РБНФ №1 **(опис синтаксису всіма допустимими засобами РБНФ)**	**РБНФ №2** **(опис формальної граматики засобами РБНФ)**	**Формальна граматика**	**Формальна граматика з специфікацією lookahead у правилах для LL(2)-аналізатора**	/* **Перевірка РБНФ №1 за допомогою коду** *(помістити у файл "EBNF_N1.h")* */	/* **Перевірка РБНФ №2 за допомогою коду** *(помістити у файл "EBNF_N2.h")* */	/* **Перевірки прототипу LL(2)-синтаксичного аналізатора (спеціальна структура) та прототипу лексичного аналізатора (регулярні вирази) за допомогою коду.** *Лексеми для синтаксичного аналізатора обробляються лексичним аналізатором, тому синтаксичний аналізатор не аналізує їх повторно (як показано в РБНФ).* *(помістити у файл "LexicaByRegExAndSyntaxByLL2prototype.h")* УВАГА: при копіюванні зважайте, щоб у кожному рядку після символу «\» не містилось жодних інших символів. */
		G = (N, T, P, S)	G = (N, T, P, S)			
		S → program_rule	S → program_rule			
		N = { program_name, value_type, array_specify, declaration_element, array_specify__optional, other_declaration_ident, declaration, other_declaration_ident__iteration, index_action, unary_operator, unary_operation, binary_operator, binary_action, left_expression, group_expression, index_action__optional, expression, binary_action__iteration, expression_or_cond_block__with_optional_assign, assign_to_right, assign_to_right__optional, if_expression, body_for_true, false_cond_block_without_else, body_for_false, cond_block, false_cond_block_without_else__iteration, body_for_false__optional, continue_while, break_while, statement_in_while_and_if_body, statement, block_statements_in_while_and_if_body, statement_in_while_and_if_body__iteration, while_cycle_head_expression, while_cycle, statements__or__block_statements, block_statements, input_rule, argument_for_input, output_rule, statement__iteration, expression__optional, program_rule, declaration__optional, non_zero_digit, digit__iteration, digit, unsigned_value, value, sign__optional, sign, ident, letter_in_upper_case, letter_in_lower_case, sign_plus, sign_minus }	N = { program_name, value_type, array_specify, declaration_element, array_specify__optional, other_declaration_ident, declaration, other_declaration_ident__iteration, index_action, unary_operator, unary_operation, binary_operator, binary_action, left_expression, group_expression, index_action__optional, expression, binary_action__iteration, expression_or_cond_block__with_optional_assign, assign_to_right, assign_to_right__optional, if_expression, body_for_true, false_cond_block_without_else, body_for_false, cond_block, false_cond_block_without_else__iteration, body_for_false__optional, continue_while, break_while, statement_in_while_and_if_body, statement, block_statements_in_while_and_if_body, statement_in_while_and_if_body__iteration, while_cycle_head_expression, while_cycle, statements__or__block_statements, block_statements, input_rule, argument_for_input, output_rule, statement__iteration, expression__optional, program_rule, declaration__optional, non_zero_digit, digit__iteration, digit, unsigned_value, value, sign__optional, sign, ident, letter_in_upper_case, letter_in_lower_case, sign_plus, sign_minus }	#define NONTERMINALS program_name, \ value_type, \ array_specify, \ declaration_element, \ \ other_declaration_ident, \ declaration, \ \ index_action, \ unary_operator, \ unary_operation, \ binary_operator, \ binary_action, \ left_expression, \ group_expression, \ \ expression, \ \ expression_or_cond_block__with_optional_assign, \ assign_to_right, \ \ if_expression, \ body_for_true, \ false_cond_block_without_else, \ body_for_false, \ cond_block, \ \ \ continue_while, \ break_while, \ statement_in_while_and_if_body, \ statement, \ block_statements_in_while_and_if_body, \ \ while_cycle_head_expression, \ while_cycle, \ statements__or__block_statements, \ block_statements, \ input_rule, \ argument_for_input, \ output_rule, \ \ \ program_rule, \ \ non_zero_digit, \ digit__iteration, \ digit, \ unsigned_value, \ value, \ \ sign, \ ident, \ letter_in_upper_case, \ letter_in_lower_case, \ sign_plus, \ sign_minus	#define NONTERMINALS program_name, \ value_type, \ array_specify, \ declaration_element, \ array_specify__optional, \ other_declaration_ident, \ declaration, \ other_declaration_ident__iteration, \ index_action, \ unary_operator, \ unary_operation, \ binary_operator, \ binary_action, \ left_expression, \ group_expression, \ index_action__optional, \ expression, \ binary_action__iteration, \ expression_or_cond_block__with_optional_assig n, \ assign_to_right, \ assign_to_right__optional, \ if_expression, \ body_for_true, \ false_cond_block_without_else, \ body_for_false, \ cond_block, \ false_cond_block_without_else__iteration, \ body_for_false__optional, \ continue_while, \ break_while, \ statement_in_while_and_if_body, \ statement, \ block_statements_in_while_and_if_body, \ statement_in_while_and_if_body__iteration, \ while_cycle_head_expression, \ while_cycle, \ statements__or__block_statements, \ block_statements, \ input_rule, \ argument_for_input, \ output_rule, \ statement__iteration, \ expression__optional, \ program_rule, \ declaration__optional, \ non_zero_digit, \ digit__iteration, \ digit, \ unsigned_value, \ value, \ sign__optional, \ sign, \ ident, \ letter_in_upper_case, \ letter_in_lower_case, \ sign_plus, \ sign_minus	
		T = { "LONG" ,"INT" "," , "NOT" , "AND" , "OR" ,	T = { "LONG" ,"INT" "," , "NOT" , "AND" , "OR" ,	#define TOKENS \ tokenLONG, \ tokenCOMMA, \ tokenNOT, \ tokenAND, \ tokenOR, \	#define TOKENS \ tokenINTEGER16, \ tokenCOMMA, \ tokenNOT, \ tokenAND, \ tokenOR, \	

		"EQ" , "NE" , "<" , ">" , "ADD" , "SUB" , "MUL" , "DIV" , "MOD" , "(" , ")" , "->" , "ELSE" , "IF" , “FOR”, “DOWN”, “TO”, "WHILE" , "CONTINUE" , "BREAK" , "EXIT" , "GET" , "PUT" , "NAME" , "BODY" , "DATA" , "BEGIN" , "END" , "{" , "}" , "[" , "]" , ";" , "0", "1", "2", "3", "4", "5", "6", "7", "8", "9", "_", "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", "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"}	"EQ" , "NE" , "<" , ">" , "ADD" , "SUB" , "MUL" , "DIV" , "MOD" , "(" , ")" , "->" , "ELSE" , "IF" , “FOR”, “DOWN”, “TO”, "WHILE" , "CONTINUE" , "BREAK" , "EXIT" , "GET" , "PUT" , "NAME" , "BODY" , "DATA" , "BEGIN" , "END" , "{" , "}" , "[" , "]" , ";" , "0", "1", "2", "3", "4", "5", "6", "7", "8", "9", "_", "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", "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"}	tokenEQUAL, \ tokenNOTEQUAL, \ tokenLESSOREQUAL, \ tokenGREATEROREQUAL, \ tokenPLUS, \ tokenMINUS, \ tokenMUL, \ tokenDIV, \ tokenMOD, \ tokenGROUPEXPRESSIONBEGIN, \ tokenGROUPEXPRESSIONEND, \ tokenLRASSIGN, \ tokenELSE, \ tokenIF, \ tokenWHILE, \ tokenCONTINUE, \ tokenBREAK, \ tokenEXIT, \ tokenGET, \ tokenPUT, \ tokenNAME, \ tokenBODY, \ tokenDATA, \ tokenBEGIN, \ tokenEND, \ tokenBEGINBLOCK, \ tokenENDBLOCK, \ tokenLEFTSQUAREBRACKETS, \ tokenRIGHTSQUAREBRACKETS, \ tokenSEMICOLON, \ digit_0, \ digit_1, \ digit_2, \ digit_3, \ digit_4, \ digit_5, \ digit_6, \ digit_7, \ digit_8, \ digit_9, \ tokenUNDERSCORE, \ 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, \ 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	tokenEQUAL, \ tokenNOTEQUAL, \ tokenLESSOREQUAL, \ tokenGREATEROREQUAL, \ tokenPLUS, \ tokenMINUS, \ tokenMUL, \ tokenDIV, \ tokenMOD, \ tokenGROUPEXPRESSIONBEGIN, \ tokenGROUPEXPRESSIONEND, \ tokenLRASSIGN, \ tokenELSE, \ tokenIF, \ tokenWHILE, \ tokenCONTINUE, \ tokenBREAK, \ tokenEXIT, \ tokenGET, \ tokenPUT, \ tokenNAME, \ tokenBODY, \ tokenDATA, \ tokenBEGIN, \ tokenEND, \ tokenBEGINBLOCK, \ tokenENDBLOCK, \ tokenLEFTSQUAREBRACKETS, \ tokenRIGHTSQUAREBRACKETS, \ tokenSEMICOLON, \ digit_0, \ digit_1, \ digit_2, \ digit_3, \ digit_4, \ digit_5, \ digit_6, \ digit_7, \ digit_8, \ digit_9, \ tokenUNDERSCORE, \ 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, \ 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	
				#define COMMENT_BEGIN_STR "?*"	#define COMMENT_BEGIN_STR "??"	#define COMMENT_BEGIN_STR "??"

