

Sem 10 - LFTC

I Analizarea Descendență cu Revenire

1. Fie gramatica

$$S \rightarrow a S b S$$

$$S \rightarrow a S$$

$$S \rightarrow c$$

Folosind ADR, verificați dacă

$$a c b c \in L(G) ?$$

$$cb \in L(G) ?$$

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I Analizarea Descendentă cu Revenire

1. Fie gramatica

$$S \rightarrow \alpha S \beta S$$

$$S \rightarrow \alpha S$$

$$S \rightarrow c$$

Folosind ADR, verifică dacă

$$\alpha b c \in L(G) ?$$

$$cb \in L(G) ?$$

Pot: să cămăresc produsie cu S și mă produsie

$$S \rightarrow \alpha S \beta S \quad (S_1)$$

$$S \rightarrow \alpha S \quad (S_2)$$

$$S \rightarrow c \quad (S_3)$$

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I Analizarea Descendență cu Revenire

1. Fie gramatica

$$S \rightarrow \alpha S \beta S$$

$$S \rightarrow \alpha S$$

$$S \rightarrow c$$

Folosind ADR, verifică dacă

$$\alpha \beta c \in L(G) ?$$

$$\alpha b \in L(G) ?$$

Pos 1: matom fiecare producție cu S și măs. productie

$$S \rightarrow \alpha S \beta S \quad (S_1)$$

$$S \rightarrow \alpha S \quad (S_2)$$

$$S \rightarrow c \quad (S_3)$$

$$\alpha \beta c \in L(G) ?$$

$$(Q, \Gamma, E, S) \mid \overline{\text{expandare}}$$

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I Analizarea Desenolent cu Revenire

1. Fie gramatica

$$S \rightarrow \alpha S \beta S$$

$$S \rightarrow \alpha S$$

$$S \rightarrow c$$

Folosind ADR, verificati daca

$$\alpha \beta c \in L(G) ?$$

$$\alpha c \in L(G) ?$$

Pas 1: notam fiecare productie cu S_1 si m. productie

$$S \rightarrow \alpha S \beta S \quad (S_1)$$

$$S \rightarrow \alpha S \quad (S_2)$$

$$S \rightarrow c \quad (S_3)$$

$$\alpha \beta c \in L(G) ?$$

$$(q, 1, E, S) \xrightarrow{\text{expandare}} (q, 1, S_1, \alpha S \beta S) \xrightarrow{\text{arrows}}$$

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I Analizarea Descendență cu Revenire

1. Fie gramatica

$$S \rightarrow \alpha S \beta S$$

$$S \rightarrow \alpha S$$

$$S \rightarrow c$$

Folosind ADR, verifică dacă

$$\alpha \beta c \in L(G) ?$$

$$\alpha c \in L(G) ?$$

Pos 1: metoda fiecărui producție cu S , și nr. producției

$$S \rightarrow \alpha S \beta S \quad (S_1)$$

$$S \rightarrow \alpha S \quad (S_2)$$

$$S \rightarrow c \quad (S_3)$$

$$\alpha \beta c \in L(G) ?$$

$$(q, 1, E, S) \xrightarrow{\text{expandare}} (q, 1, S_1, \alpha S \beta S) \xrightarrow{\text{arrows}} (q, 2, S_1 \alpha, S \beta S)$$

expandare

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I Analizarea Desenelor cu Reveniri

1. Fișă gramaticală

$$S \rightarrow \alpha S \beta S$$

$$S \rightarrow \alpha S$$

$$S \rightarrow c$$

Folosind ADR, verifică dacă

$$\alpha c b c \in L(G) ?$$

$$cb \in L(G) ?$$

Pas 1: notăm fiecare producție cu S și nr. producției

$$S \rightarrow \alpha S \beta S \quad (S_1)$$

$$S \rightarrow \alpha S \quad (S_2)$$

$$S \rightarrow c \quad (S_3)$$

$$\alpha c b c \in L(G) ?$$

$$(Q, \Sigma, E, S) \xrightarrow{\text{expandare}} (Q, \Sigma, S_1, \alpha S \beta S) \xrightarrow{\text{arrows}} (Q, \Sigma, S_1, \alpha S \beta S)$$

$$\xrightarrow{\text{expandare}} (Q, \Sigma, S_1, \underline{\alpha S \beta S}) \xrightarrow{\text{inacces de moment}}$$

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I Analizarea Descendentă cu Revenire

1. Fie gramatica

$$S \rightarrow \alpha S \beta S$$

$$S \rightarrow \alpha S$$

$$S \rightarrow c$$

Folosind ADR, verifică dacă

$$\alpha \beta c \in L(G) ?$$

$$\alpha b \in L(G) ?$$

Pos 1: metoda fierbere producție cu S și nr. productie

$$S \rightarrow \alpha S \beta S \quad (S_1)$$

$$S \rightarrow \alpha S \quad (S_2)$$

$$S \rightarrow c \quad (S_3)$$

$$\alpha \beta c \in L(G) ?$$

$$(q, 1, E, S) \xrightarrow{\text{expandare}} (q, 1, S_1, \alpha S \beta S) \xrightarrow{\text{arrows}} (q, 2, S_1 \alpha, S \beta S)$$

$$\xrightarrow{\text{expandare}} (q, 2, S_1 \alpha S_1, \alpha S \beta S \beta S) \xrightarrow{\text{impreună de moment}} (q, 2, S_1 \alpha S_1, \alpha S \beta S \beta S)$$

alta
metodă

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I Analizorul Descendent cu Revenire

1. Fișă gramaticală

$$S \rightarrow \alpha S \beta S$$

$$S \rightarrow \alpha S$$

$$S \rightarrow c$$

Folosind ADR, verifică dacă

$$\alpha c \beta c \in L(G) ?$$

$$\alpha b \in L(G) ?$$

Pas 1: notăm fiecare producție cu S și nr. producție:

$$S \rightarrow \alpha S \beta S \quad (S_1)$$

$$S \rightarrow \alpha S \quad (S_2)$$

$$S \rightarrow c \quad (S_3)$$

$$\alpha c \beta c \in L(G) ?$$

$$(q, 1, E, S) \xrightarrow{\text{expandare}} (q, 1, S_1, \alpha S \beta S) \xrightarrow{\text{arrows}} (q, 2, S_1 \alpha, S \beta S)$$

$$\xrightarrow{\text{expandare}} (q, 2, S_1 \alpha S_1, \underline{\alpha S \beta S}) \xrightarrow[\text{încercare de moment}]{\text{incercare de moment}} (q, 2, S_1 \alpha S_1, \underline{\alpha S \beta S \beta S})$$

$$\xrightarrow[\text{fără mediere}]{\text{fără mediere}} (q, 2, S_1 \alpha S_2, \underline{\alpha S \beta S}) \xrightarrow[\text{încercare de moment}]{\text{încercare de moment}}$$

