

Table 1: BNF grammar: Random Rule Application.

```

<sentence> ::= <subject> <predicate>
<subject> ::= <article> <noun>
<predicate> ::= <verb> <directobject>
<directobject> ::= <article> <noun>
<article> ::= THE | A
<noun> ::= MAN | DOG
<verb> ::= BITES | PETS

```

Result: TRUE ( Number of applied rules: 9 ) A MAN BITES THE DOG
<pre> &lt;sentence&gt; ::= &lt;subject&gt; &lt;predicate&gt; &lt;subject&gt; ::= &lt;article&gt; &lt;noun&gt; &lt;article&gt; ::= A &lt;noun&gt; ::= MAN &lt;predicate&gt; ::= &lt;verb&gt; &lt;directobject&gt; &lt;verb&gt; ::= BITES &lt;directobject&gt; ::= &lt;article&gt; &lt;noun&gt; &lt;article&gt; ::= THE &lt;noun&gt; ::= DOG </pre>

Table 2: BNF grammar: Random Rule Application.

```

<sentence> ::= if <expr> return <expr> else return <value>
<expr> ::= ( <expr> <op> <expr> ) | <value>
<op> ::= + | - | * | /
<value> ::= X | Y | Z

```

Result: TRUE ( Number of applied rules: 6 ) if Y return Z else return Z
<pre> &lt;sentence&gt; ::= if &lt;expr&gt; return &lt;expr&gt; else return &lt;value&gt; &lt;expr&gt; ::= &lt;value&gt; &lt;value&gt; ::= Y &lt;expr&gt; ::= &lt;value&gt; &lt;value&gt; ::= Z &lt;value&gt; ::= Z </pre>