				#define COMMENT_END_STR "*?"	#define COMMENT_END_STR "??"	#define COMMENT_END_STR "??"
						#define TOKENS_RE "->|==|!=|!!|&&|\\\|\\\||\\+|-|Mul|Div|Mod|Le|Ge|<|>|ADD|SUB|MUL|DIV|MOD|AND|OR|NOT|EQ|NE|\\(|\\)|\\{|\\}|\\[|\\]|,|:|;|_[A-Z][A-Z]|[_0-9A-Za-z]+|[^ \t\r\f\v\n]"
						#define KEYWORDS_RE "->|==|!=|!!|&&|\\\|\\\||\\+|-|Mul|Div|Mod|Le|Ge|<|>|ADD|SUB|MUL|DIV|MOD|AND|OR|NOT|EQ|NE|\\(|\\)|\\{|\\}|\\[|\\]|,|:|;|PROGRAM|VAR|BEGIN|END|SCAN|PRINT|IF|ELSE|WHILE|FOR|DOWNTO|DO|REPEAT|UNTIL|CONTINUE|BREAK|EXIT|LONG|INT|GOTO"
						#define IDENTIFIERS_RE "_[A-Z][A-Z]"
						#define UNSIGNEDVALUES_RE "0|[1-9][0-9]*"
				tokenGROUPEXPRESSIONBEGIN = "(" >> BOUNDARIES;	tokenGROUPEXPRESSIONBEGIN = "(" >> BOUNDARIES;	#define T_BEGIN_GROUPEXPRESSION_0 "(" #define T_BEGIN_GROUPEXPRESSION_1 "" #define T_BEGIN_GROUPEXPRESSION_2 "" #define T_BEGIN_GROUPEXPRESSION_3 ""
				tokenGROUPEXPRESSIONEND = ")" >> BOUNDARIES;	tokenGROUPEXPRESSIONEND = ")" >> BOUNDARIES;	#define T_END_GROUPEXPRESSION_0 ")" #define T_END_GROUPEXPRESSION_1 "" #define T_END_GROUPEXPRESSION_2 "" #define T_END_GROUPEXPRESSION_3 ""
				tokenLEFTSQUAREBRACKETS = "[" >> BOUNDARIES;	tokenLEFTSQUAREBRACKETS = "[" >> BOUNDARIES;	#define T_LEFT_SQUAREBRACKETS_0 "[" #define T_LEFT_SQUAREBRACKETS_1 "" #define T_LEFT_SQUAREBRACKETS_2 "" #define T_LEFT_SQUAREBRACKETS_3 ""
				tokenRIGHTSQUAREBRACKETS = "]" >> BOUNDARIES;	tokenRIGHTSQUAREBRACKETS = "]" >> BOUNDARIES;	#define T_RIGHT_SQUAREBRACKETS_0 "]" #define T_RIGHT_SQUAREBRACKETS_1 "" #define T_RIGHT_SQUAREBRACKETS_2 "" #define T_RIGHT_SQUAREBRACKETS_3 ""
				tokenBEGINBLOCK = "{" >> BOUNDARIES;	tokenBEGINBLOCK = "{" >> BOUNDARIES;	#define T_BEGIN_BLOCK_0 "{" #define T_BEGIN_BLOCK_1 "" #define T_BEGIN_BLOCK_2 "" #define T_BEGIN_BLOCK_3 ""
				tokenENDBLOCK = "}" >> BOUNDARIES;	tokenENDBLOCK = "}" >> BOUNDARIES;	#define T_END_BLOCK_0 "}" #define T_END_BLOCK_1 "" #define T_END_BLOCK_2 "" #define T_END_BLOCK_3 ""
				tokenSEMICOLON = ";" >> BOUNDARIES;	tokenSEMICOLON = ";" >> BOUNDARIES;	#define T_SEMICOLON_0 ";" #define T_SEMICOLON_1 "" #define T_SEMICOLON_2 "" #define T_SEMICOLON_3 ""
				tokenLONG = "LONG" "INT" >> STRICT_BOUNDARIES;	tokenLONG = "LONG" >> STRICT_BOUNDARIES;	#define T_DATA_TYPE_0 "LONG" #define T_DATA_TYPE_1 "INT" #define T_DATA_TYPE_2 "" #define T_DATA_TYPE_3 ""
				tokenCOMMA = "," >> BOUNDARIES;	tokenCOMMA = "," >> BOUNDARIES;	#define T_COMA_0 ","

						#define T_COMA_1 "" #define T_COMA_2 "" #define T_COMA_3 ""
						#define T_BITWISE_NOT_0 "~" #define T_BITWISE_NOT_1 "" #define T_BITWISE_NOT_2 "" #define T_BITWISE_NOT_3 ""
				tokenNOT = "NOT" >> STRICT_BOUNDARIES;	tokenNOT = "NOT" >> STRICT_BOUNDARIES;	#define T_NOT_0 "NOT" #define T_NOT_1 "" #define T_NOT_2 "" #define T_NOT_3 ""
						#define T_BITWISE_AND_0 "" #define T_BITWISE_AND_1 "" #define T_BITWISE_AND_2 "" #define T_BITWISE_AND_3 ""
				tokenAND = "AND" >> STRICT_BOUNDARIES;	tokenAND = "AND" >> STRICT_BOUNDARIES;	#define T_AND_0 "AND" #define T_AND_1 "" #define T_AND_2 "" #define T_AND_3 ""
						#define T_BITWISE_OR_0 "OR" #define T_BITWISE_OR_1 "" #define T_BITWISE_OR_2 "" #define T_BITWISE_OR_3 ""
				tokenOR = "OR" >> STRICT_BOUNDARIES;	tokenOR = "OR" >> STRICT_BOUNDARIES;	#define T_OR_0 "OR" #define T_OR_1 "" #define T_OR_2 "" #define T_OR_3 ""
				tokenEQUAL = "EQ" >> BOUNDARIES;	tokenEQUAL = "EQ" >> BOUNDARIES;	#define T_EQUAL_0 "EQ" #define T_EQUAL_1 "" #define T_EQUAL_2 "" #define T_EQUAL_3 ""
				tokenNOTEQUAL = "NE" >> BOUNDARIES;	tokenNOTEQUAL = "NE" >> BOUNDARIES;	#define T_NOT_EQUAL_0 "NE" #define T_NOT_EQUAL_1 "" #define T_NOT_EQUAL_2 "" #define T_NOT_EQUAL_3 ""
				tokenLESSOREQUAL = "<" >> BOUNDARIES;	TokenLESSOREQUAL = "<" >> BOUNDARIES;	#define T_LESS_OR_EQUAL_0 "<" #define T_LESS_OR_EQUAL_1 "" #define T_LESS_OR_EQUAL_2 "" #define T_LESS_OR_EQUAL_3 ""
				tokenGREATEROREQUAL = ">" >> BOUNDARIES;	TokenGREATEROREQUAL = ">" >> BOUNDARIES;	#define T_GREATER_OR_EQUAL_0 ">" #define T_GREATER_OR_EQUAL_1 "" #define T_GREATER_OR_EQUAL_2 "" #define T_GREATER_OR_EQUAL_3 ""
				tokenPLUS = "ADD" >> BOUNDARIES;	tokenPLUS = "ADD" >> BOUNDARIES;	#define T_ADD_0 "ADD" #define T_ADD_1 "" #define T_ADD_2 "" #define T_ADD_3 ""
				tokenMINUS = "SUB" >> BOUNDARIES;	tokenMINUS = "SUB" >> BOUNDARIES;	#define T_SUB_0 "SUB" #define T_SUB_1 "" #define T_SUB_2 "" #define T_SUB_3 ""
				tokenMUL = "MUL" >> BOUNDARIES;	tokenMUL = "MUL" >> BOUNDARIES;	#define T_MUL_0 "MUL" #define T_MUL_1 "" #define T_MUL_2 "" #define T_MUL_3 ""
				tokenDIV = "DIV" >> STRICT_BOUNDARIES;	tokenDIV = "DIV" >> STRICT_BOUNDARIES;	#define T_DIV_0 "DIV" #define T_DIV_1 "" #define T_DIV_2 "" #define T_DIV_3 ""
				tokenMOD = "MOD" >> STRICT_BOUNDARIES;	tokenMOD = "MOD" >> STRICT_BOUNDARIES;	#define T_MOD_0 "MOD" #define T_MOD_1 "" #define T_MOD_2 "" #define T_MOD_3 ""
				TokenLRASSIGN = "->" >> BOUNDARIES;	tokenLRASSIGN = "->" >> BOUNDARIES;	#define T_LRASSIGN_0 "->" #define T_LRASSIGN_1 "" #define T_LRASSIGN_2 ""

