

```
1 if happy hello else world
2
3 <<
4 <=
5 <==
6 >>>>====
7
8 123xyz
9 123.xyz
10 123Ex
11 123E+
12
13 123.45xyz
14 123.45E+
15 123.45Exyz
16
17 123.45E+xyz
18 123.45E+67
19 123.45E67xyz
20
21 123E67xyz
22 123E+xyz
23 123E+67xyz
24
25 123.45E-67
26 123.45-67
27
28 123>122.57
```

```
1 lexer grammar DragonLexerRules;
2
3 @header {
4 package dragon;
5 }
6
7 DOT : '.' ;
8 POS : '+' ;
9 NEG : '-' ;
10
11 EQ : '=' ;
12 NE : '<>' ;
13 LT : '<' ;
14 LE : '<=' ;
15 GT : '>' ;
16 GE : '>=' ;
17
18 IF : 'if' ;
19 ELSE : 'else' ;
20 ID : LETTER (LETTER | DIGIT)* ;
21
22 // pay more attention to this group
23 INT : DIGITS ;
24 // here "2." is an invalid REAL
25 REAL : DIGITS ('.' DIGITS)? ;
26 // both "2.99792458E8" and "3E8" are valid SCI
27 SCI : DIGITS ('.' DIGITS)? ([eE] [+]? DIGITS)? ;
28
29 WS : [ \t\r\n]+ -> skip;
30
31 fragment DIGIT : [0-9] ;
32 fragment DIGITS : [0-9]+ ;
33 fragment LETTER : [a-zA-Z] ;
```

```
1 1 [@-1,0:1='if',<10>,1:0]
2 2 [@-1,3:7='happy',<12>,1:3]
3 3 [@-1,9:13='hello',<12>,1:9]
4 4 [@-1,15:18='else',<11>,1:15]
5 5 [@-1,20:24='world',<12>,1:20]
6 6 [@-1,29:29='<',<6>,3:0]
7 7 [@-1,30:30='<',<6>,3:1]
8 8 [@-1,33:34='<=',<7>,4:0]
9 9 [@-1,37:38='<=',<7>,5:0]
10 10 [@-1,39:39='=',<4>,5:2]
11 11 [@-1,42:42='>',<8>,6:0]
12 12 [@-1,43:43='>',<8>,6:1]
13 13 [@-1,44:44='>',<8>,6:2]
14 14 [@-1,45:46='>=',<9>,6:3]
15 15 [@-1,47:47='=',<4>,6:5]
16 16 [@-1,48:48='=',<4>,6:6]
17 17 [@-1,53:55='123',<13>,8:0]
18 18 [@-1,56:58='xyz',<12>,8:3]
19 19 [@-1,61:63='123',<13>,9:0]
20 20 [@-1,64:64='.',<1>,9:3]
21 21 [@-1,65:67='xyz',<12>,9:4]
22 22 [@-1,70:72='123',<13>,10:0]
23 23 [@-1,73:74='Ex',<12>,10:3]
24 24 [@-1,77:79='123',<13>,11:0]
25 25 [@-1,80:80='E',<12>,11:3]
26 26 [@-1,81:81='+',<2>,11:4]
27 27 [@-1,86:91='123.45',<14>,13:0]
28 28 [@-1,92:94='xyz',<12>,13:6]
29 29 [@-1,97:102='123.45',<14>,14:0]
30 30 [@-1,103:103='E',<12>,14:6]
31 31 [@-1,104:104='+',<2>,14:7]
32 32 [@-1,107:112='123.45',<14>,15:0]
33 33 [@-1,113:116='Exyz',<12>,15:6]
34 34 [@-1,121:126='123.45',<14>,17:0]
35 35 [@-1,127:127='E',<12>,17:6]
36 36 [@-1,128:128='+',<2>,17:7]
37 37 [@-1,129:131='xyz',<12>,17:8]
38 38 [@-1,134:143='123.45E+67',<15>,18:0]
39 39 [@-1,146:154='123.45E67',<15>,19:0]
40 40 [@-1,155:157='xyz',<12>,19:9]
41 41 [@-1,162:167='123E67',<15>,21:0]
42 42 [@-1,168:170='xyz',<12>,21:6]
43 43 [@-1,173:175='123',<13>,22:0]
44 44 [@-1,176:176='E',<12>,22:3]
45 45 [@-1,177:177='+',<2>,22:4]
46 46 [@-1,178:180='xyz',<12>,22:5]
47 47 [@-1,183:189='123E+67',<15>,23:0]
48 48 [@-1,190:192='xyz',<12>,23:7]
49 49 [@-1,197:206='123.45E-67',<15>,25:0]
50 50 [@-1,209:214='123.45',<14>,26:0]
51 51 [@-1,215:215='-',<3>,26:6]
52 52 [@-1,216:217='67',<13>,26:7]
53 53 [@-1,222:224='123',<13>,28:0]
```

```
54  [@-1,225:225='>',<8>,28:3]
55  [@-1,226:231='122.57',<14>,28:4]
```