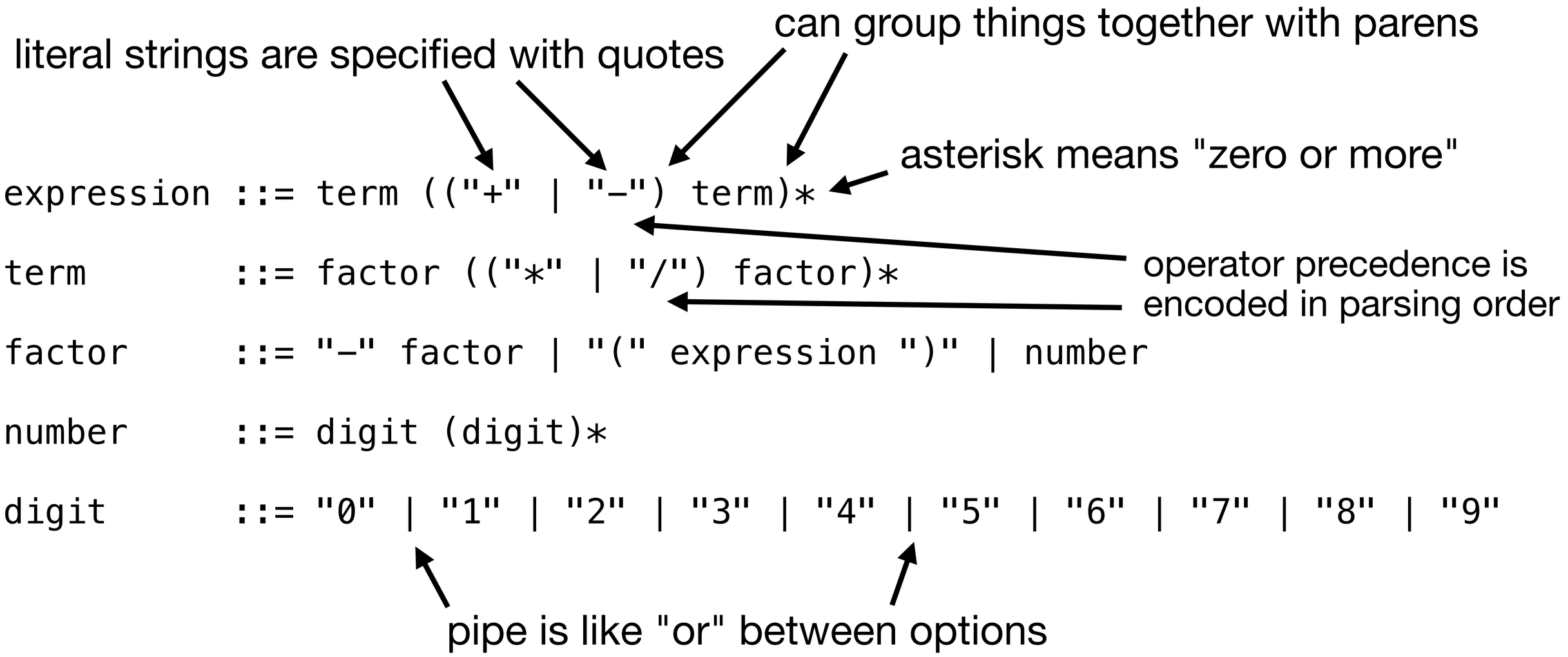
Grammars

- Once we have the lexemes generated, we need to figure out how they fit together
- The ways lexemes fit together to create things like an "addition expression", or "number", etc. are typically are specified by a **grammar**
- Grammars consist of a set of rules for creating expressions from lexemes
- They are typically written in Backus-Naur form ("BNF"), in which a type of expression is on one side and the way(s) it can be created are on the other

Grammars (cont.)




```
expression ::= term (("+" | "-") term)*

term       ::= factor (("*" | "/") factor)*

factor     ::= "-" factor | "(" expression ")" | number

number     ::= digit (digit)*

digit      ::= "0" | "1" | "2" | "3" | "4" | "5" | "6" | "7" | "8" | "9"
```