

```

<letter> ::= 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

<digit> ::= 0|1|2|3|4|5|6|7|8|9

<number> ::= <digit>
           | <number> <digit>

<word> ::= <letter>
          | <word> <letter>
          | <word> '_'

<word_list> ::= <word>
              | <word_list> <word>

<assignment_word> ::= <word> '=' <word>

<redirection> ::= '>' <word>
                | '<' <word>
                | <number> '>' <word>
                | <number> '<' <word>
                | '>>' <word>
                | <number> '>>' <word>
                | '<<' <word>
                | <number> '<<' <word>
                | '&' <number>
                | <number> '&' <number>
                | '>&' <number>
                | <number> '>&' <number>
                | '&' <word>
                | <number> '&' <word>
                | '>&' <word>
                | <number> '>&' <word>
                | '<<-' <word>
                | <number> '<<-' <word>
                | '>&' '-'
                | <number> '>&' '-'
                | '&' '-'
                | <number> '&' '-'
                | '&' <word>
                | <number> '<>' <word>
                | '<>' <word>
                | '>|' <word>
                | <number> '>|' <word>

<simple_command_element> ::= <word>
                          | <assignment_word>
                          | <redirection>

<redirection_list> ::= <redirection>
                    | <redirection_list> <redirection>

<simple_command> ::= <simple_command_element>
                  | <simple_command> <simple_command_element>

<command> ::= <simple_command>

<pattern> ::= <word>
           | <pattern> '|' <word>

<list> ::= <newline_list> <list0>

```

```
<list0> ::= <list1> '\n' <newline_list>
          | <list1> '&' <newline_list>
          | <list1> ';' <newline_list>
```

```
<list1> ::= <list1> '&&' <newline_list> <list1>
          | <list1> '||' <newline_list> <list1>
          | <list1> '&' <newline_list> <list1>
          | <list1> ';' <newline_list> <list1>
          | <list1> '\n' <newline_list> <list1>
          | <pipeline_command>
```

```
<list_terminator> ::= '\n'
                   | ';'
                   |
```

```
<newline_list> ::= <newline_list> '\n'
```

```
<simple_list> ::= <simple_list1>
                | <simple_list1> '&'
                | <simple_list1> ';'
                |
```

```
<simple_list1> ::= <simple_list1> '&&' <newline_list> <simple_list1>
                 | <simple_list1> '||' <newline_list> <simple_list1>
                 | <simple_list1> '&' <simple_list1>
                 | <simple_list1> ';' <simple_list1>
                 | <pipeline_command>
```

```
<pipeline_command> ::= <pipeline>
```

```
<pipeline> ::= <pipeline> '|' <newline_list> <pipeline>
              | <command>
```