						#define T_LRASSIGN_3 ""
						#define T_THEN_BLOCK_0 "{" #define T_THEN_BLOCK_1 "" #define T_THEN_BLOCK_2 "" #define T_THEN_BLOCK_3 ""
				tokenELSE = "ELSE" >> STRICT_BOUNDARIES;	tokenELSE = "ELSE" >> STRICT_BOUNDARIES;	#define T_ELSE_BLOCK_0 "ELSE" #define T_ELSE_BLOCK_1 T_BEGIN_BLOCK_0 #define T_ELSE_BLOCK_2 "" #define T_ELSE_BLOCK_3 ""
				tokenIF = "IF" >> STRICT_BOUNDARIES;	tokenIF = "IF" >> STRICT_BOUNDARIES;	#define T_IF_0 "IF" #define T_IF_1 "" #define T_IF_2 "" #define T_IF_3 ""
				tokenFOR = "FOR" >> STRICT_BOUNDARIES;		#define T_ELSE_IF_0 "ELSE" #define T_ELSE_IF_1 T_IF_0 #define T_ELSE_IF_2 "" #define T_ELSE_IF_3 ""
				tokenWHILE = "WHILE" >> STRICT_BOUNDARIES;	tokenWHILE = "While" >> STRICT_BOUNDARIES;	#define T_WHILE_0 "FOR" #define T_WHILE_1 "" #define T_WHILE_2 "" #define T_WHILE_3 ""
				tokenCONTINUE = "CONTINUE" >> STRICT_BOUNDARIES;	tokenCONTINUE = "Continue" >> STRICT_BOUNDARIES;	#define T_CONTINUE_WHILE_0 "Continue" #define T_CONTINUE_WHILE_1 "" #define T_CONTINUE_WHILE_2 "" #define T_CONTINUE_WHILE_3 ""
				tokenBREAK = "BREAK" >> STRICT_BOUNDARIES;	tokenBREAK = "Break" >> STRICT_BOUNDARIES;	#define T_EXIT_WHILE_0 "Break" #define T_EXIT_WHILE_1 "" #define T_EXIT_WHILE_2 "" #define T_EXIT_WHILE_3 ""
				tokenEXIT = "EXIT" >> STRICT_BOUNDARIES;	tokenEXIT = "Exit" >> STRICT_BOUNDARIES;	#define T_EXIT_0 "Exit" #define T_EXIT_1 "" #define T_EXIT_2 "" #define T_EXIT_3 ""
				tokenGET = "SCAN" >> STRICT_BOUNDARIES;	tokenGET = "SCAN" >> STRICT_BOUNDARIES;	#define T_INPUT_0 "SCAN" #define T_INPUT_1 "" #define T_INPUT_2 "" #define T_INPUT_3 ""
				tokenPUT = "PRINT" >> STRICT_BOUNDARIES;	tokenPUT = "PRINT" >> STRICT_BOUNDARIES;	#define T_OUTPUT_0 "PRINT" #define T_OUTPUT_1 "" #define T_OUTPUT_2 "" #define T_OUTPUT_3 ""
				tokenNAME = "NAME" >> STRICT_BOUNDARIES;	tokenNAME = "PROGRAM" >> STRICT_BOUNDARIES;	#define T_NAME_0 "PROGRAM" #define T_NAME_1 "" #define T_NAME_2 "" #define T_NAME_3 ""
				tokenBODY = "BODY" >> STRICT_BOUNDARIES;	tokenBODY = "Body" >> STRICT_BOUNDARIES;	#define T_BODY_0 "" #define T_BODY_1 "" #define T_BODY_2 "" #define T_BODY_3 ""
				tokenDATA = "DATA" >> STRICT_BOUNDARIES;	tokenDATA = "Var" >> STRICT_BOUNDARIES;	#define T_DATA_0 "VAR" #define T_DATA_1 "" #define T_DATA_2 "" #define T_DATA_3 ""
				tokenBEGIN = "BEGIN" >> STRICT_BOUNDARIES;	tokenBEGIN = "Start" >> STRICT_BOUNDARIES;	#define T_BEGIN_0 "Start" #define T_BEGIN_1 "" #define T_BEGIN_2 "" #define T_BEGIN_3 ""
				tokenEND = "END" >> STRICT_BOUNDARIES;	tokenEND = "Finish" >> STRICT_BOUNDARIES;	#define T_END_0 "Finish" #define T_END_1 "" #define T_END_2 "" #define T_END_3 ""
						#define T_NULL_STATEMENT_0 "NULL" #define T_NULL_STATEMENT_1 "STATEMENT" #define T_NULL_STATEMENT_2 "" #define T_NULL_STATEMENT_3 ""
						#define GRAMMAR_LL2__2025 {\

program_name = ident;	program_name = ident;	program_name → ident	program_name(1: "ident_terminal") → ident	program_name = SAME_RULE(ident);	program_name = SAME_RULE(ident);	{ LA_IS, {"ident_terminal"}, { "program_name",{\ { LA_IS, {""}, 1, {"ident"}}\ }}},\
value_type = "LONG", "INT";	value_type = "LONG", "INT";	value_type → "LONG","INT"	value_type(1: "LONG") → "LONG" "INT"	value_type = SAME_RULE(tokenLONG,tokenINT);	value_type = SAME_RULE(tokenLONG, tokenINT);	{ LA_IS, {T_DATA_TYPE_0}, { "value_type",{\ { LA_IS, {""}, 1, {T_DATA_TYPE_0}}\ }}},\
	array_specify = "[", unsigned_value, "]";	array_specify → "[" unsigned_value "]"	array_specify(1: "[") → `program_name(1: "_")`, `declaration_element(1: "_")`		array_specify = "[" >> unsigned_value >> "]";	{ LA_IS, {"["}, { "array_specify",{\ { LA_IS, {""}, 3, {"[", "unsigned_value", "]"}}\ }}},\
declaration_element = ident, ["[", unsigned_value , "]"];	declaration_element = ident, array_specify__optional;	declaration_element → ident array_specify__optional	declaration_element(1: "ident_terminal") → ident array_specify__optional	declaration_element = ident >> - (tokenLEFTSQUAREBRACKETS >> unsigned_value >> tokenRIGHTSQUAREBRACKETS);	declaration_element = ident >> array_specify__optional;	{ LA_IS, {"ident_terminal"}, { "declaration_element",{\ { LA_IS, {""}, 2, {"ident", "array_specify__optional"}}\ }}},\
	array_specify__optional = array_specify | ε;	array_specify__optional → array_specify array_specify__optional → ε	array_specify__optional(1: "[") → array_specify array_specify__optional(1: ![") → ε		array_specify__optional = array_specify | "";	{ LA_IS, {"["}, { "array_specify__optional",{\ { LA_IS, {""}, 1, {"array_specify"}}\ }}},\ { LA_NOT, {"["}, { "array_specify__optional",{\ { LA_IS, {""}, 0, {""}}\ }}},\
other_declaration_ident = "," , declaration_element;	other_declaration_ident = "," , declaration_element;	other_declaration_ident → "," declaration_element	other_declaration_ident(1: ",") → "," declaration_element	other_declaration_ident = tokenCOMMA >> declaration_element;	other_declaration_ident = tokenCOMMA >> declaration_element;	{ LA_IS, {T_COMA_0}, { "other_declaration_ident",{\ { LA_IS, {""}, 2, {T_COMA_0, "declaration_element"}}\ }}},\
declaration = value_type , declaration_element , {other_declaration_ident};	declaration = value_type , declaration_element , other_declaration_ident__iteration;	declaration → value_type declaration_element other_declaration_ident__iteration	declaration(1: "INTEGER16") → value_type declaration_element other_declaration_ident__iteration	declaration = value_type >> declaration_element >> *other_declaration_ident;	declaration = value_type >> declaration_element >> other_declaration_ident__iteration;	{ LA_IS, {T_DATA_TYPE_0}, { "declaration",{\ { LA_IS, {""}, 3, {"value_type", "declaration_element", "other_declaration_ident__iteration "}}\ }}},\
	other_declaration_ident__iteration = other_declaration_ident, other_declaration_ident__iteration | ε;	other_declaration_ident__iteration → other_declaration_ident other_declaration_ident__iteration false_cond_block_without_else__iteration → ε	other_declaration_ident__iteration(1: ",") → other_declaration_ident other_declaration_ident__iteration false_cond_block_without_else__iteration(1: !", ") → ε		other_declaration_ident__iteration = other_declaration_ident >> other_declaration_ident__iteration | "";	{ LA_IS, { T_COMA_0 }, { "other_declaration_ident__iteration",{\ { LA_IS, {""}, 2, { "other_declaration_ident", "other_declaration_ident__iteration " }}\ }}},\ { LA_NOT, { T_COMA_0 }, { "other_declaration_ident__iteration",{\ { LA_IS, {""}, 0, { "" }}\ }}},\
index_action = "[" , expression , "]";	index_action = "[" , expression , "]";	index_action → "[" expression "]"	index_action(1: "[") → "[" expression "]"	index_action = tokenLEFTSQUAREBRACKETS >> expression >> tokenRIGHTSQUAREBRACKETS;	index_action = tokenLEFTSQUAREBRACKETS >> expression >> tokenRIGHTSQUAREBRACKETS;	{ LA_IS, { "[" }, { "index_action",{\ { LA_IS, {""}, 3, { "[", "expression", "]" }}\ }}},\
unary_operator = "NOT";	unary_operator = "NOT";	unary_operator → "NOT"	unary_operator(1: "NOT") → "NOT"	unary_operator = SAME_RULE(tokenNOT);	unary_operator = SAME_RULE(tokenNOT);	{ LA_IS, { T_NOT_0 }, { "unary_operator",{\ { LA_IS, {""}, 1, { T_NOT_0 }}\ }}},\
unary_operation = unary_operator , expression;	unary_operation = unary_operator , expression;	unary_operation → unary_operator expression	unary_operation(1: "NOT") → unary_operator expression	unary_operation = unary_operator >> expression;	unary_operation = unary_operator >> expression;	{ LA_IS, { T_NOT_0 }, { "unary_operation",{\ { LA_IS, {""}, 2, { "unary_operator", "expression" }}\ }}},\
binary_operator = "AND" | "OR" | "EQ" | "NE" | "<" | ">" | "ADD" | "SUB" | "MUL" | "DIV" | "MOD";	binary_operator = "AND" | "OR" | "EQ" | "NE" | "<" | ">" | "ADD" | "SUB" | "MUL" | "DIV" | "MOD";	binary_operator → "AND" binary_operator → "OR" binary_operator → "EQ" binary_operator → "NE" binary_operator → "<" binary_operator → ">" binary_operator → "ADD" binary_operator → "SUB"	binary_operator(1: "AND") → "AND" binary_operator(1: "OR") → "OR" binary_operator(1: "EQ") → "EQ" binary_operator(1: "NE") → "NE" binary_operator(1: "<") → "<" binary_operator(1: ">") → ">" binary_operator(1: "ADD") → "ADD" binary_operator(1: "SUB") → "SUB"	binary_operator = tokenAND | tokenOR | tokenEQUAL | tokenNOTEQUAL | tokenLESSOREQUAL | tokenGREATEROREQUAL | tokenPLUS | tokenMINUS | tokenMUL | tokenDIV | tokenMOD;	binary_operator = tokenAND | tokenOR | tokenEQUAL | tokenNOTEQUAL | tokenLESSOREQUAL | tokenGREATEROREQUAL | tokenPLUS | tokenMINUS | tokenMUL | tokenDIV | tokenMOD;	{ LA_IS, { T_AND_0 }, { "binary_operator",{\ { LA_IS, {""}, 1, { T_AND_0 }}\ }}},\ { LA_IS, { T_OR_0 }, { "binary_operator",{\

