BNF DA LINGUAGEM DE PROGRAMAÇÃO LINGPON 1.2

```
 1  <program>                 ::= <fbes> <inst> <strategy> <rules> <main>
 2                             | <fbes> <inst> <strategy> <rules>
 3
 4  <fbes>                    ::= <fbe>
 5                             | <fbe> <fbes>
 6
 7  <fbe>                     ::= FBE <id> <fbe_body> END_FBE
 8                             | FBE <id> <extends> <id> <fbe_body> END_FBE
 9
10  <fbe_body>                ::= <decl_attributes> <decl_methods> <fbeRules>
11                             | <decl_attributes> <decl_methods>
12                             | <decl_attributes>
13
14  <inst>                    ::= INST <declarations> END_INST
15
16  <strategy>                ::= STRATEGY <strategy_declaration> END_STRATEGY
17
18  <strategy_declaration>    ::= NO_ONE
19                             | BREADTH
20                             | DEPTH
21
22  <declarations>            ::= <declaration>
23                             | <declaration> <declarations>
24
25  <declaration>             ::= <type> <ids>
26
27  <ids>                     ::= <id>
28                             | <id> COMMA <ids>
29
30  <rules>                   ::= <rule>
31                             | <rule> <rules>
32                             | <formRule>
33                             | <formRule> <rules>
34
35  <rule>                    ::= RULE <rule_body> END_RULE
36                             | RULE <id> <rule_body> END_RULE
37                             | RULE <depends> <id> <rule_body> END_RULE
38                             | RULE <id> <depends> <id> <rule_body> END_RULE
39
40  <formRule>                ::= FORM_RULE <rule_body> END_FORM_RULE
41                             | FORM_RULE <id> <rule_body> END_FORM_RULE
42                             | FORM_RULE <depends> <id> <rule_body>
43                                   END_FORM_RULE
44                             | FORM_RULE <id> <depends> <id> <rule_body>
45                                   END_FORM_RULE
46
47  <fbeRules>                ::= <fbeRule>
48                             | <fbeRule> <fbeRules>
49
50  <fbeRule>                 ::= FBE_RULE <rule_body> END_FBE_RULE
51                             | FBE_RULE <id> <rule_body> END_FBE_RULE
52                             | FBE_RULE <depends> <id> <rule_body> END_FBE_RULE
53                             | FBE_RULE <id> <depends> <id> <rule_body>
54  END_FBE_RULE
55
56  <depends>                 ::= DEPENDS
57
58  <extends>                 ::= EXTENDS
```

```
59
60   <rule_body>              ::= <decl_condition> <decl_action>
61                            |   <decl_properties> <decl_condition> <decl_action>
62
63   <decl_properties>        ::= PROPERTIES <properties_body> END_PROPERTIES
64
65   <properties_body>        ::= <properties_type> <value>
66
67   <properties_type>        ::= PRIORITY
68                            |   KEEPER
69
70   <decl_condition>         ::= CONDITION <condition_body> END_CONDITION
71                            |   CONDITION <id> <condition_body> END_CONDITION
72
73   <condition_body>         ::= <subcondition> <operator> <condition_body>
74                            |   <subcondition>
75
76   <operator>               ::= AND
77                            |   OR
78
79   <subcondition>           ::= SUBCONDITION <id> <subcondition_body>
80   END_SUBCONDITION
81
82   <subcondition_body>      ::= <premise> AND <subcondition_body>
83                            |   <premise>
84
85   <premise>                ::= PREMISE <exp>
86                            |   PREMISE <id> <exp>
87                            |   PREMISE IMP <exp>
88                            |   PREMISE IMP <id> <exp>
89
90   <exp>                    ::= <fator> <comp> <fator>
91
92   <comp>                   ::= EQ
93                            |   NE
94                            |   LT
95                            |   GT
96                            |   LE
97                            |   GE
98
99   <fator>                  ::= <id>
100                           |   NUMBER
101                           |   boolean
102                           |   FLOATVALUE
103                           |   STRINGVALUE
104                           |   CHARVALUE
105
106  <boolean>                ::= TRUE
107                           |   FALSE
108
109  <decl_action>            ::= ACTION <action_body> END_ACTION
110                           |   ACTION <id> <action_body> END_ACTION
111
112  <action_body>            ::= <action_elements> <action_body>
113                           |   <action_elements>
114
115  <action_elements>        ::= <instigation>
116                           |   <method_use>
117                           |   <exp> SEMICOLON
118
119  <instigation>            ::= INSTIGATION <method_use>
```

```
120                                     |  INSTIGATION <id> <method_use>
121
122   <method_use>             ::= <id> LP RP SEMICOLON
123
124   <id>                     ::= ID
125                             |  ID POINT <id>
126
127   <decl_attributes>        ::= ATTRIBUTES <attributes> END_ATTRIBUTES
128
129   <attributes>             ::= <attributes_body>
130                             |  <attributes_body> <attributes>
131
132   <attributes_body>        ::= <type> <id> <value>
133                             |  <type> <id> SEMICOLON
134
135   <type>                   ::= BOOLEAN
136                             |  INTEGER
137                             |  PFLOAT
138                             |  STRING
139                             |  CHAR
140                             |  <id>
141
142   <value>                  ::= NUMBER
143                             |  <boolean>
144                             |  <id>
145                             |  FLOATVALUE
146                             |  STRINGVALUE
147                             |  CHARVALUE
148
149   <decl_methods>           ::= METHODS <methods> END_METHODS
150
151   <methods>                ::= <method_body>
152                             |  <method_body> <methods>
153
154   <method_body>            ::= METHOD <id> LP <id> ASSIGN <id>
155                                   <method_operator> <value> RP
156                             |  METHOD <id> LP <id> ASSIGN <id>
157                                   <method_operator> <id> RP
158                             |  METHOD <id> LP <id> ASSIGN <value RP
159                             |  METHOD <id> LP <id> ASSIGN <id> RP
160                             |  METHOD <id> LP <id> RP INNER_CODE_METHOD
161                             |  METHOD <id> LP RP INNER_CODE_METHOD
162
163   <method_operator>        ::= PLUS
164                             |  MINUS
165                             |  MULT
166                             |  DIV
167
168   <main>                   ::= MAIN INNER_CODE_MAIN
```

Código 1: BNF da linguagem de programação LingPON 1.2
Fonte: Adaptado de Santos, 2017