Appendix 1

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This is the self-describing meta-grammar for *tsPEG* that is used for the bootstrapping process. This grammar is defined in terms of itself, *tsPEG* uses it to generate its input parser.

```
1  GRAM       := header=HDR? rules=RULEDEF+
2  HDR        := '---' content='((?!---)(.|\n))*' '---'
3  RULEDEF    := _ name=NAME _ ':=' _ rule=RULE _
4  RULE       := head=ALT tail={_ '\|' _ alt=ALT }*
5             .list = ALT[] { return [this.head, ...this.tail.map((x) => x.alt)]; }
6  ALT        := matches=MATCHSPEC+ attrs=ATTR*
7  MATCHSPEC  := _ named={name=NAME _ '=' _}? rule=POSTOP _
8  POSTOP     := pre=PREOP op='\+|\*|\?'?
9             .optional = boolean { return this.op !== null && this.op === '?'}
10 PREOP      := op='\&|!'? at=ATOM
11 ATOM       := name=NAME !'\s*:='
12             | match=STRLIT
13             | '{' _ sub=RULE _ '}'
14 ATTR       := _ '.' name=NAME _ '=' _ type='[^\s\{]+' _ '\{'
15     action='([^\{\}\\]|(\\.))*'
16 '\}'
17 NAME       := '[a-zA-Z_]+'
18 STRLIT     := '\'' val='([^\'\\]|(\\.))*' '\''
19 _          := '\s*'
```

Figure 1: *tsPEG* meta-grammar definition