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I Analizareul Desenolent cu Revenire

1. Fie gramatica

$$S \rightarrow aSbS$$

$$S \rightarrow aS$$

$$S \rightarrow c$$

Folosind ADR, verificati daca

$$acbcb \in L(G) ?$$

$$cb \in L(G) ?$$

Pas 1: notam fiecare producție cu S și nr. producție

$$S \rightarrow aSbS \quad (S_1)$$

$$S \rightarrow aS \quad (S_2)$$

$$S \rightarrow c \quad (S_3)$$

$$acbcb \in L(G) ?$$

$$(2, 1, \mathcal{E}, S) \xrightarrow{\text{expandare}} (2, 1, S_1, aSbS) \xrightarrow{\text{arrows}} (2, 2, S_1a, SbS)$$

$$\xrightarrow{\text{expandare}} (2, 2, S_1aS_1, aSbSbS) \xrightarrow[\text{de moment}]{\text{inseccare}} (2, 2, S_1aS_1, aSbSbS)$$

$$\xrightarrow[\text{alta precedere}]{\text{alta precedere}} (2, 2, S_1aS_2, aSbS) \xrightarrow[\text{de moment}]{\text{inseccare}} (2, 2, S_1aS_2, aSbS) \xrightarrow[\text{alta precedere}]{\text{alta precedere}}$$

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I Analizarea Descendenta cu Revenire

1. Fie gramatica

$$S \rightarrow aSbS$$

$$S \rightarrow aS$$

$$S \rightarrow c$$

Folosind ADR, verificati dacă

$$acb \in L(G) ?$$

$$cb \in L(G) ?$$

Pas 1: notăm fiecare producție cu S și nr. producție

$$S \rightarrow aSbS \quad (S_1)$$

$$S \rightarrow aS \quad (S_2)$$

$$S \rightarrow c \quad (S_3)$$

$$acb \in L(G) ?$$

$$(2, 1, E, S) \xrightarrow{\text{expandare}} (2, 1, S_1, aSbS) \xrightarrow{\text{arrow}} (2, 2, S_1a, SbS)$$

$$\xrightarrow{\text{expandare}} (2, 2, S_1aS_1, \underline{aSbS}) \xrightarrow[\text{incearcă de moment}]{\text{incearcă}} (2, 2, S_1aS_1, aSbSbS)$$

$$\xrightarrow[\text{alta procedură}]{\text{incearcă}} (2, 2, S_1aS_2, \underline{aSbS}) \xrightarrow[\text{incearcă de moment}]{\text{incearcă}} (2, 2, S_1aS_2, aSbS) \xrightarrow{\text{alta procedură}}$$

$$(2, 2, S_1aS_3, cbS) \xrightarrow{\text{arrow}}$$

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T Analizorul Descendent cu Revenire

1. Fie gramatica

$$S \rightarrow aSBs$$

$$S \rightarrow aS$$

$$S \rightarrow c$$

Folosind ADR, verificati dacă

$$acbcb \in L(G) ?$$

$$cb \in L(G) ?$$

Pas 1: notăm fiecare producție cu S și nr. producției

$$S \rightarrow aSBs \quad (S_1)$$

$$S \rightarrow aS \quad (S_2)$$

$$S \rightarrow c \quad (S_3)$$

$$acbcb \in L(G) ?$$

$$(q, 1, E, S) \xrightarrow{\text{expandare}} (q, 1, S_1, aSBs) \xrightarrow{\text{arrows}} (q, 2, S_1a, SBs)$$

$$\xrightarrow{\text{expandare}} (q, 2, S_1aS_1, \underline{aSBs}) \xrightarrow[\text{de moment}]{\text{inseces}} (q, 2, S_1aS_1, aSBsBS)$$

$$\xrightarrow[\text{incedere}]{\text{alta}} (q, 2, S_1a\underline{S_2}, \underline{aSBs}) \xrightarrow[\text{de moment}]{\text{inseces}} (q, 2, S_1aS_2, aSBs) \xrightarrow[\text{incedere}]{\text{alta}}$$

$$(q, 2, S_1aS_3, CBS) \xrightarrow{\text{arrows}} (q, 3, S_1aS_3c, BS) \xrightarrow{\text{arrows}}$$

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I Analizarea Desenolent cu Revenire

1. Fie gramatica

$$S \rightarrow aSbS$$

$$S \rightarrow aS$$

$$S \rightarrow c$$

Folosind ADR, verificati daca

$$acbc \in L(G) ?$$

$$cb \in L(G) ?$$

Pas 1: notam fiecare producție cu S și nr. producție

$$S \rightarrow aSbS \quad (S_1)$$

$$S \rightarrow aS \quad (S_2)$$

$$S \rightarrow c \quad (S_3)$$

$$acbc \in L(G) ?$$

$$(q, 1, E, S) \xrightarrow{\text{expandare}} (q, 1, S_1, aSbS) \xrightarrow{\text{arrows}} (q, 2, S_1a, SbS)$$

$$\xrightarrow{\text{expandare}} (q, 2, S_1aS_1, \underline{aSbS}BS) \xrightarrow[\text{de moment}]{\text{insecuri}} (q, 2, S_1aS_1, aSbSBS)$$

$$\xrightarrow[\text{alta precedere}]{\text{insecuri}} (q, 2, S_1aS_2, \underline{aSbS}) \xrightarrow[\text{de moment}]{\text{insecuri}} (q, 2, S_1aS_2, aSbS) \xrightarrow[\text{alta precedere}]{\text{insecuri}}$$

$$(q, 2, S_1aS_3, cbS) \xrightarrow{\text{arrows}} (q, 3, S_1aS_3c, bS) \xrightarrow{\text{arrows}}$$

$$(q, 4, S_1aS_3cB, S) \xrightarrow{\text{expandare}}$$

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I Analizarea Descendenta cu Revenire

