

| <u>РБНФ</u> | <u>Код для перевірки РБНФ</u> |
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| program_name = ident; | program_name = SAME_RULE(ident); |
| value_type = "INTEGER16"; | value_type = SAME_RULE(tokenINTEGER_2); |
| declaration_element = ident , ["[" , unsigned_value , "]"]; | declaration_element = ident >> -(tokenLEFTSQUAREBRACKETS >> unsigned_value >> tokenRIGHTSQUAREBRACKETS); |
| other_declaration_ident = " , " , declaration_element; | other_declaration_ident = tokenCOMMA >> declaration_element; |
| declaration = value_type , declaration_element , {other_declaration_ident}; | declaration = value_type >> declaration_element >> *other_declaration_ident; |
| index_action = "[" , expression , "]" ; | index_action = tokenLEFTSQUAREBRACKETS >> expression >> tokenRIGHTSQUAREBRACKETS; |
| unary_operator = "NOT"; | unary_operator = SAME_RULE(tokenNOT); |
| unary_operation = unary_operator , expression; | unary_operation = unary_operator >> expression; |
| binary_operator = "AND" "OR" "==" "!=" "<=" ">=" "<" ">" "+" "-" "*" "DIV" "MOD"; | binary_operator = tokenAND tokenOR tokenEQ tokenNOTEQUAL tokenLESS tokenGR tokenPLUS tokenMINUS tokenMUL tokenDIV tokenMOD; |
| binary_action = binary_operator , expression; | binary_action = binary_operator >> expression; |
| left_expression = group_expression unary_operation ident , [index_action] value cond_block_with_optionally_return_value; | left_expression = group_expression unary_operation ident >> - index_action value cond_block_with_optionally_return_value; |
| expression = left_expression , {binary_action}; | expression = left_expression >> *binary_action; |
| group_expression = "(" , expression , ")"; | group_expression = tokenGROUPEXPRESSIONBEGIN >> expression >> tokenGROUPEXPRESSIONEND; |
| bind_left_to_right = expression , "=: " , ident , [index_action]; | bind_left_to_right = expression >> tokenLRBIND >> ident >> -index_action; |
| if_expression = expression; | if_expression = SAME_RULE(expression); |
| body_for_true__with_optionally_return_value = block_statements__with_optionally_return_value; | body_for_true__with_optionally_return_value = SAME_RULE(block_statements__with_optionally_return_value); |
| false_cond_block_without_else__with_optionally_return_value = "ELSE" , "IF" , if_expression , body_for_true__with_optionally_return_value; | false_cond_block_without_else__with_optionally_return_value = tokenELSE >> tokenIF >> if_expression >> body_for_true__with_optionally_return_value; |
| body_for_false__with_optionally_return_value = "ELSE" , block_statements__with_optionally_return_value; | body_for_false__with_optionally_return_value = tokenELSE >> block_statements__with_optionally_return_value; |
| cond_block__with_optionally_return_value = "IF" , if_expression , body_for_true__with_optionally_return_value , {false_cond_block_without_else__with_optionally_return_value} , | cond_block__with_optionally_return_value = tokenIF >> if_expression >> body_for_true__with_optionally_return_value >> *false_cond_block_without_else__with_optionally_return_value >> - |

