

```

layout Whitespace = [\t-\n\r\ ]*;

lexical IntegerLiteral = [0-9]+;

start syntax Exp
  = IntegerLiteral
  | bracket "(" Exp ")"
  > left Exp "*" Exp
  > left Exp "+" Exp
  ;

```

Syntax	general non-terminal, rascal will interleave with layout
Lexical	Not interleaved with layout
Layout	Character-classes describing things to be ignored
Start	Defines the starting symbol
Keyword	Keywords for the grammar, are just lexical basically. Help with disambiguation.

### Disambiguation:

- ❑ Associativity
  - ❑ **assoc** | **left** | **right** | **non-assoc**
- ❑ Follow or Precede
  - ❑ **>>** | **!>>** | **<<** | **!<<**
  - ❑ *Symbol follow/precede constraint*
    - ❑ *Constraint* is any char-class, literal or keyword
- ❑ Priority
  - ❑ **|** | **>** | **<**
  - ❑  $A > B$  means that B cannot be nested under the left or right most position of A
- ❑ Reserve
  - ❑ **\**
  - ❑ *Symbol \ constraint*
  - ❑ Will not match if parsed element matches the constraint

General form of a grammar item:

*[start] syntaxDef nonterm priority [assoc] [label :] rule*

Symbol:

All grammar-related types are symbols: syntax, lexical definitions etc.

Questions:

- How to parse character classes?
  - (probably supported in YAML like things)
- How to determine where we are in a grammar?
  - Is this important in the highlighting?
- When to change context and how?
  - Do we have a highlighting context per (non-)terminal?
  - Do we have a highlighting context per regular state?
- What intermediate representation? Is it necessary?
  - Are the disambiguation constructs useful in the newly constructed grammar?
    - Keywords - yes
- How to map this to syntax?
  - **What kind of “general” highlighting will I make?”**
    - Does it contains function(calls), variables, numbers, what?
  - Do we only need the nonterminals in the regexes?
  - What extra info do we need from the grammar submitter?
    - Do we want to assign tags to (parts of) the grammar?
- Keyword “bracket”?

Additional sources:

- <http://tutor.rascal-mpl.org/Rascal/Patterns/Patterns.html>
- <http://tutor.rascal-mpl.org/Rascal/Declarations/SyntaxDefinition/SyntaxDefinition.html#/Rascal/Concepts/SyntaxDefinitionAndParsing/SyntaxDefinitionAndParsing.html>
- <http://tutor.rascal-mpl.org/Rascal/Concepts/RewriteRules/RewriteRules.html>
- <http://tutor.rascal-mpl.org/Rascal/Declarations/SyntaxDefinition/SyntaxDefinition.html#/Rascal/Declarations/SyntaxDefinition/SyntaxDefinition.html>
- <http://tutor.rascal-mpl.org/Rascal/Declarations/SyntaxDefinition/Disambiguation/Disambiguation.html>
- [https://manual.macromates.com/en/language\\_grammars#naming\\_conventions](https://manual.macromates.com/en/language_grammars#naming_conventions)
- [https://www.sublimetext.com/docs/3/scope\\_naming.html#variable](https://www.sublimetext.com/docs/3/scope_naming.html#variable)
- <https://www.sublimetext.com/docs/3/syntax.html>
- <http://docs.sublimetext.info/en/latest/reference/syntaxdefs.html>