

BNF for Neuspeak

Friday, 19 February, 2021 12:50 PM

1. <program>→[<functions>]<main>
2. <functions>→<functions><function> | <function>
3. <function>→<function_header>\n<function_body>
4. <function_header>→<data_type> \name\(<parameter_list>)
5. <parameter_list>→<parameter_list>, <data_type> \name\ | <data_type> \name\
6. <data_type>→int | float | boolean | char | string
7. <boolean>→true | false
8. <digit>→0|1|2|3|4....|9
9. <non_zero_digit>= 1|2|3|4....|9
10. <char>→'<letter>' | '<digit>' | '_'
11. <letter>→a | b | c.... | z | A | B | | Z
12. <int>→[+|-]<non_zero_digit>| 0 | [+|-]<non_zero_digit>{<digit>}
13. <float>→<int>.{<digit>}
14. <function_body>→{\t<statement>;\n}\t<return_type>;\n
15. <return_type>→return <expression>
16. <statement>→<assignment_statement> | <declaration_statement> | <conditional> | <iterative> | <function_call> | <output_statement> | <newline>
17. <assignment_statement>→[<data_type>] \name\ = <expression>
18. <declaration_statement>→<data_type> \name\
19. <expression>→<arithmetic_expression> | <relational_expression> | <logical_expression> | <function_call>
20. <arithmetic_expression>→<term> [* | /] <term> | <term>
21. <term>→<factor>|<factor> [+|-] <factor>
22. <factor>→\name\ | \int\ | \float\
23. <relational_expression>→<arithmetic_expression> [= | > | < | <= | >= | !=] <arithmetic_expression>
24. <logical_expression>→<relational_expression> {[&& | ||] <relational_expression>}
25. <main>→main()\n{\t<statement>;\n}
26. <conditional>→if <logical_expression> \n {\t<statement>;\n} [else \n {\t<statement>;\n}]
27. <iterative>→for([<assignment_statement>] ; [<logical_expression>] ; [[+|- | * | /]{<digit>}])\n [{\t<statement>;\n }]
28. <valid_string_elements>→<letter> | <digit>
29. <string>→"[{valid_string_elements}]"
30. <function_call>→\name\([[{<expression>}])
31. <output_statement>→output <string> | <expression>
32. <newline>→newline()

{ }	>=1 occurances
[]	optional
< >	Non-terminals
\\	Terminal