

```

<root> ::= "<root " <name> ">" <node> <parameter> <constraint> "</root>"
<node> ::= "<node " <name> ">" <node> <parameter> <constraint> "</node>"
          | <node> <node>

```

```

<parameter> ::= "<parameter " <name> <p_arg> <nb_instances> ">"
               | <parameter> <parameter>
               | ε

```

```

<name> ::= "name=" <letter> <string> ""
<nb_instances> ::= "nb_instances=" <integer> ""
                  | ε

```

```

<p_arg> ::= "type="boolean" "
           | "type="boolean" " <boolean_values>
           | "type="boolean" " <boolean_values> <boolean_weights>
           | "type="string" " <string_values>
           | "type="string" " <string_values_and_weights>
           | "type="integer" " <integer_min> <integer_max> <numerical_optional_attributes>
           | "type="real" " <real_min> <real_max> <numerical_optional_attributes>

```

```

<boolean_values> ::= "values="[True;False]" "
                  | "values="[False;True]" "
<boolean_weights> ::= "weights="[" <integer> ";" <integer> "]" "

```

```

<string_values> ::= "values="[" <val> "]" "
<val> ::= <string>
        | <string> ";" <string>

```

```

<string_values_and_weights> ::= "values="[" <string> <vnw> <integer> "]" "
<vnw> ::= ";" <string> <vnw> <integer> ";"
        | "]" weights="["

```

```

<integer_min> ::= "min=" <integer> ""
<integer_max> ::= "max=" <integer> ""
<real_min> ::= "min=" <float> ""
              | "min=" <integer> ""
<real_max> ::= "max=" <float> ""
              | "max=" <integer> ""

```

```

<numerical_optional_attributes> ::= ε
                                   | "distribution="u" "
                                   | "distribution="n" "
                                   | "distribution="n" " <mean>
                                   | "distribution="n" " <variance>
                                   | "distribution="n" " <mean> <variance>
                                   | "distribution="i" " <interval>
                                   | "distribution="i" " <interval_and_weights>

```

```

<mean> ::= "mean=" <float> ""
<variance> ::= "variance=" <float> ""

```

```

<interval> ::= "ranges=" <inter_list> ""
<inter_list> ::= <inter> ";" <inter>
                | <inter>
<inter> ::= "[" <float> "," <float> "]"

<interval_and_weights> ::= "ranges=" <inter> <inw> <integer> "]"
<inw> ::= ";" <inter> <vnw> <integer> ";"
        | "" weights="["

<constraint> ::= "<constraint " <name> <types_quantifiers_and_ranges> <expressions> ">"
                | <constraint> <constraint>
                | ε
<types_quantifiers_and_ranges> ::= ε
        | "types=" (<type>";")n <type> " quantifiers=" (<letter>";")n <letter>
        | " ranges=" (<range>";")n <range> "" <expressions>
<type> ::= "forall"
        | "exist"
<range> ::= "[" <expr> "," <expr> "]"
<expressions> ::= "expressions=" <expression> ""
<expression> ::= <expr>
                | <expression> ";" <expression>
<expr> ::= "(" <expr> ")"
        | "AND(" <expr> "," <expr_list> ")"
        | "OR(" <expr> "," <expr_list> ")"
        | "NOT(" <expr> ")"
        | "IMPLIES(" <expr> "," <expr> ")"
        | <term> <comparison_operator> <term>
<expr_list> ::= <expr>
                | <expr> "," <expr_list>
<comparison_operator> ::= "SUP"
                        | "SUPEQ"
                        | "INF"
                        | "INFEQ"
                        | "EQ"
                        | "DIF"
<term> ::= <term> "+" <term>
        | <term> "-" <term>
        | <term> "*" <term>
        | <term> "/" <term>
        | <term> "%" <term>
        | <tree_path>
        | <integer>
        | <float>

<tree_path> ::= <tree_path_beginning> <tree_path_element> <tree_path_ending>
<tree_path_beginning> ::= ε
                        | "/"
                        | "../"
                        | <tree_path_beginning> <tree_path_beginning>

```

```

<tree_path_element> ::= <name> "[" <term> "]"
                        | <name>
                        | <tree_path_element> "/" <tree_path_element>
<tree_path_ending> ::= ε
                    | ".nb_instances"

<float> ::= <integer> "." <integer>
<integer> ::= <non_nul_digit><digit_string>

<digit_string> ::= <digit_string><digit_string>
                | <digit>
<string> ::= <string><string>
           | <letter>
           | <digit>
           | " "
<non_nul_digit> ::= "1" | "2" | "3" .... "9"
<digit> ::= "0"
          | <non_nul_digit>
<letter> ::= "a" | "A" | "b" | "B" | "c" | "C" .... "y" | "Y" | "z" | "Z"

```