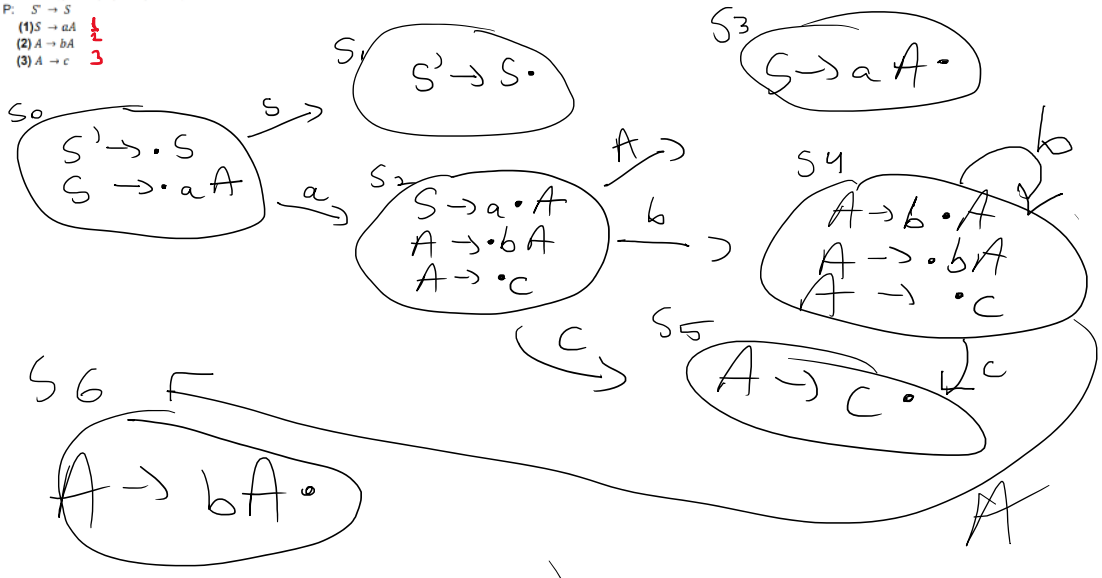
# LR(0) Parser

Wednesday, January 22, 2025 10:15 PM

**Ex.** $G = (\{S', S, A\}, \{a, b, c\}, P, S')$
P: $S' \to S$
(1) $S \to aA$ 1
(2) $A \to bA$ 2
(3) $A \to c$ 3




Closure $(S' \to \cdot S)$

$\Rightarrow$ $S' \to \cdot S$
$S \to \cdot aA$
$S \to \cdot A$

Action goto

| Items | Action | a | b | c | S | A |
|---|---|---|---|---|---|---|
| (S0) | shift | $S_2$ | | | $S_1$ | |
| $S_1$ | accept | | | | | |
| $S_2$ | shift | | $S_4$ | $S_5$ | | $S_3$ |
| $S_3$ | reduce 1 | | | | | |
| $S_4$ | shift | | $S_4$ | $S_5$ | | $S_6$ |
| $S_5$ | reduce 3 | | | | | |
| $S_6$ | reduce 2 | | | | | |

| Stack | Input | Output |
| --- | --- | --- |
| $S0 | abbc$ | ε |
| $S0aS2 | bbc$ | ε |
| $S0aS2bS4 | bc$ | |
| $S0aS2bS4bS4 | c$ | |
| $S0aS2bS4bS4cS5 | $ | |
| $S0aS2bS4bS4AS6 | | 3 |
| $S0aS2bS4AS6 | | 23 |
| $S0aS2AS3 | | 223 |
| $S0S1 | | 1223 |
| $accept | | |