location	data
0x00	0xF2
0x01	0xEA
0x02	0x21
...	...
0xFE	0x00

main.pl $\theta \rightarrow$ [0x10, 0x28, ...

Lexer

[id, plus, id, assign, number]

Parser

9 digit

$D = 0, 1, 1 \ldots 19$

$D^* = \{ \varepsilon, 0, 1, 2 \ldots, 00, \ldots \}$

while (i<5)

①$\xrightarrow{D}$②$\xrightarrow{D}$③$\xrightarrow{D}$④$\xrightarrow{D}$⑤⑥

$(D \mid DO \mid (DOD))$

i++

$D\{5\}$

$D\{5\}$

①$\xrightarrow{D}$②$\xrightarrow{D}$⑩$\xrightarrow{}$⑩

D^7
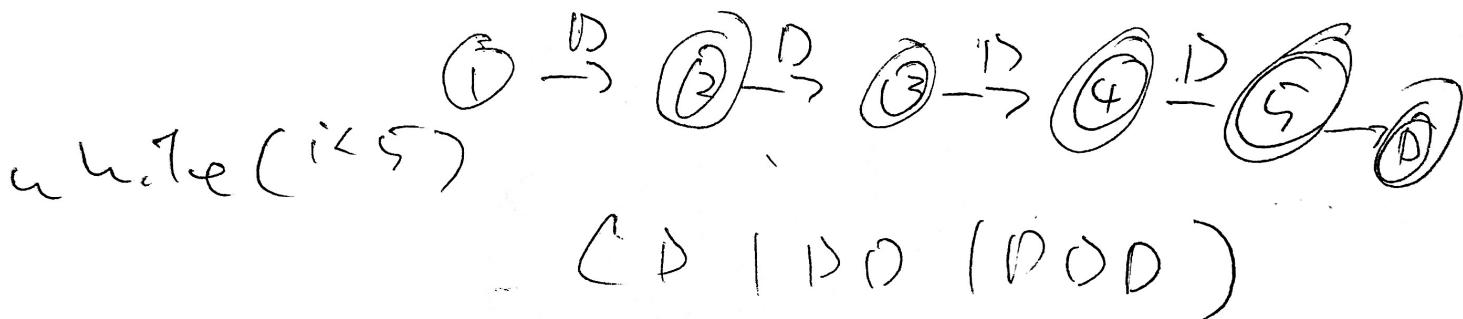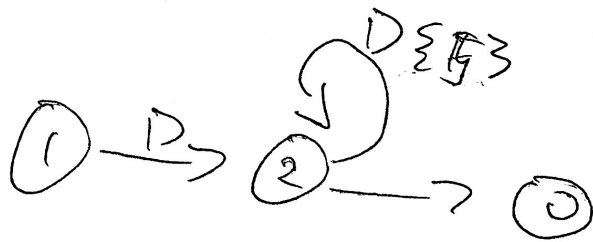
$D\{0, 7\}$

```
var x;
begin
  x = 20 + 3;
  if odd x then
    begin
      x = x + 1;
    end
end
```

$\langle ident, "x" \rangle$ $D = (0 | 1 | 2 | \cdots | 9)$

$(\ 0x78)\ 0x20(0x3\cancel{0})(0x32\ 0x30)\ 0x20\ (0x2B)$

x $\cancel{sp}$ $=$ 2   0   sp   +

$\langle equals \rangle$

$0x20\ (0x33)(0x3B)\ 0x0a\ (0x69\ 0x66)$

sp   3   ;   \n   i   f

$digit = DD^{*}$

_____

$\begin{vmatrix} d40 & d48 \\ 0x32 & 0x30 \end{vmatrix}$

  $\cdot$ 2   0

$\langle number, "20" \rangle$

"0' $= 0x30 = d49$ $\downarrow$

$\Downarrow$ $d20$

$-0x30\ -d49$ $\boxed{0x14}$

$0x00 = 0$

'2' $= 0x32$

$\underline{-0x30}$

$0x02$

IF, ODD, <id, "x">, THEN, BEGIN <id;"x">,
PLUS, <num, 17>, SEMI, END

statement
├── IF
├── condition
│   ├── ODD
│   └── expression
│   └── term
│   └── factor
│   └── <identi "x">
├── then
└── statement
    ├── BEGIN
    ├── statement
    │   └── ident string
    └── ...