		binary_operator → "MUL" binary_operator → "DIV" binary_operator → "MOD"	binary_operator(1: "MUL") → "MUL" binary_operator(1: "DIV") → "DIV" binary_operator(1: "MOD") → "MOD"			{ LA_IS, {""}, 1, { T_OR_0 }}\ }}},\ { LA_IS, { T_EQUAL_0 }, { "binary_operator",{\ { LA_IS, {""}, 1, { T_EQUAL_0 }}\ }}},\ { LA_IS, { T_NOT_EQUAL_0 }, { "binary_operator",{\ { LA_IS, {""}, 1, { T_NOT_EQUAL_0 }}\ }}},\ { LA_IS, { T_LESS_OR_EQUAL_0 }, { "binary_operator",{\ { LA_IS, {""}, 1, { T_LESS_OR_EQUAL_0 }}\ }}},\ { LA_IS, { T_GREATER_OR_EQUAL_0 }, { "binary_operator",{\ { LA_IS, {""}, 1, { T_GREATER_OR_EQUAL_0 }}\ }}},\ { LA_IS, { T_ADD_0 }, { "binary_operator",{\ { LA_IS, {""}, 1, { T_ADD_0 }}\ }}},\ { LA_IS, { T_SUB_0 }, { "binary_operator",{\ { LA_IS, {""}, 1, { T_SUB_0 }}\ }}},\ { LA_IS, { T_MUL_0 }, { "binary_operator",{\ { LA_IS, {""}, 1, { T_MUL_0 }}\ }}},\ { LA_IS, { T_DIV_0 }, { "binary_operator",{\ { LA_IS, {""}, 1, { T_DIV_0 }}\ }}},\ { LA_IS, { T_MOD_0 }, { "binary_operator",{\ { LA_IS, {""}, 1, { T_MOD_0 }}\ }}},\
binary_action = binary_operator , expression;	binary_action = binary_operator , expression;	binary_action → binary_operator expression	binary_action(1: "AND", "OR", "EQ", "NE", "<", ">", "ADD", "SUB", "MUL", "DIV", "MOD") → binary_operator expression	binary_action = binary_operator >> expression;	binary_action = binary_operator >> expression;	{ LA_IS, { T_AND_0, T_OR_0, T_EQUAL_0, T_NOT_EQUAL_0, T_LESS_OR_EQUAL_0, T_GREATER_OR_EQUAL_0, T_ADD_0, T_SUB_0, T_MUL_0, T_DIV_0, T_MOD_0 }, { "binary_action",{\ { LA_IS, {""}, 2, { "binary_operator", "expression" }}\ }}},\
left_expression = group_expression | unary_operation | cond_block | value | ident , [index_action];	left_expression = group_expression | unary_operation | cond_block | value | ident , index_action__optional;	left_expression → group_expression left_expression → unary_operation left_expression → cond_block left_expression → value left_expression → ident , index_action__optional	left_expression(1: "(") → group_expression left_expression(1: "NOT") → unary_operation left_expression(1: "IF") → cond_block left_expression(1: "**0**", "**1**", "**2**", "**3**", "**4**", "**5**", "**6**", "**7**", "**8**", "**9**") → value left_expression(1: "ADD", "SUB"; 2: "**0**", "**1**", "**2**", "**3**", "**4**", "**5**", "**6**", "**7**", "**8**", "**9**") → value left_expression(1: "_") → ident , index_action__optional	left_expression = group_expression | unary_operation | cond_block | value | ident >> -index_action;	left_expression = group_expression | unary_operation | cond_block | value | ident >> index_action__optional;	{LA_IS, { "(" }, { "left_expression",{\ {LA_IS, { "" }, 1, { "group_expression" }}\ }}},\ {LA_IS, { T_NOT_0 }, { "left_expression",{\ {LA_IS, { "" }, 1, { "unary_operation" }}\ }}},\ {LA_IS, { T_IF_0 }, { "left_expression",{\ {LA_IS, { "" }, 1, { "cond_block" }}\ }}},\ {LA_IS, { "unsigned_value_terminal" }, { "left_expression",{\ {LA_IS, {""}, 1, { "value" }}\

						}}},\ {LA_IS, { T_ADD_0, T_SUB_0 }, { "left_expression",{\ {LA_IS, { "unsigned_value_terminal"}, 1, { "value" }},\ /*{LA_NOT, { "unsigned_value_terminal" }, 1, { "unary_operation" }}*/\ }}},\ {LA_IS, { "ident_terminal" }, { "left_expression",{\ {LA_IS, {""}, 2, { "ident", "index_action__optional" }}\ }}},\
	index_action__optional = index_action | ε;	index_action__optional → index_action index_action__optional → ε	index_action__optional(1: "[") → index_action index_action__optional(1: !"[") → ε		index_action__optional = index_action | "";	{LA_IS, { "[" }, { "index_action__optional",{\ {LA_IS, {""}, 1, { "index_action" }}\ }}},\ {LA_NOT, { "[" }, { "index_action__optional",{\ {LA_IS, {""}, 0, { "" }}\ }}},\
expression = left_expression , {binary_action};	expression = left_expression , binary_action__iteration;	expression → left_expression binary_action__iteration	expression(1: "(", "NOT", "ADD", "SUB", "_", "**0**", "**1**", "**2**", "**3**", "**4**", "**5**", "**6**", "**7**", "**8**", "**9**", "IF") → left_expression binary_action__iteration	expression = left_expression >> *binary_action;	expression = left_expression >> binary_action__iteration;	{LA_IS, { "(", T_NOT_0, T_ADD_0, T_SUB_0, "ident_terminal", "unsigned_value_terminal", T_IF_0 }, { "expression",{\ {LA_IS, {""}, 2, { "left_expression", "binary_action__iteration" }}\ }}},\
	binary_action__iteration = binary_action, binary_action__iteration | ε;	binary_action__iteration → binary_action binary_action__iteration binary_action__iteration → ε	binary_action__iteration(1: "AND", "OR", "EQ", "NE", "<", ">", "ADD", "SUB", "MUL", "DIV", "MOD") → binary_action binary_action__iteration binary_action__iteration(1: !"AND", !"OR", !"EQ ", !"NE", !"<", !">", !"ADD", !"SUB", !"MUL", !"DIV ", !"MOD") → ε		binary_action__iteration = binary_action >> binary_action__iteration | "";	{LA_IS, { T_AND_0, T_OR_0, T_EQUAL_0, T_NOT_EQUAL_0, T_LESS_OR_EQUAL_0, T_GREATER_OR_EQUAL_0, T_ADD_0, T_SUB_0, T_MUL_0, T_DIV_0, T_MOD_0 }, { "binary_action__iteration",{\ {LA_IS, {""}, 2, { "binary_action", "binary_action__iteration" }}\ }}},\ {LA_NOT, { T_AND_0, T_OR_0, T_EQUAL_0, T_NOT_EQUAL_0, T_LESS_OR_EQUAL_0, T_GREATER_OR_EQUAL_0, T_ADD_0, T_SUB_0, T_MUL_0, T_DIV_0, T_MOD_0 }, { "binary_action__iteration",{\ {LA_IS, {""}, 0, { "" }}\ }}},\
group_expression = "(" , expression , ")";	group_expression = "(" , expression , ")";	group_expression → "(" expression ")"	group_expression(1: "(") → "(" expression ")"	group_expression = tokenGROUPEXPRESSIONBEGIN >> expression >> tokenGROUPEXPRESSIONEND;	group_expression = tokenGROUPEXPRESSIONBEGIN >> expression >> tokenGROUPEXPRESSIONEND;	{LA_IS, { "(" }, { "group_expression", {\ {LA_IS, {""}, 3, { "(", "expression", ")" }}\ }}},\

`assign_to_right = "->" , ident , [index_action];`
`expression_or_cond_block__with_optional_assign = expression ,`
`[assign_to_right];`
	expression_or_cond_block__with_optional_a
	ssign = expression ,
	assign_to_right__optional;
		expression_or_cond_block__with_optional_a
		ssign → expression
		assign_to_right__optional
			expression_or_cond_block__with_optional_ass
			ign(1: "(", "NOT", "ADD", "SUB", "_", "**0**", "**1**",
			"**2**", "**3**", "**4**", "**5**", "**6**", "**7**", "**8**", "**9**", "IF") →
			expression assign_to_right__optional
				expression_or_cond_block__with_optional_assign =
				expression >> -(tokenLRASSIGN >> ident >> -
				index_action);
					expression_or_cond_block__with_optional_assig
					n = expression >> assign_to_right__optional;
						{LA_IS, { "(", T_NOT_0, T_ADD_0,
						T_SUB_0, "ident_terminal",
						"unsigned_value_terminal",
						T_IF_0 },
						{ "expression_or_cond_block__with_
						optional_assign",{\
						{LA_IS, {""}, 2, { "expression",
						"assign_to_right__optional" }}\
						}}},\

	assign_to_right = "->" , ident , index_action__optional;	assign_to_right → "=:" ident index_action__optional	assign_to_right(1: "->") → "->" ident index_action__optional		assign_to_right = tokenLRASSIGN >> ident >> index_action__optional;	{LA_IS, { T_LRASSIGN_0 }, { "assign_to_right",{\ {LA_IS, {""}, 3, { T_LRASSIGN_0, "ident", "index_action__optional" }}\ }}},\
	assign_to_right__optional = assign_to_right | ε;	assign_to_right__optional → assign_to_right assign_to_right__optional → ε;	assign_to_right__optional(1: "->") → assign_to_right assign_to_right__optional(1: !"->") → ε;		assign_to_right__optional = assign_to_right | "";	{ LA_IS, { T_LRASSIGN_0 }, { "assign_to_right__optional",{\

