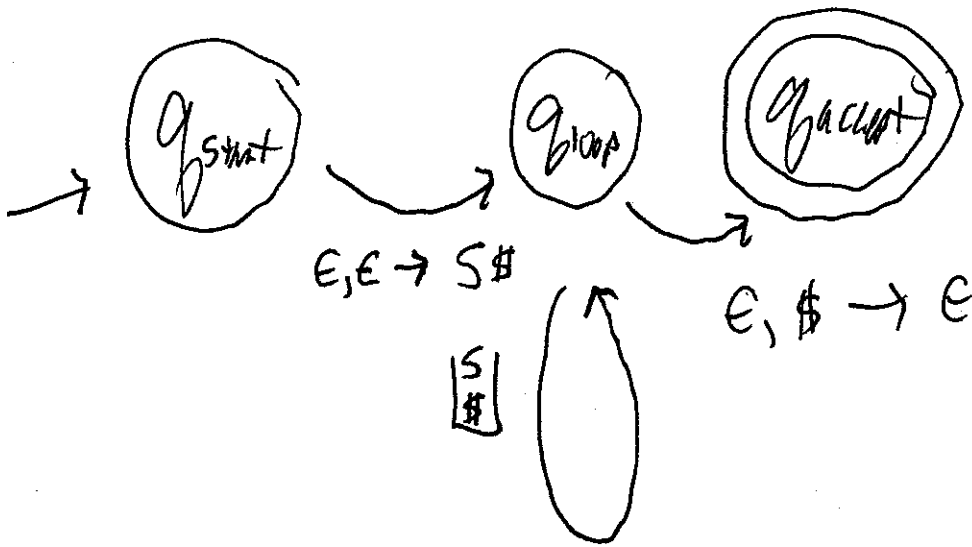


$$S \rightarrow 0S0 \mid 1S1 \mid \epsilon$$

wwA



CFG to PDA example

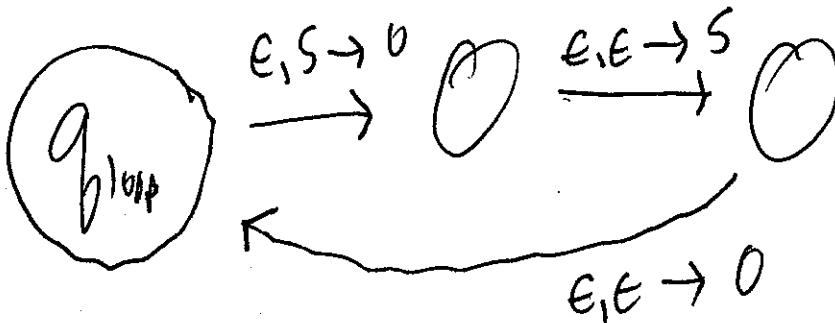
$$\epsilon, S \rightarrow 0S0$$

$$\epsilon, S \rightarrow 1S1$$

$$\epsilon, S \rightarrow \epsilon$$

$$0, 0 \rightarrow \epsilon$$

$$1, 1 \rightarrow \epsilon$$