1. Fie gramatica

$$S \rightarrow aSbS$$

$$S \rightarrow aS$$

$$S \rightarrow c$$

Folosind ADR, verificati daca

$$acbcb \in L(G) ?$$

$$cb \in L(G) ?$$

Pas 1: notam fiecare productie cu S_1 si m. productie

$$S \rightarrow aSbS \quad (S_1)$$

$$S \rightarrow aS \quad (S_2)$$

$$S \rightarrow c \quad (S_3)$$

$$acbcb \in L(G) ?$$

$$(2, 1, E, S) \xrightarrow{\text{expandare}} (2, 1, S_1, aSbS) \xrightarrow{\text{arrows}} (2, 2, S_1a, SbS)$$

$$\xrightarrow{\text{expandare}} (2, 2, S_1aS_1, aSbSbS) \xrightarrow[\text{incearcare de moment}]{\text{incearcare}} (2, 2, S_1aS_1, aSbSbS)$$

$$\xrightarrow[\text{incearcare de moment}]{\text{alta incercare}} (2, 2, S_1aS_2, aSbS) \xrightarrow[\text{incearcare de moment}]{\text{incearcare}} (2, 2, S_1aS_2, aSbS)$$

$$(2, 2, S_1aS_3, cbS) \xrightarrow{\text{arrows}} (2, 3, S_1aS_3c, bS)$$

$$(2, 4, S_1aS_3cb, S) \xrightarrow{\text{expandare}} (2, 4, S_1aS_3cbS_1, aSbS) \xrightarrow[\text{incearcare de moment}]{\text{incearcare}}$$

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I Analizarea Descendenta cu Revenire

1. Fie gramatica

$$S \rightarrow aSbS$$

$$S \rightarrow aS$$

$$S \rightarrow c$$

Folosind ADR, verificati daca

$$acbcb \in L(G) ?$$

$$cb \in L(G) ?$$

Pas 1: notam faza de productie cu S si nr. productie

$$S \rightarrow aSbS \quad (S_1)$$

$$S \rightarrow aS \quad (S_2)$$

$$S \rightarrow c \quad (S_3)$$

$$acbcb \in L(G) ?$$

$$(2, 1, E, S) \xrightarrow{\text{expandare}} (2, 1, S_1, aSbS) \xrightarrow{\text{arrows}} (2, 2, S_1a, SbS)$$

$$\xrightarrow{\text{expandare}} (2, 2, S_1a \underline{S_1}, \underline{aSbS}) \xrightarrow[\text{de moment}]{\text{inacces}} (2, 2, S_1aS_1, aSbSbS)$$

$$\xrightarrow[\text{alta}\text{ }\text{frecventa}]{\text{alta}} (2, 2, S_1a \underline{S_2}, \underline{aSbS}) \xrightarrow[\text{de moment}]{\text{inacces}} (2, 2, S_1aS_2, aSbS) \xrightarrow[\text{alta}\text{ }\text{frecventa}]{\text{alta}}$$

$$(2, 2, S_1aS_3, cbS) \xrightarrow{\text{arrows}} (2, 3, S_1aS_3c, bS) \xrightarrow{\text{arrows}}$$

$$(2, 4, S_1aS_3c \underline{b}, S) \xrightarrow{\text{expandare}} (2, 4, S_1aS_3c \underline{b}S_1, aSbS) \xrightarrow[\text{de moment}]{\text{inacces}}$$

$$(2, 4, S_1aS_3c \underline{b}S_1, aSbS) \xrightarrow[\text{alta}\text{ }\text{frecventa}]{\text{alta}}$$

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I Analizarea Desenelor cu Revenire

1. Fie gramatica

$$S \rightarrow \alpha S b S$$

$$S \rightarrow \alpha S$$

$$S \rightarrow c$$

Folosind ADR, verificati daca

$$\alpha c b c \in L(G) ?$$

$$cb \in L(G) ?$$

Pas 1: notam fiecare producție cu S_i și nr. producție:

$$S \rightarrow \alpha S b S \quad (S_1)$$

$$S \rightarrow \alpha S \quad (S_2)$$

$$S \rightarrow c \quad (S_3)$$

$$\alpha c b c \in L(G) ?$$

$$(2, 1, E, S) \xrightarrow{\text{expandare}} (2, 1, S_1, \alpha S b S) \xrightarrow{\text{aruncare}} (2, 2, S_1 a, S b S)$$

$$\xrightarrow{\text{expandare}} (2, 2, S_1 a S_1, \underline{\alpha S b S} b S) \xrightarrow[\text{incearcă de moment}]{} (2, 2, S_1 a S_1, \alpha S b S b S)$$

$$\xrightarrow[\text{incearcă medie}]{} (2, 2, S_1 a S_2, \underline{\alpha S b S}) \xrightarrow[\text{incearcă de moment}]{} (2, 2, S_1 a S_2, \alpha S b S) \xrightarrow[\text{incearcă}]{} (2, 2, S_1 a S_2, \alpha S b S)$$

$$(2, 2, S_1 a S_3, c b S) \xrightarrow{\text{aruncare}} (2, 3, S_1 a S_3 c, b S) \xrightarrow{\text{aruncare}}$$

$$(2, 4, S_1 a S_3 c b, S) \xrightarrow{\text{expandare}} (2, 4, S_1 a S_3 c b S_1, \alpha S b S) \xrightarrow[\text{incearcă de moment}]{} (2, 4, S_1 a S_3 c b S_1, \alpha S b S)$$

$$\xrightarrow[\text{incearcă}]{} (2, 4, S_1 a S_3 c b S_2, \alpha S) \xrightarrow[\text{incearcă de moment}]{} (2, 4, S_1 a S_3 c b S_2, \alpha S)$$

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I Analizarea Descendențării cu Revenire

1. Fie gramatica

$$S \rightarrow \alpha S \beta S$$

$$S \rightarrow \alpha S$$

$$S \rightarrow c$$

Folosind ADR, verificati dacă

$$\alpha \beta \gamma \in L(G) ?$$

$$\alpha \gamma \in L(G) ?$$

Pas 1: notăm fiecare producție cu S_i și nr. producție

$$S \rightarrow \alpha S \beta S \quad (S_1)$$

$$S \rightarrow \alpha S \quad (S_2)$$

$$S \rightarrow c \quad (S_3)$$

$$\alpha \beta \gamma \in L(G) ?$$

$$(2, 1, E, S) \xrightarrow{\text{expandare}} (2, 1, S_1, \alpha S \beta S) \xrightarrow{\text{arrow}} (2, 2, S_1 \alpha, S \beta S)$$

$$\xrightarrow{\text{expandare}} (2, 2, S_1 \alpha S_1, \underline{\alpha S \beta S}) \xrightarrow[\text{de moment}]{\text{insercii}} (2, 2, S_1 \alpha S_1, \alpha S \beta S \beta S)$$

$$\xrightarrow[\text{alta}\text{ insercii}]{\text{alta}\text{ insercii}} (2, 2, S_1 \alpha S_2, \underline{\alpha S \beta S}) \xrightarrow[\text{de moment}]{\text{insercii}} (2, 2, S_1 \alpha S_2, \alpha S \beta S) \xrightarrow[\text{alta}\text{ insercii}]{\text{alta}\text{ insercii}}$$