						{ LA_IS, {""}, 1, { "assign_to_right" }}\ }}},\ { LA_NOT, { T_LRASSIGN_0 }, { "assign_to_right__optional",{\ { LA_IS, {""}, 0, { "" }}\ }}},\
if_expression = expression;	if_expression = expression;	if_expression → expression	if_expression(1: "(", "NOT", "ADD", "SUB", "_", "**0**", "**1**", "**2**", "**3**", "**4**", "**5**", "**6**", "**7**", "**8**", "**9**", "IF") → expression	if_expression = SAME_RULE(expression);	if_expression = SAME_RULE(expression);	{LA_IS, { "(", T_NOT_0, T_ADD_0, T_SUB_0, "ident_terminal", "unsigned_value_terminal", T_IF_0 }, { "if_expression",{\ {LA_IS, {""}, 1, { "expression" }}\ }}},\
body_for_true = block_statements_in_while_and_if_body;	body_for_true = block_statements_in_while_and_if_body;	body_for_true → block_statements_in_while_and_if_body	body_for_true(1: "{") → block_statements_in_while_and_if_body	body_for_true = SAME_RULE(block_statements_in_while_and_if_body);	body_for_true = SAME_RULE(block_statements_in_while_and_if_body);	{LA_IS, { T_BEGIN_BLOCK_0 }, { "body_for_true",{\ {LA_IS, {""}, 1, { "block_statements_in_while_and_if_body" }}\ }}},\
false_cond_block_without_else = "ELSE" , "IF" , if_expression , body_for_true;	false_cond_block_without_else = "ELSE" , "IF" , if_expression , body_for_true;	false_cond_block_without_else → "ELSE" "IF" if_expression body_for_true	false_cond_block_without_else(1: "ELSE") → "ELSE" "IF" if_expression body_for_true	false_cond_block_without_else = tokenELSE >> tokenIF >> if_expression >> body_for_true;	false_cond_block_without_else = tokenELSE >> tokenIF >> if_expression >> body_for_true;	{LA_IS, { T_ELSE_IF_0 }, { "false_cond_block_without_else",{\ {LA_IS, {""}, 4, { T_ELSE_IF_0, T_ELSE_IF_1, "if_expression", "body_for_true" }}\ }}},\
body_for_false = "ELSE" , block_statements_in_while_and_if_body;	body_for_false = "ELSE" , block_statements_in_while_and_if_body;	body_for_false → "ELSE" block_statements_in_while_and_if_body	body_for_false(1: "ELSE") → "ELSE" block_statements_in_while_and_if_body	body_for_false = tokenELSE >> block_statements_in_while_and_if_body;	body_for_false = tokenELSE >> block_statements_in_while_and_if_body;	{LA_IS, { T_ELSE_BLOCK_0 }, { "body_for_false",{\ {LA_IS, {""}, 2, { T_ELSE_BLOCK_0, "block_statements" }}\ }}},\
cond_block = "IF" , if_expression , body_for_true, { false_cond_block_without_else } , [body_for_false];	cond_block = "IF" , if_expression , body_for_true, false_cond_block_without_else__iteration , body_for_false__optional;	cond_block → "IF" if_expression body_for_true false_cond_block_without_else__iteration body_for_false__optional	cond_block(1: "IF") → "IF" if_expression body_for_true false_cond_block_without_else__iteration body_for_false__optional	cond_block = tokenIF >> if_expression >> body_for_true >> *false_cond_block_without_else >> -body_for_false;	cond_block = tokenIF >> if_expression >> body_for_true >> false_cond_block_without_else__iteration >> body_for_false__optional;	{LA_IS, { T_IF_0 }, { "cond_block",{\ {LA_IS, {""}, 5, { T_IF_0, "if_expression", "body_for_true", "false_cond_block_without_else__iteration", "body_for_false__optional" }}\ }}},\
	false_cond_block_without_else__iteration = false_cond_block_without_else, false_cond_block_without_else__iteration | ε;	false_cond_block_without_else__iteration → false_cond_block_without_else false_cond_block_without_else__iteration false_cond_block_without_else__iteration → ε	false_cond_block_without_else__iteration(1: "ELSE"; 2: "IF") → false_cond_block_without_else false_cond_block_without_else__iteration false_cond_block_without_else__iteration(1: "ELSE"; 2: !"IF") → ε false_cond_block_without_else__iteration(1: !"ELSE") → ε		false_cond_block_without_else__iteration = false_cond_block_without_else >> false_cond_block_without_else__iteration | "";	{LA_IS, { T_ELSE_IF_0 }, { "false_cond_block_without_else__iteration",{\ {LA_IS, {T_ELSE_IF_1}, 2, { "false_cond_block_without_else", "false_cond_block_without_else__iteration" }},\ {LA_NOT, { T_ELSE_IF_1 }, 0, { "" }}\ }}},\ {LA_NOT, { T_ELSE_IF_0 }, { "false_cond_block_without_else__iteration",{\ {LA_IS, {""}, 0, { "" }}\ }}},\
	body_for_false__optional = body_for_false | ε;	body_for_false__optional → body_for_false body_for_false__optional → ε	body_for_false__optional(1: "FALSE") → body_for_false body_for_false__optional(1: !"FALSE") → ε		body_for_false__optional = body_for_false | "";	{LA_IS, { T_ELSE_BLOCK_0 }, { "body_for_false__optional",{\ {LA_IS, {""}, 1, { "body_for_false" }}\ }}},\ {LA_NOT, { T_ELSE_BLOCK_0 }, { "body_for_false__optional",{\ {LA_IS, {""}, 0, { "" }}\ }}},\
	continue_while = "CONTINUE";	continue_while → "CONTINUE"	continue_while(1: "CONTINUE") → "CONTINUE"	continue_while = SAME_RULE(tokenCONTINUE);	continue_while = SAME_RULE(tokenCONTINUE);	{LA_IS, { T_CONTINUE_WHILE_0 }, { "continue_while",{\ {LA_IS, {""}, 1, { T_CONTINUE_WHILE_0 }}\ }}},\
	break_while = "BREAK";	break_while → "BREAK"	break_while(1: "BREAK") → "BREAK"	break_while = SAME_RULE(tokenBREAK);	break_while = SAME_RULE(tokenBREAK);	{LA_IS, { T_EXIT_WHILE_0 }, { "break_while",{\

						{LA_IS, {""}, 1, { T_EXIT_WHILE_0 }}\ }}},\
statement_in_while_and_if_body = statement | "CONTINUE" | "BREAK";	statement_in_while_and_if_body = statement | continue_while | break_while;	statement_in_while_and_if_body → statement statement_in_while_and_if_body → continue_while statement_in_while_and_if_body → break_while	statement_in_while_and_if_body(1: "_", "(", "NOT", "**0**", "**1**", "**2**", "**3**", "**4**", "**5**", "**6**", "**7**", "**8**", "**9**", "+", "-", "IF", "WHILE", "GET", "PUT", ";") → statement statement_in_while_and_if_body(1: "CONTINUE") → continue_while statement_in_while_and_if_body(1: "BREAK") → break_while exit_while(1: "EXIT") → "EXIT" `EXIT: statement_in_while_and_if_body(1: "EXIT") → exit_while`	statement_in_while_and_if_body = statement | continue_while | break_while;	statement_in_while_and_if_body = statement | continue_while | break_while;	{LA_IS, { "ident_terminal", "(", T_NOT_0, "unsigned_value_terminal", T_ADD_0, T_SUB_0, T_IF_0, T_WHILE_0, T_INPUT_0, T_OUTPUT_0, T_SEMICOLON_0 }, { "statement_in_while_and_if_body",{\ {LA_IS, {""}, 1, { "statement" }}\ }}},\ {LA_IS, { T_CONTINUE_WHILE_0 }, { "statement_in_while_and_if_body",{\ {LA_IS, {""}, 1, { "continue_while" }}\ }}},\ {LA_IS, { T_EXIT_WHILE_0 }, { "statement_in_while_and_if_body",{\ {LA_IS, {""}, 1, { "break_while" }}\ }}},\
block_statements_in_while_and_if_body = "{" , {statement_in_while_and_if_body} , "}";	block_statements_in_while_and_if_body = "{" , statement_in_while_and_if_body__iteration , "}";	block_statements_in_while_and_if_body → "{" statement_in_while_and_if_body__iteration "}"	block_statements_in_while_and_if_body(1: "{") → "{" statement_in_while_and_if_body__iteration "}" forto_cycle(1: "FOR") → "FOR" cycle_counter_init "DOWNTO" expression "DO" block_statements cycle_counter_init(1: "_") → ident ":=" expression repeat_until_cycle(1: "REPEAT") → "REPEAT" statements__or__block_statements "UNTIL" expression	block_statements_in_while_and_if_body = tokenBEGINBLOCK >> *statement_in_while_and_if_body >> tokenENDBLOCK;	block_statements_in_while_and_if_body = tokenBEGINBLOCK >> statement_in_while_and_if_body__iteration >> tokenENDBLOCK;	{LA_IS, { T_BEGIN_BLOCK_0 }, { "block_statements_in_while_and_if_body",{\ {LA_IS, {""}, 3, { T_BEGIN_BLOCK_0, "statement_in_while_and_if_body__iteration", T_END_BLOCK_0 }}\ }}},\
	statement_in_while_and_if_body__iteration = statement_in_while_and_if_body , statement_in_while_and_if_body__iteration | ε;	statement_in_while_and_if_body__iteration → statement_in_while_and_if_body statement_in_while_and_if_body__iteration statement_in_while_and_if_body__iteration → ε	statement_in_while_and_if_body__iteration(1: "_", "(", "NOT", "**0**", "**1**", "**2**", "**3**", "**4**", "**5**", "**6**", "**7**", "**8**", "**9**", "ADD", "SUB", "IF", "WHILE", "SCAN", "PRINT", ";", "CONTINUE", ";") → statement_in_while_and_if_body statement_in_while_and_if_body__iteration statement_in_while_and_if_body__iteration(1: !"_", !"(", !"NOT", !"**0**", !"**1**", !"**2**", !"**3**", !"**4**", !"**5**", !"**6**", !"**7**", !"**8**", !"**9**",!"ADD", !"SUB", !"IF", !"WHILE", !"SCAN", !"PRINT", !";", !"CONTINUE", !"BREAK") → ε		statement_in_while_and_if_body__iteration = statement_in_while_and_if_body >> statement_in_while_and_if_body__iteration | "";	{LA_IS, { "ident_terminal", "(", T_NOT_0, "unsigned_value_terminal", T_ADD_0, T_SUB_0, T_IF_0, T_WHILE_0, T_INPUT_0, T_OUTPUT_0, T_SEMICOLON_0, T_CONTINUE_WHILE_0, T_EXIT_WHILE_0 }, { "statement_in_while_and_if_body__iteration",{\ {LA_IS, {""}, 2, { "statement_in_while_and_if_body", "statement_in_while_and_if_body__iteration" }}\ }}},\ {LA_NOT, { "ident_terminal", "(", T_NOT_0, "unsigned_value_terminal", T_ADD_0, T_SUB_0, T_IF_0, T_WHILE_0, T_INPUT_0, T_OUTPUT_0, T_SEMICOLON_0, T_CONTINUE_WHILE_0, T_EXIT_WHILE_0 }, { "statement_in_while_and_if_body__iteration",{\ {LA_IS, {""}, 0, { "" }}\ }}},\
while_cycle_head_expression = expression;	while_cycle_head_expression = expression;	while_cycle_head_expression → expression	while_cycle_head_expression(1: "(", "NOT", "ADD", "SUB", "_", "**0**", "**1**", "**2**", "**3**", "**4**", "**5**", "**6**", "**7**", "**8**", "**9**", "IF") → expression	while_cycle_head_expression = SAME_RULE(expression);	while_cycle_head_expression = SAME_RULE(expression);	{LA_IS, { "(", T_NOT_0, T_ADD_0, T_SUB_0, "ident_terminal", "unsigned_value_terminal", T_IF_0 }, { "while_cycle_head_expression",{\ {LA_IS, {""}, 1, { "expression" }}\ }}},\
while_cycle = "WHILE" , while_cycle_head_expression , block_statements_in_while_and_if_body;	while_cycle = "WHILE" , while_cycle_head_expression , block_statements_in_while_and_if_body;	while_cycle → "WHILE" while_cycle_head_expression block_statements_in_while_and_if_body	while_cycle(1: "WHILE") → "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;	while_cycle = tokenWHILE >> while_cycle_head_expression >> block_statements_in_while_and_if_body;	{LA_IS, { T_WHILE_0 }, { "while_cycle",{\

