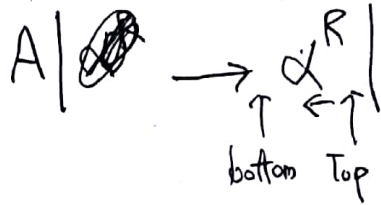


M127 Guess-and-verify Parser (Left Parser)

$$A \rightarrow \alpha \in P$$



Guess A as α
(produce A to α)

if $\alpha = X_1 X_2 \dots X_n$

$$A \mid \rightarrow X_n \dots X_2 X_1 \mid$$

left most symbol
on the stack top

verify a
(shift a)

$$a \in \Sigma$$

$$a \mid a \rightarrow \mid$$

stack top의 α^R terminal symbol $a \in \Sigma$ et
remained input string의 α leftmost symbol
 $a \in \Sigma$

가 α^R top에, stack에서 pop하-2 input string
remain

Ex) $L_{pal} = \{w \in \{0,1\}^* \mid w = w^R\}$

다음과 같은 방법으로도

$$G: S \rightarrow \epsilon \mid 0 \mid 1 \mid 0S0 \mid 1S1$$

$$S \Rightarrow 0S0 \Rightarrow 01S10 \Rightarrow 0110$$

$$\Rightarrow 01010$$

Guess & verify parser

$$P: S \rightarrow \epsilon \mid 0 \mid 1 \mid 0S0 \mid 1S1 \dots \text{guess } S \text{ as } \epsilon, 0, 1, 0S0 \text{ or } 1S1$$

$$0 \mid 0 \rightarrow \mid \text{ or } 1 \mid 1 \rightarrow \mid$$

Verify

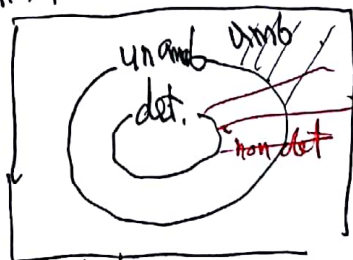
Ex. G-V parser

$$\$S \mid 0110\$ \Rightarrow \$0S0 \mid 0110\$ \Rightarrow \$0S \mid 110\$ \Rightarrow \$01S1 \mid 110\$$$

$$\Rightarrow \$01S \mid 10\$ \Rightarrow \$01 \mid 10\$ \Rightarrow \$0 \mid 0\$ \Rightarrow \$ \mid \$$$

L_{pal} is not deterministic.

$\therefore G_{pal}$ is not unambiguous
ambiguous.



LR(1) grammar \Leftrightarrow LR(1) Parser det.