$$(2, 2, S_1 \alpha S_3, \beta S) \xrightarrow{\text{arrow}} (2, 3, S_1 \alpha S_3 \gamma, \beta S) \xrightarrow{\text{arrow}}$$

$$(2, 4, S_1 \alpha S_3 \gamma \beta, S) \xrightarrow{\text{expandare}} (2, 4, S_1 \alpha S_3 \gamma \beta S_1, \alpha S \beta S) \xrightarrow[\text{de moment}]{\text{insercii de moment}}$$

$$(2, 4, S_1 \alpha S_3 \gamma \beta S_1, \alpha S \beta S) \xrightarrow[\text{alta}\text{ insercii}]{\text{alta}\text{ insercii}} (2, 4, S_1 \alpha S_3 \gamma \beta S_2, \alpha S) \xrightarrow[\text{de moment}]{\text{insercii de moment}}$$

$$(2, 4, S_1 \alpha S_3 \gamma \beta S_2, \alpha S) \xrightarrow[\text{alta}\text{ insercii}]{\text{alta}\text{ insercii}}$$

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I Analizare DESCENDENT cu Revenire

1. Fie gramatica

$$S \rightarrow aSbS$$

$$S \rightarrow aS$$

$$S \rightarrow c$$

Folosind ADR, verificati daca

$$acbca \in L(G)$$
 ?

$$cb \in L(G)$$
 ?

Pas 1: notam faza de producție cu S și nr. producție

$$S \rightarrow aSbS \quad (S_1)$$

$$S \rightarrow aS \quad (S_2)$$

$$S \rightarrow c \quad (S_3)$$

$$acbca \in L(G)$$
 ?

$$(2, 1, E, S) \xrightarrow{\text{expandare}} (2, 1, S_1, aSbS) \xrightarrow{\text{orans}} (2, 2, S_1a, SbS)$$

$$\xrightarrow{\text{expandare}} (2, 2, S_1aS_1, aSbSbS) \xrightarrow[\text{succes de moment}]{\text{inserare}} (2, 2, S_1aS_1, aSbSbS)$$

$$\xrightarrow[\text{inserare}]{\text{alta}} (2, 2, S_1aS_2, aSbS) \xrightarrow[\text{succes de moment}]{\text{inserare}} (2, 2, S_1aS_2, aSbS) \xrightarrow[\text{inserare}]{\text{alta}}$$

$$(2, 2, S_1aS_3, cbS) \xrightarrow{\text{orans}} (2, 3, S_1aS_3c, bS) \xrightarrow{\text{orans}}$$

$$(2, 4, S_1aS_3cb, S) \xrightarrow{\text{expandare}} (2, 4, S_1aS_3cbS_1, aSbS) \xrightarrow[\text{succes de moment}]{\text{inserare}}$$

$$(2, 4, S_1aS_3cbS_1, aSbS) \xrightarrow[\text{inserare}]{\text{alta}} (2, 4, S_1aS_3cbS_2, aS) \xrightarrow[\text{succes de moment}]{\text{inserare}}$$

$$(2, 4, S_1aS_3cbS_2, aS) \xrightarrow[\text{inserare}]{\text{alta}} (2, 4, S_1aS_3cbS_3, c) \xrightarrow{\text{orans}}$$

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T Analizarea Descendenta cu Reversiuni

1. Fie gramatica

$$S \rightarrow aSbS$$

$$S \rightarrow aS$$

$$S \rightarrow c$$

Folosind ADR, verificati daca

$$acbcb \in L(G) ?$$

$$cb \in L(G) ?$$

Pas 1: metoda fericirea productie cu S si nr. productie:

$$S \rightarrow aSbS \quad (S_1)$$

$$S \rightarrow aS \quad (S_2)$$

$$S \rightarrow c \quad (S_3)$$

$$acbcb \in L(G) ?$$

$$(2, 1, E, S) \xrightarrow{\text{expandare}} (2, 1, S_1, aSbS) \xrightarrow{\text{arrows}} (2, 2, S_1a, SbS)$$

$$\xrightarrow{\text{expandare}} (2, 2, S_1aS_1, aSbS) \xrightarrow[\text{succes de moment}]{\text{insecuritate}} (2, 2, S_1aS_1, aSbSbS)$$

$$\xrightarrow[\text{insecuritate de moment}]{\text{alta}} (2, 2, S_1aS_2, aSbS) \xrightarrow[\text{succes de moment}]{\text{insecuritate}} (2, 2, S_1aS_2, aSbS) \xrightarrow[\text{insecuritate de moment}]{\text{alta}}$$

$$(2, 2, S_1aS_3, cbS) \xrightarrow{\text{arrows}} (2, 3, S_1aS_3c, bS) \xrightarrow{\text{arrows}}$$

$$(2, 4, S_1aS_3cb, S) \xrightarrow{\text{expandare}} (2, 4, S_1aS_3cbS_1, aSbS) \xrightarrow[\text{succes de moment}]{\text{insecuritate}}$$

$$(2, 4, S_1aS_3cbS_1, aSbS) \xrightarrow[\text{insecuritate de moment}]{\text{alta}} (2, 4, S_1aS_3cbS_2, aS) \xrightarrow[\text{succes de moment}]{\text{insecuritate}}$$

$$(2, 4, S_1aS_3cbS_2, aS) \xrightarrow[\text{insecuritate de moment}]{\text{alta}} (2, 4, S_1aS_3cbS_3, c) \xrightarrow{\text{arrows}}$$

$$(2, 5, S_1aS_3cbS_3c, E) \xrightarrow{\text{succes}}$$

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T Analizarea Descendente cu Revenire

1. Fie gramatica

$$S \rightarrow aSbS$$

$$S \rightarrow aS$$

$$S \rightarrow c$$

Folosind ADR, verificati daca

$$acbcb \in L(G) ?$$

$$cb \in L(G) ?$$

Pas 1: notam faza de producție cu S și nr. producție.