						{LA_IS, {""}, 3, { T_WHILE_0, "while_cycle_head_expression", "block_statements_in_while_and_if_body" }}\ }}},\
	statements__or__block_statements = statement__iteration | block_statements;	statements__or__block_statements → statement__iteration statements__or__block_statements → block_statements	statements__or__block_statements(1: "_", "(", "NOT", "**0**", "**1**", "**2**", "**3**", "**4**", "**5**", "**6**", "**7**", "**8**", "**9**", "ADD", "SUB", "IF", "WHILE", "GET", "PUT", ";") → statement__iteration statements__or__block_statements(1: "{") → block_statements		statements__or__block_statements = statement__iteration | block_statements;	{LA_IS, { "ident_terminal", "(", T_NOT_0, "unsigned_value_terminal", T_ADD_0, T_SUB_0, T_IF_0, T_WHILE_0, T_INPUT_0, T_OUTPUT_0, T_SEMICOLON_0 }, { "statements__or__block_statements",{\ {LA_IS, {""}, 1, { "statement__iteration" }}\ }}},\ {LA_IS, { T_BEGIN_BLOCK_0 }, { "statements__or__block_statements",{\ {LA_IS, {""}, 1, { "block_statements" }}\ }}},\
input_rule = "SCAN" , (ident , [index_action] | "(" , ident , [index_action] , ")");	input_rule = "SCAN", argument_for_input;	input_rule → "SCAN" argument_for_input	input_rule(1: "SCAN") → "SCAN" argument_for_input	input_rule = tokenGET >> (ident >> -index_action | tokenGROUPEXPRESSIONBEGIN >> ident >> -index_action >> tokenGROUPEXPRESSIONEND);	input_rule = tokenGET >> argument_for_input;	{LA_IS, { T_INPUT_0 }, { "input_rule",{\ {LA_IS, {""}, 2, { T_INPUT_0, "argument_for_input" }}\ }}},\
	argument_for_input = ident , index_action__optional; argument_for_input = "(", "ident", "index_action__optional", ")";	argument_for_input → ident index_action__optional argument_for_input → "(" "ident" "index_action__optional" ")"	argument_for_input(1: "_") → ident index_action__optional argument_for_input(1: "(") → "(" "ident" "index_action__optional" ")"		argument_for_input = ident >> index_action__optional | tokenGROUPEXPRESSIONBEGIN >> ident >> index_action__optional >> tokenGROUPEXPRESSIONEND;	{LA_IS, { "ident_terminal" }, { "argument_for_input",{\ {LA_IS, {""}, 2, { "ident", "index_action__optional" }}\ }}},\ {LA_IS, { "(" }, { "argument_for_input",{\ {LA_IS, {""}, 4, { "(", "ident", "index_action__optional", ")" }}\ }}},\
output_rule = "PRINT" , expression;	output_rule = "PRINT", expression;	output_rule → "PRINT" expression	output(1: "PRINT") → "PRINT" expression	output_rule = tokenPUT >> expression;	output_rule = tokenPUT >> expression;	{LA_IS, { T_OUTPUT_0 }, { "output_rule", {\ {LA_IS, { "" }, 2, {T_OUTPUT_0, "expression"} }\ }}},\
statement = expression_or_cond_block__with_optional_assign | forto_cycle | while_cycle | repeat_until_cycle | labeled_point | goto_label | input_rule | output_rule | ";";	statement = expression_or_cond_block__with_optional_assign | while_cycle | input_rule | output_rule | ";";forto_cycle | repeat_until_cycle | labeled_point | goto_label	statement → expression_or_cond_block__with_optional_assign statement → while_cycle statement → input_rule statement → output_rule statement → ";"	statement(1: "_"; 2: ":") → labeled_point statement(1: "_"; 2: !":") → expression_or_cond_block__with_optional_assign statement(1: "(", "NOT", "ADD", "SUB", "0"...."9", "IF") → expression_or_cond_block__with_optional_assign statement(1: "WHILE") → while_cycle statement(1: "FOR") → forto_cycle statement(1: "REPEAT") → repeat_until_cycle statement(1: "GOTO") → goto_label statement(1: "SCAN") → input_rule statement(1: "PRINT") → output_rule statement(1: ";") → ";"	statement = expression_or_cond_block__with_optional_assign | while_cycle | input_rule | output_rule | tokenSEMICOLON;	statement = expression_or_cond_block__with_optional_assign | while_cycle | input_rule | output_rule | tokenSEMICOLON;	{LA_IS, { "(", T_NOT_0, "ident_terminal", "unsigned_value_terminal", T_ADD_0, T_SUB_0, T_IF_0 }, { "statement", {\ { LA_IS, {""}, 1, {"expression_or_cond_block__with_optional_assign"}}\ }}},\ {LA_IS, { T_WHILE_0 }, { "statement",{\ {LA_IS, {""}, 1, {"while_cycle"}}\ }}},\ {LA_IS, { T_INPUT_0 }, { "statement",{\ {LA_IS, {""}, 1, {"input_rule"}}\ }}},\ {LA_IS, { T_OUTPUT_0 }, { "statement",{\ {LA_IS, {""}, 1, {"output_rule"}}\ }}},\ {LA_IS, { T_SEMICOLON_0 }, { "statement",{\ {LA_IS, {""}, 1, {";"}}\ }}},\
repeat_until_cycle = "REPEAT" , (statement | block_statements) , "UNTIL" , expression;	statement__iteration = statement, statement__iteration | ε;	statement__iteration → statement statement__iteration statement__iteration → ε	statement__iteration(1: "_", "(", "NOT", "**0**", "**1**", "**2**", "**3**", "**4**", "**5**", "**6**", "**7**", "**8**", "**9**", "ADD", "SUB", "IF", "WHILE", "PUT", ";") → statement statement__iteration		statement__iteration = statement >> statement__iteration | "";	{ LA_IS, { "ident_terminal", "(", T_NOT_0, "unsigned_value_terminal",

