

## BNF推导

Both two statements can generate a parse tree.

### 1. $A=A*B+C*A$

```
1 <assign> -> <id> = <expr>
2 -> A = <expr>
3 -> A = <expr> + <term>
4 -> A = <term> + <term>
5 -> A = <term> * <factor> + <term>
6 -> A = <factor> * <factor> + <term>
7 -> A = <id> * <factor> + <term>
8 -> A = A * <id> + <term> * <factor>
9 -> A = A * B + <factor> * <factor>
10 -> A = A * B + <id> * <id>
11 -> A = A * B + C * A
```

### 2. $A=B+C*(A+B)$

```
1 <assign> -> <id> = <expr>
2 -> A = <expr> + <term>
3 -> A = <term> + <term> * <factor>
4 -> A = <factor> + <factor> * ( <expr> )
5 -> A = <id> + <id> * ( <expr> + <term> )
6 -> A = B + C * ( <term> + <factor> )
7 -> A = B + C * ( <factor> + <factor> )
8 -> A = B + C * ( <id> + <id> )
9 -> A = B + C * ( A + B )
```