$$\epsilon, S \rightarrow \underline{0S0}$$

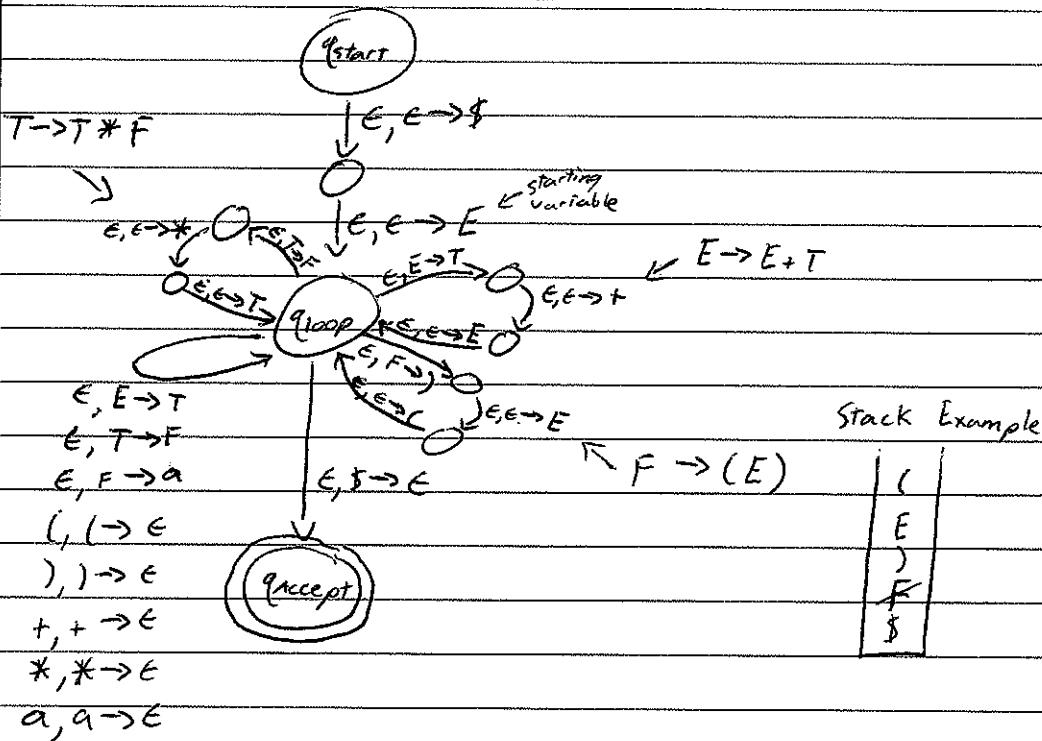
Active Learning Problem, ~~CFG~~ CFG \rightarrow PDA

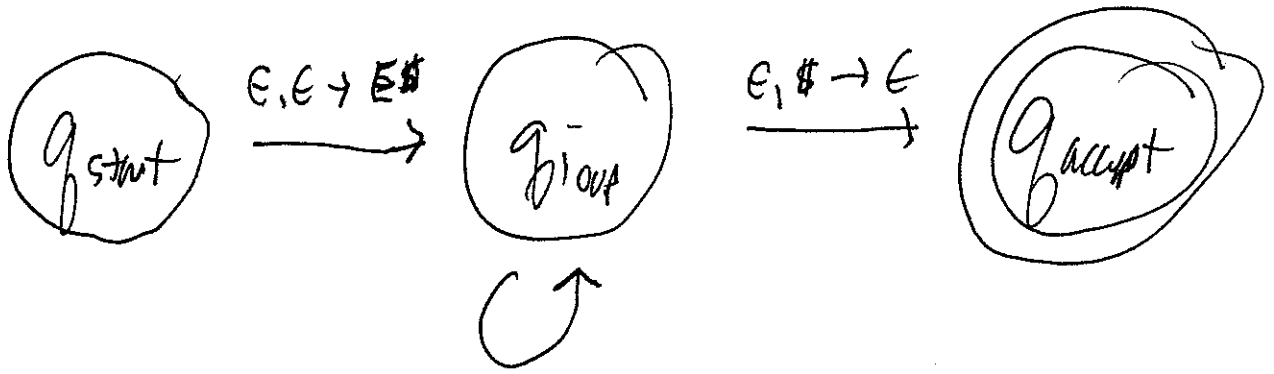
Ryan's Solution

Starting variable
↓

$E \rightarrow E + T \mid T$
 $T \rightarrow T * F \mid F$
 $F \rightarrow (E) \mid a$