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| [body_for_false__with_optionally_return_value]; | body_for_false__with_optionally_return_value; |
| cond_block__with_optionally_return_value_and_optionally_bind = cond_block__with_optionally_return_value , [tokenLRBIND , ident , [index_action]]; | cond_block__with_optionally_return_value_and_optionally_bind = cond_block__with_optionally_return_value >> -(tokenLRBIND >> ident >> - index_action); |
| | continue_while = SAME_RULE(tokenCONTINUE); |
| | break_while = SAME_RULE(tokenBREAK); |
| statement_in_while_and_if_body = statement "CONTINUE" "BREAK"; | statement_in_while_and_if_body = statement continue_while break_while; |
| block_statements_in_while_and_if_body = "{", {statement_in_while_and_if_body}, "}" ; | block_statements_in_while_and_if_body = tokenBEGINBLOCK >> *statement_in_while_and_if_body >> tokenENDBLOCK; |
| while_cycle_head_expression = expression; | while_cycle_head_expression = SAME_RULE(expression); |
| while_cycle = "WHILE" , while_cycle_head_expression , block_statements_in_while_and_if_body; | while_cycle = tokenWHILE >> while_cycle_head_expression >> block_statements_in_while_and_if_body; |
| input = "GET" , (ident , [index_action] "(" , ident , [index_action] , ")"); | input = tokenGET >> (ident >> -index_action tokenGROUPEXPRESSIONBEGIN >> ident >> -index_action >> tokenGROUPEXPRESSIONEND); |
| output = "PUT" , expression; | output = tokenPUT >> expression; |
| statement = bind_left_to_right cond_block__with_optionally_return_value_and_optionally_bind forto_cycle while_cycle repeat_until_cycle labeled_point goto_label input output ";" ; | statement = bind_left_to_right cond_block__with_optionally_return_value_and_optionally_bind while_cycle input output tokenSEMICOLON; |
| block_statements = "{", {statement}, "}" ; | block_statements = tokenBEGINBLOCK >> *statement >> tokenENDBLOCK; |
| block_statements__with_optionally_return_value = "{", {statement_in_while_and_if_body} , [expression] , "}" ; | block_statements__with_optionally_return_value = tokenBEGINBLOCK >> *statement_in_while_and_if_body >> -expression >> tokenENDBLOCK; |
| program = "NAME" , program_name , ";" , "BODY" , "DATA" , [declaration] , ";" , {statement} , "END" ; | program = BOUNDARIES >> tokenNAME >> tokenDATA >> declaration >> tokenSEMICOLON >> tokenBODY >> *statement >> tokenEND; |
| digit = "0" "1" "2" "3" "4" "5" "6" "7" "8" "9" ; | digit = digit_0 digit_1 digit_2 digit_3 digit_4 digit_5 digit_6 digit_7 digit_8 digit_9; |
| non_zero_digit = "1" "2" "3" "4" "5" "6" "7" "8" "9" ; | non_zero_digit = digit_1 digit_2 digit_3 digit_4 digit_5 digit_6 digit_7 digit_8 digit_9; |
| unsigned_value = (non_zero_digit , {digit}) "0" ; | unsigned_value = ((non_zero_digit >> *digit) digit_0) >> BOUNDARIES; |
| value = [sign] , unsigned_value ; | value = (-sign) >> unsigned_value >> BOUNDARIES; |
| letter_in_lower_case = "a" "b" "c" "d" "e" "f" "g" "h" "i" "j" "k" "l" "m" "n" "o" "p" "q" "r" "s" "t" "u" "v" "w" "x" | letter_in_lower_case = a b c d e f g h i j k l m n o p q r s t u v w x y z; |

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| "y" "z"; | |
| letter_in_upper_case = "A" "B" "C" "D" "E" "F" "G" "H" "I" "J" "K" "L" "M" "N" "O" "P" "Q" "R" "S" "T" "U" "V" "W" "X" "Y" "Z"; | letter_in_upper_case = A B C D E F G H I J K L M N O P Q R S T U V W X Y Z; |
| ident = "_", letter_in_upper_case, letter_in_upper_case, letter_in_upper_case, letter_in_upper_case, letter_in_upper_case, letter_in_upper_case; | ident = tokenUNDERSCORE >> letter_in_lower_case >> non_zero_digit >> BOUNDARIES; |
| sign = "+" "-"; | sign = sign_plus sign_minus; |
| | sign_plus = SAME_RULE(tokenPLUS); |
| | sign_minus = SAME_RULE(tokenMINUS); |
| | digit_0 = '0'; |
| | digit_1 = '1'; |
| | digit_2 = '2'; |
| | digit_3 = '3'; |
| | digit_4 = '4'; |
| | digit_5 = '5'; |
| | digit_6 = '6'; |
| | digit_7 = '7'; |
| | digit_8 = '8'; |
| | digit_9 = '9'; |
| | tokenINTEGER_2 = "int_2" >> STRICT_BOUNDARIES; |
| | tokenCOMMA = "," >> BOUNDARIES; |
| | tokenNOT = "!" >> STRICT_BOUNDARIES; |
| | tokenAND = "and" >> STRICT_BOUNDARIES; |
| | tokenOR = "or" >> STRICT_BOUNDARIES; |
| | tokenEQ "eq" >> BOUNDARIES; |
| | tokenNOTEQUAL = "noteq" >> BOUNDARIES; |
| | tokenLESS = "less" >> BOUNDARIES; |
| | tokenGREATER = "gr" >> BOUNDARIES; |
| | tokenPLUS = "+" >> BOUNDARIES; |
| | tokenMINUS = "-" >> BOUNDARIES; |