			statement__iteration(1: !"_", !"(", !"NOT", !"**0**", !"**1**", !"**2**", !"**3**", !"**4**", !"**5**", !"**6**", !"**7**", !"**8**", !"**9**", !"ADD", !"SUB", !"IF", !"WHILE", !"GET", !"PUT", !";") → ε			T_ADD_0, T_SUB_0, T_IF_0, T_WHILE_0, T_INPUT_0, T_OUTPUT_0, T_SEMICOLON_0 }, { "statement__iteration",{\ { LA_IS, {""}, 2, { "statement", "statement__iteration" }}\ }}},\ { LA_NOT, { "ident_terminal", "(", T_NOT_0, "unsigned_value_terminal", T_ADD_0, T_SUB_0, T_IF_0, T_WHILE_0, T_INPUT_0, T_OUTPUT_0, T_SEMICOLON_0 }, { "statement__iteration",{\ { LA_IS, {""}, 0, { "" }}\ }}},\
block_statements = "{" , {statement} , "}";	block_statements = "{" , statement__iteration , "}";	block_statements → "{" statement__iteration "}"	block_statements(1: "{") → "{" statement__iteration "}"	block_statements = tokenBEGINBLOCK >> *statement >> tokenENDBLOCK;	block_statements = tokenBEGINBLOCK >> statement__iteration >> tokenENDBLOCK;	{ LA_IS, { T_BEGIN_BLOCK_0 }, { "block_statements",{\ { LA_IS, {""}, 3, { T_BEGIN_BLOCK_0, "statement__iteration", T_END_BLOCK_0 }}\ }}},\
forto_cycle = "FOR" , cycle_counter_init , "DOWNTO" , expression , "DO" , (statement | block_statements);	expression__optional = expression | "";	expression__optional → expression expression__optional → ε	expression__optional(1: "(", "NOT", "ADD", "SUB", "_", "**0**", "**1**", "**2**", "**3**", "**4**", "**5**", "**6**", "**7**", "**8**", "**9**", "IF") → expression expression__optional(1: !"(", !"NOT", !"ADD", !"SUB", !"_", !"**0**", !"**1**", !"**2**", !"**3**", !"**4**", !"**5**", !"**6**", !"**7**", !"**8**", !"**9**", !"IF") → ε		expression__optional = expression | "";	{LA_IS, { "(", T_NOT_0, T_ADD_0, T_SUB_0, "ident_terminal", "unsigned_value_terminal", T_IF_0 }, { "expression__optional",{\ {LA_IS, {""}, 1, { "expression" }}\ }}},\ {LA_NOT, { "(", T_NOT_0, T_ADD_0, T_SUB_0, "ident_terminal", "unsigned_value_terminal", T_IF_0 }, { "expression__optional",{\ {LA_IS, {""}, 0, { "" }}\ }}},\
program_rule = "PROGRAM" , program_name , ";" , "VAR", [declaration] , ";" , "BEGIN", {statement} , "END";	program_rule = "NAME" , program_name , ";" , "DATA", declaration__optional , ";" , “BEGIN”, statement__iteration , "END";	program_rule → "NAME" program_name ";" "DATA" declaration__optional ";" “BEGIN”, statement__iteration "END"	program_rule(1: "NAME") → "NAME" program_name ";""DATA" declaration__optional ";" “BEGIN”statement__iteration "END"	program_rule = BOUNDARIES >> tokenNAME >> program_name >> tokenSEMICOLON >> tokenDATA >> (-declaration) >> tokenSEMICOLON >> tokenBEGIN >> *statement >> tokenEND;	program_rule = BOUNDARIES >> tokenNAME >> program_name >> tokenSEMICOLON >> tokenDATA >> (-declaration) >> tokenSEMICOLON >> tokenBEGIN >> *statement >> tokenEND;	{ LA_IS, { T_NAME_0 }, { "program_rule",{\ { LA_IS, {""}, 9, { T_NAME_0, "program_name", T_SEMICOLON_0, T_DATA_0, "declaration__optional", T_SEMICOLON_0, T_BEGIN_0, "statement__iteration", T_END_0 }}\ }}},\
	declaration__optional = declaration | "";	declaration__optional → declaration declaration__optional → ε	declaration__optional(1: "LONG", “INT”) → declaration declaration__optional(1: !"LONG", “INT”) → ε		declaration__optional = declaration | "";	{ LA_IS, { T_DATA_TYPE_0 }, { "declaration__optional",{\ { LA_IS, {""}, 1, { "declaration" }}\ }}},\ { LA_NOT, { T_DATA_TYPE_0 }, { "declaration__optional",{\ { LA_IS, {""}, 0, { "" }}\ }}},\
value = [sign] , unsigned_value;	value = sign__optional, unsigned_value;	value → sign__optional unsigned_value	value(1: "0", "1", "2", "3", "4", "5", "6", "7", "8", "9", "ADD", "SUB") → sign__optional unsigned_value	value = -sign >> unsigned_value >> BOUNDARIES;	value = sign__optional >> unsigned_value >> BOUNDARIES;	{LA_IS, { "unsigned_value_terminal", T_ADD_0, T_SUB_0 }, { "value", {\ {LA_IS, { "" }, 2, { "sign__optional", "unsigned_value" }}\ }}},\
	sign__optional = sign | ε;	sign__optional → sign sign__optional → ε	sign__optional(1: "ADD", "SUB") → sign sign__optional(1: !"ADD", !"SUB") → ε		sign__optional = sign | "";	{LA_IS, { T_ADD_0, T_SUB_0 }, { "sign__optional", {\ {LA_IS, { "" }, 1, { "sign" }}\ }}},\ {LA_NOT, { T_ADD_0, T_SUB_0 }, { "sign__optional",{\ {LA_IS, { "" }, 0, { "" }}\ }}},\
sign = sign_plus | sign_minus;	sign = sign_plus | sign_minus;	sign → sign_plus sign → sign_minus	sign(1: "ADD") → sign_plus sign(1: "SUB") → sign_minus	sign = sign_plus | sign_minus;	sign = sign_plus | sign_minus;	{LA_IS, { T_ADD_0 }, { "sign", {\ {LA_IS, {""}, 1, { "sign_plus" }}\ }}},\ {LA_IS, { T_SUB_0 }, { "sign", {\

						{LA_IS, {""}, 1, { "sign_minus" } }\ }}},\
sign_plus = "ADD";	sign_plus = "ADD";	sign_plus → "ADD"	sign_plus(1: "+") → "ADD"	sign_plus = SAME_RULE(tokenPLUS);	sign_plus = SAME_RULE(tokenPLUS);	{LA_IS, { T_ADD_0 }, { "sign_plus", {\ {LA_IS, {""}, 1, {T_ADD_0}}\ }}},\
sign_minus = "SUB";	sign_minus = "SUB";	sign_minus → "SUB"	sign_minus(1: "-") → "SUB"	sign_minus = SAME_RULE(tokenMINUS);	sign_minus = SAME_RULE(tokenMINUS);	{LA_IS, { T_SUB_0 }, { "sign_minus", {\ {LA_IS, {""}, 1, {T_SUB_0} }\ }}},\
unsigned_value = non_zero_digit , {digit} | "0";	unsigned_value = non_zero_digit , digit__iteration | "0";	unsigned_value → non_zero_digit digit__iteration unsigned_value → "0"	unsigned_value(1: "1", "2", "3", "4", "5", "6", "7", "8", "9") → non_zero_digit digit__iteration unsigned_value(1: "0") → "0"	unsigned_value = (non_zero_digit >> digit__iteration | digit_0) >> BOUNDARIES;	unsigned_value = (non_zero_digit >> digit__iteration | digit_0) >> BOUNDARIES;	/* unsigned_value_token represents unsigned_value in lexical analyzer */\ {LA_IS, { "unsigned_value_terminal" }, { "unsigned_value", {\ {LA_IS, { "" }, 1, { "unsigned_value_terminal" }}\ }}},\
cycle_counter_init = ident , "->" , expression;	digit__iteration = digit, digit__iteration | ε;	digit__iteration → digit digit__iteration digit__iteration → ε	digit__iteration(1: "0", "1", "2", "3", "4", "5", "6", "7", "8", "9") → digit digit__iteration digit__iteration(1: !"0", !"1", !"2", !"3", !"4", !"5", !"6", !"7", !"8", !"9") → ε		digit__iteration = digit >> digit__iteration | "";	\
digit = "0" | non_zero_digit;	digit = "0" | non_zero_digit;	digit → "0" digit → non_zero_digit	digit(1: "0") → "0" digit(1: "1", "2", "3", "4", "5", "6", "7", "8", "9",) → non_zero_digit	digit_0 = '0'; digit = digit_0 | non_zero_digit;	digit_0 = '0'; digit = digit_0 | non_zero_digit;	\
non_zero_digit = "1" | "2" | "3" | "4" | "5" | "6" | "7" | "8" | "9";	non_zero_digit = "1" | "2" | "3" | "4" | "5" | "6" | "7" | "8" | "9";	non_zero_digit → "1" non_zero_digit → "2" non_zero_digit → "3" non_zero_digit → "4" non_zero_digit → "5" non_zero_digit → "6" non_zero_digit → "7" non_zero_digit → "8" non_zero_digit → "9"	non_zero_digit(1: "1") → "1" non_zero_digit(1: "2") → "2" non_zero_digit(1: "3") → "3" non_zero_digit(1: "4") → "4" non_zero_digit(1: "5") → "5" non_zero_digit(1: "6") → "6" non_zero_digit(1: "7") → "7" non_zero_digit(1: "8") → "8" non_zero_digit(1: "9") → "9"	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'; non_zero_digit = digit_1 | digit_2 | digit_3 | digit_4 | digit_5 | digit_6 | digit_7 | digit_8 | digit_9;	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'; non_zero_digit = digit_1 | digit_2 | digit_3 | digit_4 | digit_5 | digit_6 | digit_7 | digit_8 | digit_9;	\
ident = "_" , letter_in_upper_case , letter_in_upper_case;	ident = "_" , letter_in_upper_case , letter_in_upper_case ,	ident → "_" letter_in_upper_case letter_in_upper_case letter_in_upper_case	Ident(1: "_") → "_" letter_in_upper_case letter_in_upper_case letter_in_upper_case	tokenUNDERSCORE = "_"; ident = !(tokenINTEGER16 | tokenCOMMA | tokenNOT | tokenAND | tokenOR | tokenEQUAL | tokenNOTEQUAL | tokenLESSOREQUAL | tokenGREATEROREQUAL | tokenPLUS | tokenMINUS | tokenMUL | tokenDIV | tokenMOD | tokenGROUPEXPRESSIONBEGIN | tokenGROUPEXPRESSIONEND | tokenLRASSIGN | tokenELSE | tokenIF | tokenWHILE | tokenCONTINUE | tokenBREAK | tokenEXIT | tokenGET | tokenPUT | tokenNAME | tokenBODY | tokenDATA | tokenBEGIN | tokenEND | tokenBEGINBLOCK | tokenENDBLOCK | tokenLEFTSQUAREBRACKETS | tokenRIGHTSQUAREBRACKETS | tokenSEMICOLON) >> letter_in_lower_case >> letter_in_lower_case >> letter_in_lower_case >> letter_in_lower_case >> STRICT_BOUNDARIES;	tokenUNDERSCORE = "_"; ident = !(tokenINTEGER16 | tokenCOMMA | tokenNOT | tokenAND | tokenOR | tokenEQUAL | tokenNOTEQUAL | tokenLESSOREQUAL | tokenGREATEROREQUAL | tokenPLUS | tokenMINUS | tokenMUL | tokenDIV | tokenMOD | tokenGROUPEXPRESSIONBEGIN | tokenGROUPEXPRESSIONEND | tokenLRASSIGN | tokenELSE | tokenIF | tokenWHILE | tokenCONTINUE | tokenBREAK | tokenEXIT | tokenGET | tokenPUT | tokenNAME | tokenBODY | tokenDATA | tokenBEGIN | tokenEND | tokenBEGINBLOCK | tokenENDBLOCK | tokenLEFTSQUAREBRACKETS | tokenRIGHTSQUAREBRACKETS | tokenSEMICOLON) >> letter_in_lower_case >> letter_in_lower_case >> letter_in_lower_case >> letter_in_lower_case >> STRICT_BOUNDARIES;	/* ident_token represents ident in lexical analyzer */\ {LA_IS, { "ident_terminal" }, { "ident", {\ {LA_IS, {""}, 1, {"ident_terminal"} }\ }}},\
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";	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";	letter_in_lower_case → "a" letter_in_lower_case → "b" letter_in_lower_case → "c" letter_in_lower_case → "d" letter_in_lower_case → "e" letter_in_lower_case → "f" letter_in_lower_case → "g" letter_in_lower_case → "h" letter_in_lower_case → "i"	letter_in_lower_case(1: "a") → "a" letter_in_lower_case(1: "b") → "b" letter_in_lower_case(1: "c") → "c" letter_in_lower_case(1: "d") → "d" letter_in_lower_case(1: "e") → "e" letter_in_lower_case(1: "f") → "f" letter_in_lower_case(1: "g") → "g" letter_in_lower_case(1: "h") → "h" letter_in_lower_case(1: "i") → "i"	A = "A"; B = "B"; C = "C"; D = "D"; E = "E"; F = "F"; G = "G"; H = "H"; I = "I";	A = "A"; B = "B"; C = "C"; D = "D"; E = "E"; F = "F"; G = "G"; H = "H"; I = "I";	\