$$S \rightarrow aSbS \quad (S_1)$$

$$S \rightarrow aS \quad (S_2)$$

$$S \rightarrow c \quad (S_3)$$

$$acbcb \in L(G) ?$$

$$(2, 1, E, S) \xrightarrow{\text{expandare}} (2, 1, S_1, aSbS) \xrightarrow{\text{arrows}} (2, 2, S_1a, SbS)$$

$$\xrightarrow{\text{expandare}} (2, 2, S_1aS_1, aSbS) \xrightarrow[\text{succes de moment}]{\text{insecare}} (2, 2, S_1aS_1, aSbSbS)$$

$$\xrightarrow[\text{alta incercare}]{\text{insecare}} (2, 2, S_1aS_2, aSbS) \xrightarrow[\text{succes de moment}]{\text{insecare}} (2, 2, S_1aS_2, aSbS) \xrightarrow[\text{alta incercare}]{\text{insecare}}$$

$$(2, 2, S_1aS_3, cbS) \xrightarrow{\text{arrows}} (2, 3, S_1aS_3c, bS) \xrightarrow{\text{arrows}}$$

$$(2, 4, S_1aS_3cb, S) \xrightarrow{\text{expandare}} (2, 4, S_1aS_3cbS_1, aSbS) \xrightarrow{\text{insecare}}$$

$$(2, 4, S_1aS_3cbS_1, aSbS) \xrightarrow[\text{alta incercare}]{\text{insecare}} (2, 4, S_1aS_3cbS_2, aS) \xrightarrow{\text{insecare}}$$

$$(2, 4, S_1aS_3cbS_2, aS) \xrightarrow[\text{alta incercare}]{\text{insecare}} (2, 4, S_1aS_3cbS_3, c) \xrightarrow{\text{arrows}}$$

$$(2, 5, S_1aS_3cbS_3c, E) \xrightarrow[\text{succes}]{\text{insecare}} (2, 5, S_1aS_3cbS_3c, E)$$

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T Analizorul Descendent cu Revenire

1. Fie gramatica

$$S \rightarrow aSbS$$

$$S \rightarrow aS$$

$$S \rightarrow c$$

Folosind ADR, verificati daca

$$acb \in L(G) ?$$

$$cb \in L(G) ?$$

Pos 1: metoda fericirea productie cu S si nr. productie

$$S \rightarrow aSbS \quad (S_1)$$

$$S \rightarrow aS \quad (S_2)$$

$$S \rightarrow c \quad (S_3)$$

$$acb \in L(G) ?$$

$$(2, 1, E, S) \xrightarrow{\text{expandare}} (2, 1, S_1, aSbS) \xrightarrow{\text{arrows}} (2, 2, S_1a, SbS)$$

$$\xrightarrow{\text{expandare}} (2, 2, S_1aS_1, aSbS) \xrightarrow[\text{succes de moment}]{\text{insecuritate}} (2, 2, S_1aS_1, aSbSbS)$$

$$\xrightarrow[\text{insecuritate}]{\text{alta incercare}} (2, 2, S_1aS_2, aSbS) \xrightarrow[\text{succes de moment}]{\text{insecuritate}} (2, 2, S_1aS_2, aSbS) \xrightarrow[\text{insecuritate}]{\text{alta incercare}}$$

$$(2, 2, S_1aS_3, cbS) \xrightarrow{\text{arrows}} (2, 3, S_1aS_3c, bS) \xrightarrow{\text{arrows}}$$

$$(2, 4, S_1aS_3cb, S) \xrightarrow{\text{expandare}} (2, 4, S_1aS_3cbS_1, aSbS) \xrightarrow[\text{succes de moment}]{\text{insecuritate}}$$

$$(2, 4, S_1aS_3cbS_1, aSbS) \xrightarrow[\text{insecuritate}]{\text{alta incercare}} (2, 4, S_1aS_3cbS_2, aS) \xrightarrow[\text{succes de moment}]{\text{insecuritate}}$$

$$(2, 4, S_1aS_3cbS_2, aS) \xrightarrow[\text{insecuritate}]{\text{alta incercare}} (2, 4, S_1aS_3cbS_3, c) \xrightarrow{\text{arrows}}$$

$$(2, 5, S_1aS_3cbS_3c, E) \xrightarrow{\text{succes}} (2, 5, S_1aS_3cbS_3c, E) \Rightarrow abc \in L(G)$$

Sem 10 - LFTC

T Analizarea Descendente cu Revenire

1. Fie gramatica

$$S \rightarrow aSbS$$

$$S \rightarrow aS$$

$$S \rightarrow c$$

Folosind ADR, verificati daca

$$acbcb \in L(G) ?$$

$$cb \in L(G) ?$$

Pas 1: notam fiecare productie cu S si nr. productiei

$$S \rightarrow aSbS \quad (S_1)$$

$$S \rightarrow aS \quad (S_2)$$

$$S \rightarrow c \quad (S_3)$$

$$acbcb \in L(G) ?$$

$$(2, 1, E, S) \xrightarrow{\text{expandare}} (2, 1, S_1, aSbS) \xrightarrow{\text{arrows}} (2, 2, S_1a, SbS)$$

$$\xrightarrow{\text{expandare}} (2, 2, S_1aS_1, aSbSbS) \xrightarrow[\text{succes de moment}]{\text{arrows}} (2, 2, S_1aS_1, aSbSbS)$$

$$\xrightarrow[\text{succes de moment}]{\text{arrows}} (2, 2, S_1aS_2, aSbS) \xrightarrow[\text{succes de moment}]{\text{arrows}} (2, 2, S_1aS_2, aSbS)$$

$$(2, 2, S_1aS_3, cbS) \xrightarrow{\text{arrows}} (2, 3, S_1aS_3c, bS)$$

$$(2, 4, S_1aS_3cb, S) \xrightarrow{\text{expandare}} (2, 4, S_1aS_3cbS_1, aSbS) \xrightarrow[\text{succes de moment}]{\text{arrows}}$$

$$(2, 4, S_1aS_3cbS_1, aSbS) \xrightarrow[\text{succes de moment}]{\text{arrows}} (2, 4, S_1aS_3cbS_2, aS) \xrightarrow[\text{succes de moment}]{\text{arrows}}$$

$$(2, 4, S_1aS_3cbS_2, aS) \xrightarrow[\text{succes de moment}]{\text{arrows}} (2, 4, S_1aS_3cbS_3, c)$$

$$(2, 5, S_1aS_3cbS_3c, E) \xrightarrow{\text{succes}} (2, 5, S_1aS_3cbS_3c, E) \Rightarrow acbcb \in L(G)$$

Sigur productiile utilizate pt. obtinerea curvantului este S_1, S_3, S_2

$cb \in L(G)$?

$(2, 1, E, S)$ expandere

$(2, 1, S_1, aSBs) \vdash$
Inucces de moment

$(3, 1, S_1, aSBs) \vdash$
alta incercare

$(2, 1, S_2, as) \vdash$
Inucces de moment

$(3, 1, S_2, as) \vdash$
alta incercare

$(2, 1, S_3, c) \vdash$
avans

$(2, 2, S_3c, E) \vdash$
Inucces de moment

$(3, 2, S_3c, E) \vdash$
revizuire

$(3, 1, S_3, c) \vdash$
alta incercare

$(e, 1, E, S) \Rightarrow cb \notin L(G)$

$cb \in L(G)$?