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| | tokenMUL = "*" >> BOUNDARIES; |
| | tokenDIV = "/" >> STRICT_BOUNDARIES; |
| | tokenMOD = "%" >> STRICT_BOUNDARIES; |
| | tokenGROUPEXPRESSIONBEGIN = "(" >> BOUNDARIES; |
| | tokenGROUPEXPRESSIONEND = ")" >> BOUNDARIES; |
| | tokenLRBIND = "->" >> BOUNDARIES; |
| | tokenELSE = "else" >> STRICT_BOUNDARIES; |
| | tokenIF = "if" >> STRICT_BOUNDARIES; |
| | tokenWHILE = "while" >> STRICT_BOUNDARIES; |
| | tokenCONTINUE = "continue" >> STRICT_BOUNDARIES; |
| | tokenBREAK = "break" >> STRICT_BOUNDARIES; |
| | tokenGET = "get" >> STRICT_BOUNDARIES; |
| | tokenPUT = "put" >> STRICT_BOUNDARIES; |
| | tokenNAME = "startprogram" >> STRICT_BOUNDARIES; |
| | tokenBODY = "startblock" >> STRICT_BOUNDARIES; |
| | tokenDATA = "variable" >> STRICT_BOUNDARIES; |
| | tokenEND = "endblock" >> STRICT_BOUNDARIES; |
| | tokenBEGINBLOCK = "{" >> BOUNDARIES; |
| | tokenENDBLOCK = "}" >> BOUNDARIES; |
| | tokenLEFTSQUAREBRACKETS = "[" >> BOUNDARIES; |
| | tokenRIGHTSQUAREBRACKETS = "]" >> BOUNDARIES; |
| | tokenSEMICOLON = ";" >> BOUNDARIES; |
| | STRICT_BOUNDARIES = (BOUNDARY >> *(BOUNDARY)) (!qi::alpha qi::char_(" _")); |
| | BOUNDARIES = (BOUNDARY >> *(BOUNDARY) NO_BOUNDARY); |
| | BOUNDARY = BOUNDARY_SPACE BOUNDARY_TAB BOUNDARY_CARRIAGE_RETURN BOUNDARY_LINE_FEED BOUNDARY_NULL; |
| | BOUNDARY_SPACE = " "; |
| | BOUNDARY_TAB = "\t"; |
| | BOUNDARY_CARRIAGE_RETURN = "\r"; |

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| | BOUNDARY_LINE_FEED = "\n"; |
| | BOUNDARY_NULL = "\0"; |
| | NO_BOUNDARY = ""; |
| | A = "A"; |
| | B = "B"; |
| | C = "C"; |
| | D = "D"; |
| | E = "E"; |
| | F = "F"; |
| | G = "G"; |
| | H = "H"; |
| | I = "I"; |
| | J = "J"; |
| | K = "K"; |
| | L = "L"; |
| | M = "M"; |
| | N = "N"; |
| | O = "O"; |
| | P = "P"; |
| | Q = "Q"; |
| | R = "R"; |
| | S = "S"; |
| | T = "T"; |
| | U = "U"; |
| | V = "V"; |
| | W = "W"; |
| | X = "X"; |
| | Y = "Y"; |
| | Z = "Z"; |
| | a = "a"; |
| | b = "b"; |

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| | c = "c"; |
| | d = "d"; |
| | e = "e"; |
| | f = "f"; |
| | g = "g"; |
| | h = "h"; |
| | i = "i"; |
| | j = "j"; |
| | k = "k"; |
| | l = "l"; |
| | m = "m"; |
| | n = "n"; |
| | o = "o"; |
| | p = "p"; |
| | q = "q"; |
| | r = "r"; |
| | s = "s"; |
| | t = "t"; |
| | u = "u"; |
| | v = "v"; |
| | w = "w"; |
| | x = "x"; |
| | y = "y"; |
| | z = "z"; |