Expanded Solution



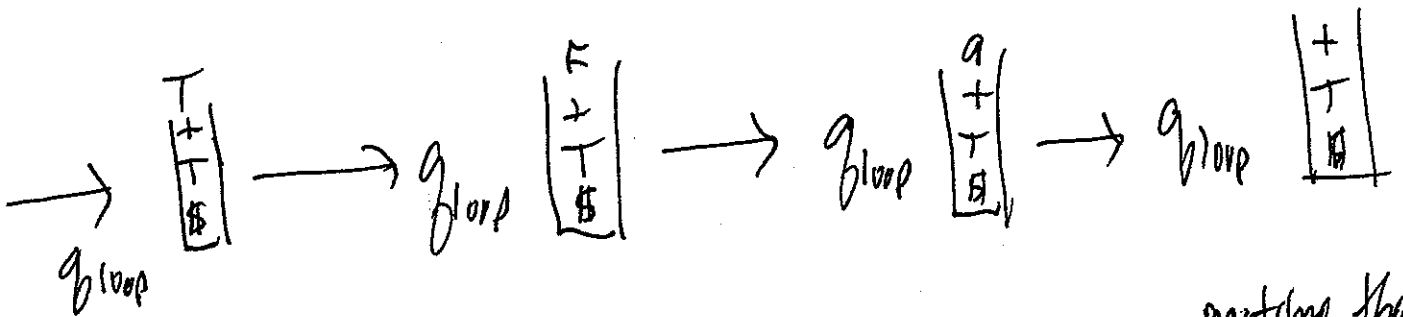


- | | |
|---------------------------------|-----------------------------|
| $\epsilon, E \rightarrow E+T$ | $(, (\rightarrow \epsilon$ |
| $\epsilon, E \rightarrow T$ | $),) \rightarrow \epsilon$ |
| $\epsilon, T \rightarrow T * A$ | $+, + \rightarrow \epsilon$ |
| $\epsilon, T \rightarrow F$ | $*, * \rightarrow \epsilon$ |
| $\epsilon, A \rightarrow (E)$ | $a, a \rightarrow \epsilon$ |
| $\epsilon, A \rightarrow a$ | |

Recognize

$a + a * a$
 $1 + 2 * 3$

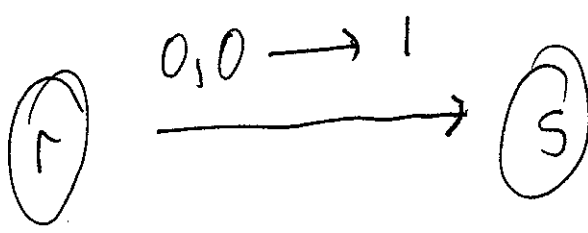
Partial
 Demo of how the
 PDA operates



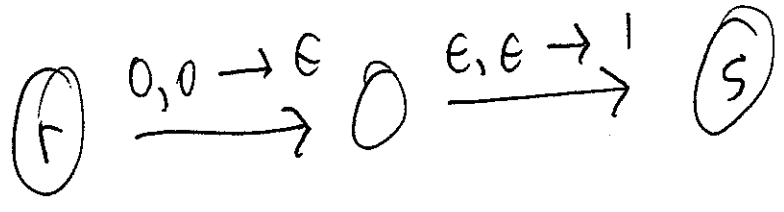
matching the 1

input $+ 2 * 3$

before



after



PDA \rightarrow CFS
 Preliminary
 Construction
 Example

Figure
2.18

$$A_{11} \rightarrow \epsilon$$

$$A_{33} \rightarrow \epsilon$$

$$A_{22} \rightarrow \epsilon$$

$$A_{44} \rightarrow \epsilon$$

third
bullet

$$A_{12} \rightarrow A_{13} A_{32}$$

$$A_{12} \rightarrow A_{12} A_{22}$$

$$A_{12} \rightarrow A_{11} A_{12}$$

$$A_{12} \rightarrow A_{14} A_{42}$$

second
bullet
example