		letter_in_lower_case → "j" letter_in_lower_case → "k" letter_in_lower_case → "l" letter_in_lower_case → "m" letter_in_lower_case → "n" letter_in_lower_case → "o" letter_in_lower_case → "p" letter_in_lower_case → "q" letter_in_lower_case → "r" letter_in_lower_case → "s" letter_in_lower_case → "t" letter_in_lower_case → "u" letter_in_lower_case → "v" letter_in_lower_case → "w" letter_in_lower_case → "x" letter_in_lower_case → "y" letter_in_lower_case → "z"	letter_in_lower_case(1: "j") → "j" letter_in_lower_case(1: "k") → "k" letter_in_lower_case(1: "l") → "l" letter_in_lower_case(1: "m") → "m" letter_in_lower_case(1: "n") → "n" letter_in_lower_case(1: "o") → "o" letter_in_lower_case(1: "p") → "p" letter_in_lower_case(1: "q") → "q" letter_in_lower_case(1: "r") → "r" letter_in_lower_case(1: "s") → "s" letter_in_lower_case(1: "t") → "t" letter_in_lower_case(1: "u") → "u" letter_in_lower_case(1: "v") → "v" letter_in_lower_case(1: "w") → "w" letter_in_lower_case(1: "x") → "x" letter_in_lower_case(1: "y") → "y" letter_in_lower_case(1: "z") → "z"	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"; 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;	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"; 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;	
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";	letter_in_upper_case → "A" letter_in_upper_case → "B" letter_in_upper_case → "C" letter_in_upper_case → "D" letter_in_upper_case → "E" letter_in_upper_case → "F" letter_in_upper_case → "G" letter_in_upper_case → "H" letter_in_upper_case → "I" letter_in_upper_case → "J" letter_in_upper_case → "K" letter_in_upper_case → "L" letter_in_upper_case → "M" letter_in_upper_case → "N" letter_in_upper_case → "O" letter_in_upper_case → "P" letter_in_upper_case → "Q" letter_in_upper_case → "R" letter_in_upper_case → "S" letter_in_upper_case → "T" letter_in_upper_case → "U" letter_in_upper_case → "V" letter_in_upper_case → "W" letter_in_upper_case → "X" letter_in_upper_case → "Y" letter_in_upper_case → "Z"	letter_in_upper_case(1: "A") → "A" letter_in_upper_case(1: "B") → "B" letter_in_upper_case(1: "C") → "C" letter_in_upper_case(1: "D") → "D" letter_in_upper_case(1: "E") → "E" letter_in_upper_case(1: "F") → "F" letter_in_upper_case(1: "G") → "G" letter_in_upper_case(1: "H") → "H" letter_in_upper_case(1: "I") → "I" letter_in_upper_case(1: "J") → "J" letter_in_upper_case(1: "K") → "K" letter_in_upper_case(1: "L") → "L" letter_in_upper_case(1: "M") → "M" letter_in_upper_case(1: "N") → "N" letter_in_upper_case(1: "O") → "O" letter_in_upper_case(1: "P") → "P" letter_in_upper_case(1: "Q") → "Q" letter_in_upper_case(1: "R") → "R" letter_in_upper_case(1: "S") → "S" letter_in_upper_case(1: "T") → "T" letter_in_upper_case(1: "U") → "U" letter_in_upper_case(1: "V") → "V" letter_in_upper_case(1: "W") → "W" letter_in_upper_case(1: "X") → "X" letter_in_upper_case(1: "Y") → "Y" letter_in_upper_case(1: "Z") → "Z"	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"; 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;	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"; 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;	\
	exit_while = "EXIT"; repeat_until_cycle = "REPEAT" , statement__iteration , "UNTIL" , expression; labeled_point = ident , ":"; `goto_label = "GOTO" , ident;`			STRICT_BOUNDARIES = (BOUNDARY >> *(BOUNDARY)) | (!(qi::alpha | qi::char_("_"))); BOUNDARIES = (BOUNDARY >> *(BOUNDARY) | NO_BOUNDARY); BOUNDARY = BOUNDARY__SPACE | BOUNDARY__TAB | BOUNDARY__VERTICAL_TAB | BOUNDARY__FORM_FEED | BOUNDARY__CARRIAGE_RETURN | BOUNDARY__LINE_FEED | BOUNDARY__NULL; BOUNDARY__SPACE = " "; BOUNDARY__TAB = "\t"; BOUNDARY__VERTICAL_TAB = "\v"; BOUNDARY__FORM_FEED = "\f"; BOUNDARY__CARRIAGE_RETURN = "\r"; BOUNDARY__LINE_FEED = "\n"; BOUNDARY__NULL = "\0"; NO_BOUNDARY = ""; #define WHITESPACES \ STRICT_BOUNDARIES, \ BOUNDARIES, \ BOUNDARY, \ BOUNDARY__SPACE, \ BOUNDARY__TAB, \ BOUNDARY__VERTICAL_TAB, \ BOUNDARY__FORM_FEED, \ BOUNDARY__CARRIAGE_RETURN, \ BOUNDARY__LINE_FEED, \ BOUNDARY__NULL, \ NO_BOUNDARY	STRICT_BOUNDARIES = (BOUNDARY >> *(BOUNDARY)) | (!(qi::alpha | qi::char_("_"))); BOUNDARIES = (BOUNDARY >> *(BOUNDARY) | NO_BOUNDARY); BOUNDARY = BOUNDARY__SPACE | BOUNDARY__TAB | BOUNDARY__VERTICAL_TAB | BOUNDARY__FORM_FEED | BOUNDARY__CARRIAGE_RETURN | BOUNDARY__LINE_FEED | BOUNDARY__NULL; BOUNDARY__SPACE = " "; BOUNDARY__TAB = "\t"; BOUNDARY__VERTICAL_TAB = "\v"; BOUNDARY__FORM_FEED = "\f"; BOUNDARY__CARRIAGE_RETURN = "\r"; BOUNDARY__LINE_FEED = "\n"; BOUNDARY__NULL = "\0"; NO_BOUNDARY = ""; #define WHITESPACES \ STRICT_BOUNDARIES, \ BOUNDARIES, \ BOUNDARY, \ BOUNDARY__SPACE, \ BOUNDARY__TAB, \ BOUNDARY__VERTICAL_TAB, \ BOUNDARY__FORM_FEED, \ BOUNDARY__CARRIAGE_RETURN, \ BOUNDARY__LINE_FEED, \ BOUNDARY__NULL, \ NO_BOUNDARY	\

	cycle_counter_init = ident , "->" , expression;
	cycle_body = "DO", block_statements;
	`forto_cycle = "FOR" , cycle_counter_init , "DOWNTO" , expression , cycle_body;`
						\
						\
						\
						{ LA_IS, { T_NAME_0 },
						{ "program____part1",{\
						{ LA_IS, {""}, 7, { T_NAME_0,
						"program_name",
						T_SEMICOLON_0, T_BODY_0,
						T_DATA_0, "declaration_optional",
						T_SEMICOLON_0 }}\
						}}},\
						\
						},\
						"program_rule"