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program      --> ROBOT_R declaration_of_variables definition_of_procedures block_of_instructions
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              | ROBOT_R block_of_instructions
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              | ROBOT_R declaration_of_variables block_of_instructions

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declaration_of_variables --> VARS list_of_names ';'

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list_of_names --> name
              | name ',' list_of_names

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name          --> letter alphanumeric_characters

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definition_of_procedures --> PROCS procedure_definitions

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procedure_definitions      --> procedure_definition
                          | procedure_definition procedure_definitions

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procedure_definition      --> name '[' parameters instructions ']'

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parameters      --> '|' list_of_names '|'
                |null

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block_of_instructions      --> '[' instructions ']'

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instructions      --> instruction
                  | instruction ';' instructions

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instruction      --> command
                  | control_structure
                  | procedure_call

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command          --> assignTo ':' n ',' name
                  | goto ':' n_or_variable ',' n_or_variable
                  | move ':' n_or_variable
                  | turn ':' D

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| face ':' 0
| put ':' n_or_variable ',' X
| pick ':' n_or_variable ',' X
| moveToThe ':' n_or_variable ',' D
| moveInDir ':' n_or_variable ',' 0
| jumpToThe ':' n_or_variable ',' D
| jumpInDir ':' n_or_variable ',' 0
| nop ':'

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control_structure --> conditional

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| loop
| repeatTimes

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conditional --> if ':' condition then ':' block_of_instructions else ':' block_of_instructions

loop --> while ':' condition do ':' block_of_instructions

repeatTimes --> repeat ':' n_or_variable block_of_instructions

condition --> facing ':' 0

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| canPut ':' n_or_variable ',' X
| canPick ':' n_or_variable ',' X
| canMoveInDir ':' n_or_variable ',' 0
| canJumpInDir ':' n_or_variable ',' 0
| canMoveToThe ':' n_or_variable ',' D
| canJumpToThe ':' n_or_variable ',' D
| not ':' condition

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procedure_call --> name ':' arguments

arguments --> argument

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| argument ',' arguments

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argument --> n_or_variable

alphanumeric_characters --> alphanumeric_character

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| alphanumeric_character alphanumeric_characters

```

alphanumeric_character --> letter | digit

letter --> uppercase_letter | lowercase_letter

uppercase_letter: 'A' | 'B' | 'C' | ... | 'Z'

lowercase_letter: 'a' | 'b' | 'c' | ... | 'z'

digit --> '0' | '1' | '2' | ... | '9'

n_or_variable --> number | name

number --> digit
| digit digits

digits --> digit
| digit digits

D --> left | right | around

O --> north | south | east | west

X --> Balloons | Chips