$(2, 1, E, S) \xrightarrow{\text{expand}} S$

$(2, 1, S_1, aSbS) \xrightarrow{\text{inuces of moment}} S$

$(3, 1, S_1, aSbS) \xrightarrow{\text{alta incercare}} S$

$(2, 1, S_2, aS) \xrightarrow{\text{inuces of moment}} S$

$(3, 1, S_2, aS) \xrightarrow{\text{alta incercare}} S$

$(2, 1, S_3, c) \xrightarrow{\text{inuces of moment}} S$

$(2, 2, S_3c, E) \xrightarrow{\text{inuces of moment}} S$

$(3, 2, S_3c, E) \xrightarrow{\text{inuces of moment}} S$

$(3, 1, S_3, c) \xrightarrow{\text{alta incercare}} S$

$(e, 1, E, S) \Rightarrow cb \notin L(G)$

Teme:

folosind ADR verificati

+a-a $\in L(G)$:

$S \rightarrow +SS$

$S \rightarrow -SS$

$S \rightarrow a$

$a+a \in L(G)$

$E \rightarrow T+E$

$E \rightarrow T$

$T \rightarrow F*T$

$T \rightarrow F$

$F \rightarrow (E)$

$F \rightarrow a$

Análisis sintáctico LR(0)

↪ se aplica alternativamente de obrepto

severita de inicio posurro de la L \Rightarrow R

1) Fie gramática

$$S \rightarrow AA$$

$$A \rightarrow a A$$

$$A \rightarrow b$$

2) Imbogotim gramática

$$S' \rightarrow S \quad (0)$$

$$S \rightarrow AA \quad (1)$$

$$A \rightarrow a A \quad (2)$$

$$A \rightarrow b \quad (3)$$

Análisis sintáctico LR(0)

↳ se aplicó ordenación de obrepto

↳ secuencia de interacciones posibles de la L → R

1) Fie gramática

$$S \rightarrow AA$$

$$A \rightarrow a A$$

$$A \rightarrow b$$

a) Imbogotim gramática

$$S' \rightarrow S \quad (0)$$

$$S \rightarrow AA \quad (1)$$

$$A \rightarrow a A \quad (2)$$

$$A \rightarrow b \quad (3)$$

Construcción colectiva canonico LR(0)

$$\begin{array}{c} i_0 \\ | \\ S' \rightarrow .S \end{array}$$

Análisis sintáctico LR(0)

↳ se aplica alternativa de obrepto

↳ escrita de inicio posurado de la L \Rightarrow R

1) Fie gramática

$$S \rightarrow AA$$

$$A \rightarrow \alpha A$$

$$A \rightarrow b$$

2) Imbogotim gramática

$$S' \rightarrow S \quad (0)$$

$$S \rightarrow AA \quad (1)$$

$$A \rightarrow \alpha A \quad (2)$$

$$A \rightarrow b \quad (3)$$

Construcción colección comúnico LR(0)

$$\begin{array}{c} i_0 \\ | \\ \overline{S' \rightarrow .S} \\ | \\ S \Rightarrow .AA \end{array}$$

Análisis sintáctico LR(0)

↳ \rightarrow se aplica óptimo ordenación de obrepto
↳ secuencia de intrucciones posuras de la L \rightarrow R

1) Fie gramática

$$S \rightarrow AA$$

$$A \rightarrow aA$$

$$A \rightarrow b$$

2) Imbogotim gramática

$$S' \rightarrow S \quad (0)$$

$$S \rightarrow AA \quad (1)$$

$$A \rightarrow aA \quad (2)$$

$$A \rightarrow b \quad (3)$$

Construcción colección comúnico LR(0)

i ₀	$S' \rightarrow .S$
	$S \rightarrow .AA$
	$A \rightarrow .aA$
	$A \rightarrow .b$

Analiză sintactică LR(0)

↪ se aplică operarea de obiecte
rezultată dintr-o parcurgere de la L la R

1) Fie gramatica

$$S \rightarrow AA$$

$$A \rightarrow aA$$

$$A \rightarrow b$$

a) Îmbogățim gramatica

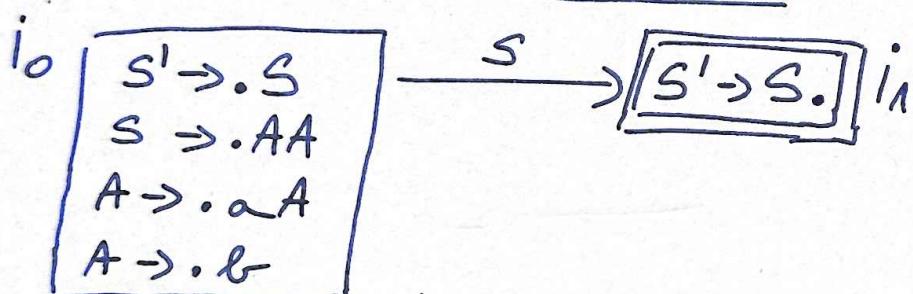
$$S' \rightarrow S \quad (0)$$

$$S \rightarrow AA \quad (1)$$

$$A \rightarrow aA \quad (2)$$

$$A \rightarrow b \quad (3)$$

Construim colectia comonica LR(0)



Analiză sintactică LR(0)

↪ se aplică operările de obiecte

se verifica dacă intrarea potrivită de la L în R

1) Fie gramatica

$$S \rightarrow AA$$

$$A \rightarrow aA$$

$$A \rightarrow b$$

2) Îmbogățim gramatica

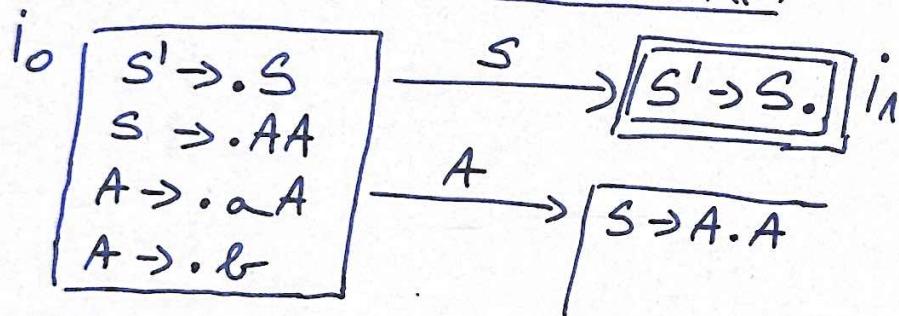
$$S' \rightarrow S \quad (0)$$

$$S \rightarrow AA \quad (1)$$

$$A \rightarrow aA \quad (2)$$

$$A \rightarrow b \quad (3)$$

Construim colecția comonică LR(0)



