

BNF Grammar for C-Minus

1. *program* → *declaration-list*
2. *declaration-list* → *declaration-list declaration* | *declaration*
3. *declaration* → *var-declaration* | *fun-declaration*
4. *var-declaration* → *type-specifier ID ;* | *type-specifier ID [NUM] ;*
5. *type-specifier* → **int** | **void**
6. *fun-declaration* → *type-specifier ID (params) compound-stmt*
7. *params* → *param-list* | **void**
8. *param-list* → *param-list , param* | *param*
9. *param* → *type-specifier ID* | *type-specifier ID []*
10. *compound-stmt* → { *local-declarations statement-list* }
11. *local-declarations* → *local-declarations var-declarations* | *empty*
12. *statement-list* → *statement-list statement* | *empty*
13. *statement* → *expression-stmt* | *compound-stmt* | *selection-stmt* | *iteration-stmt* | *return-stmt*
14. *expression-stmt* → *expression ;* | *;*
15. *selection-stmt* → **if** (*expression*) *statement* | **if** (*expression*) *statement* **else** *statement*
16. *iteration-stmt* → **while** (*expression*) *statement*
17. *return-stmt* → **return ;** | **return** *expression ;*
18. *expression* → *var = expression* | *simple-expression*
19. *var* → **ID** | **ID** [*expression*]
20. *simple-expression* → *additive-expression relop additive-expression* | *additive-expression*
21. *relop* → **<=** | **<** | **>** | **>=** | **==** | **!=**
22. *additive-expression* → *additive-expression addop term* | *term*
23. *addop* → **+** | **-**
24. *term* → *term mulop factor* | *factor*
25. *mulop* → ***** | **/**
26. *factor* → (*expression*) | *var* | *call* | **NUM**
27. *call* → **ID** (*args*)
28. *args* → *arg-list* | *empty*
29. *arg-list* → *arg-list , expression* | *expression*

Keywords: **else if int return void while**

Special symbols: **+ - * / < <= > >= == != = ; , () [] { } /* */**

ID = letter letter*

NUM = digit digit*

letter = a | .. | z | A | .. | Z

digit = 0 | .. | 9

Comments: **/* ... */**