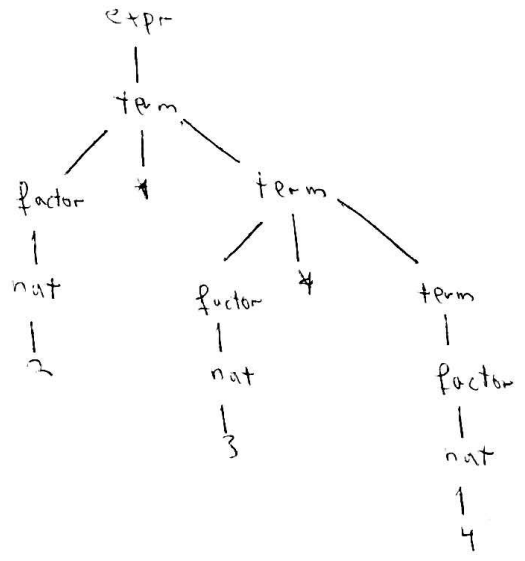
factor ::= (expr) | nat

nat ::= 0 | 1 | 2 | ...

Parse tree of 2+3:



Parse tree of (2+3)+4:



Parse tree of 2*3*4.