```
letters = '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';
bool_digits = '0'|'1';
non_zero_digits = '1'|'2'|'3'|'4'|'5'|'6'|'7'|'8'|'9';
digits = '0'|non_zero_digits;
integer = non_zero_digits, {digits};
device_name = letters, {letters|digits|'_'};
number_inputs = non_zero_digits|'10'|'11'|'12'|'13'|'14'|'15'|'16';
clock_speed = integer;
switch_state = bool_digits;
input_pin = 'I',number_inputs;
input = input_pin|'DATA'|'CLK'|'SET'|'CLEAR';
output = 'Q'|'QBAR';

devices = "DEVICES:", device, {',', device};
device = CLOCK|SWITCH|LOGIC_DEVICE|DTYPE|XOR;
CLOCK = "CLOCK", device_name, clock_speed;
SWITCH = "SWITCH", device_name, switch_state;
LOGIC_DEVICE = logic_device_name, device_name, number_inputs;
logic_device_name = "AND"|"NAND"|"OR"|"NOR";
DTYPE = "DTYPE", device_name;
XOR = "XOR", device_name;

connections = "CONNECT:", [connection], {',', connection};
connection = device_name,['.', output],'>', device_name,'.', input;

monitors = "MONITOR:", [monitor], {',', monitor};
monitor = device_name,['.', output];

circuit = devices, ';',  connections, ';',  monitors, ';', "END;";
```