Analiză sintactică LR(0)

↪ se aplică ordinea de obicei

se scrie de la stânga la dreapta

1) Fie gramatică

$$S \rightarrow AA$$

$$A \rightarrow aA$$

$$A \rightarrow b$$

a) Îmbogățim gramatica

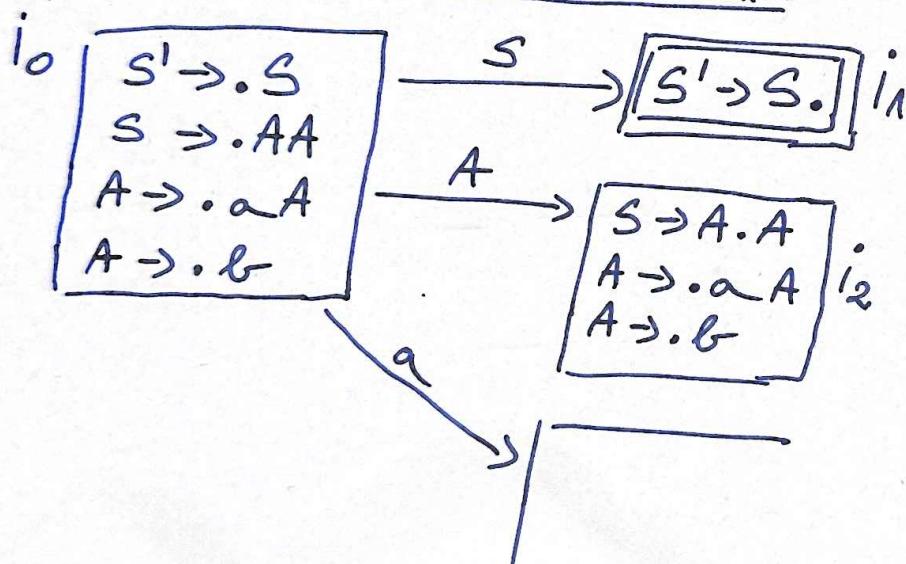
$$S' \rightarrow S \quad (0)$$

$$S \rightarrow AA \quad (1)$$

$$A \rightarrow aA \quad (2)$$

$$A \rightarrow b \quad (3)$$

Construim colecția cononică LR(0)



Analiză sintactică LR(0)

↪ se aplică operările de obiectiv

recunoscere a intrării posibile de la L la R

1) Fie gramatica

$$S \rightarrow AA$$

$$A \rightarrow a A$$

$$A \rightarrow b$$

a) Îmbogățim gramatica

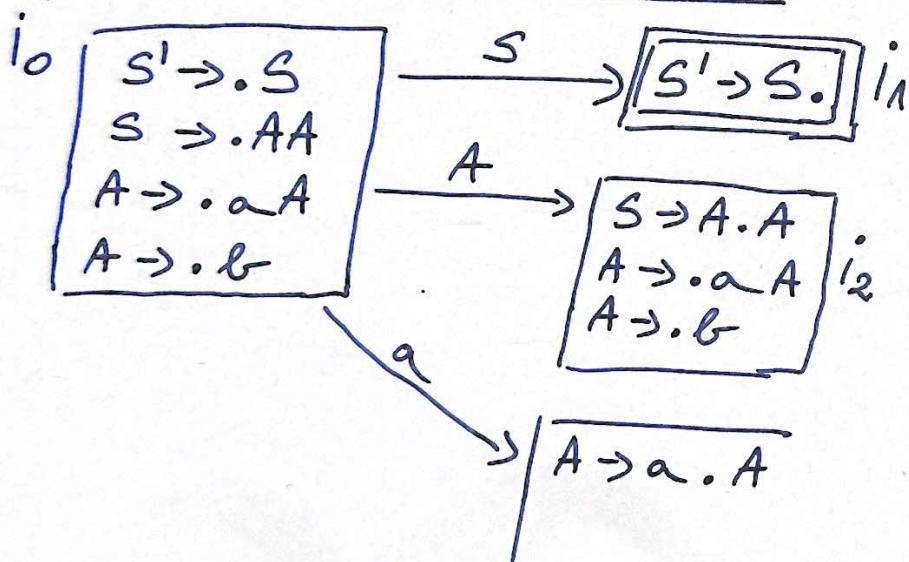
$$S' \rightarrow S \quad (0)$$

$$S \rightarrow AA \quad (1)$$

$$A \rightarrow a A \quad (2)$$

$$A \rightarrow b \quad (3)$$

Construim colecția canonico-LR(0)



Analiză sintactică $LR(0)$
 ↳ se aplică operările de obiectiv
 se crează o secvență de întări posibile de la L → R

1) Fie gramatică

$$S \rightarrow AA$$

$$A \rightarrow aA$$

$$A \rightarrow b$$

2) Îmbogățim gramatica

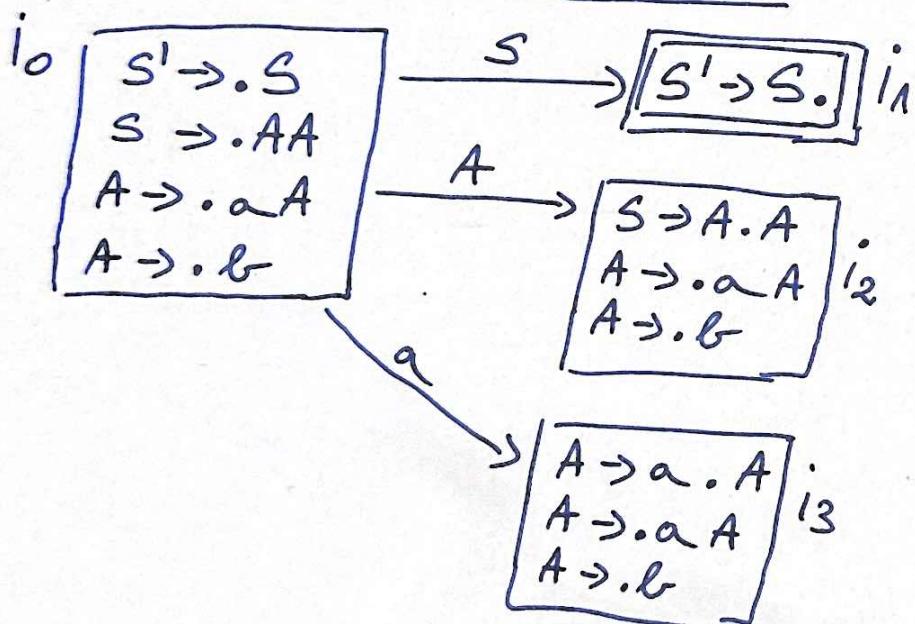
$$S' \rightarrow S \quad (0)$$

$$S \rightarrow AA \quad (1)$$

$$A \rightarrow aA \quad (2)$$

$$A \rightarrow b \quad (3)$$

Construim colecția canonico- $LR(0)$



Análisis sintáctico LR(0)

↳ se aplica derivación de abajo hacia arriba

↳ escrita de izquierda a derecha de la L → R

1) Fie gramática

$$S \rightarrow AA$$

$$A \rightarrow a A$$

$$A \rightarrow b$$

a) Imfogotim gramatica

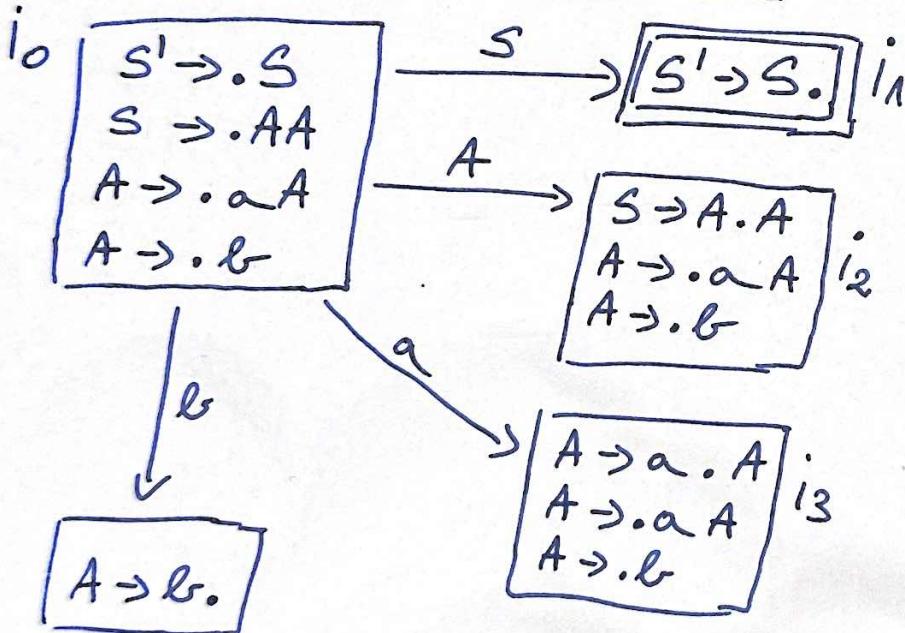
$$S' \rightarrow S \quad (0)$$

$$S \rightarrow AA \quad (1)$$

$$A \rightarrow a A \quad (2)$$

$$A \rightarrow b \quad (3)$$

Construim colectia comonica LR(0)



Analiză sintactică LR(0)

↪ se aplică operările de obiecte

secvența ole intrare poluare de la L to R

1) Fie gramatică

$$S \rightarrow AA$$

$$A \rightarrow a A$$

$$A \rightarrow b$$

2) Îmbogățim gramatica

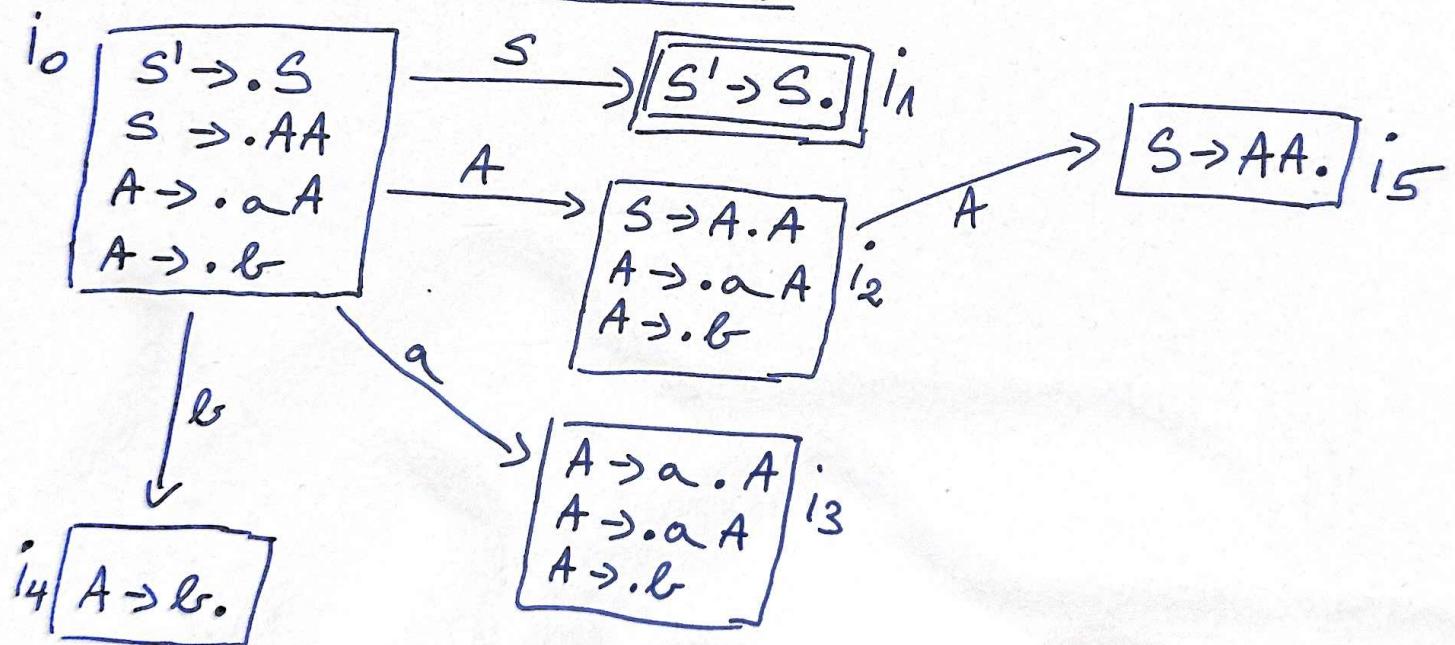
$$S' \rightarrow S \quad (0)$$

$$S \rightarrow AA \quad (1)$$

$$A \rightarrow a A \quad (2)$$

$$A \rightarrow b \quad (3)$$

Construim colecția canonico LR(0)



Analiză sintactică LR(0)

↪ se aplică operările de obiecte

recunoscere și înțelegere potrivită ale lui L → R

1) Fie gramatică

$$S \rightarrow AA$$

$$A \rightarrow a A$$

$$A \rightarrow b$$

2) Îmbogățim gramatică

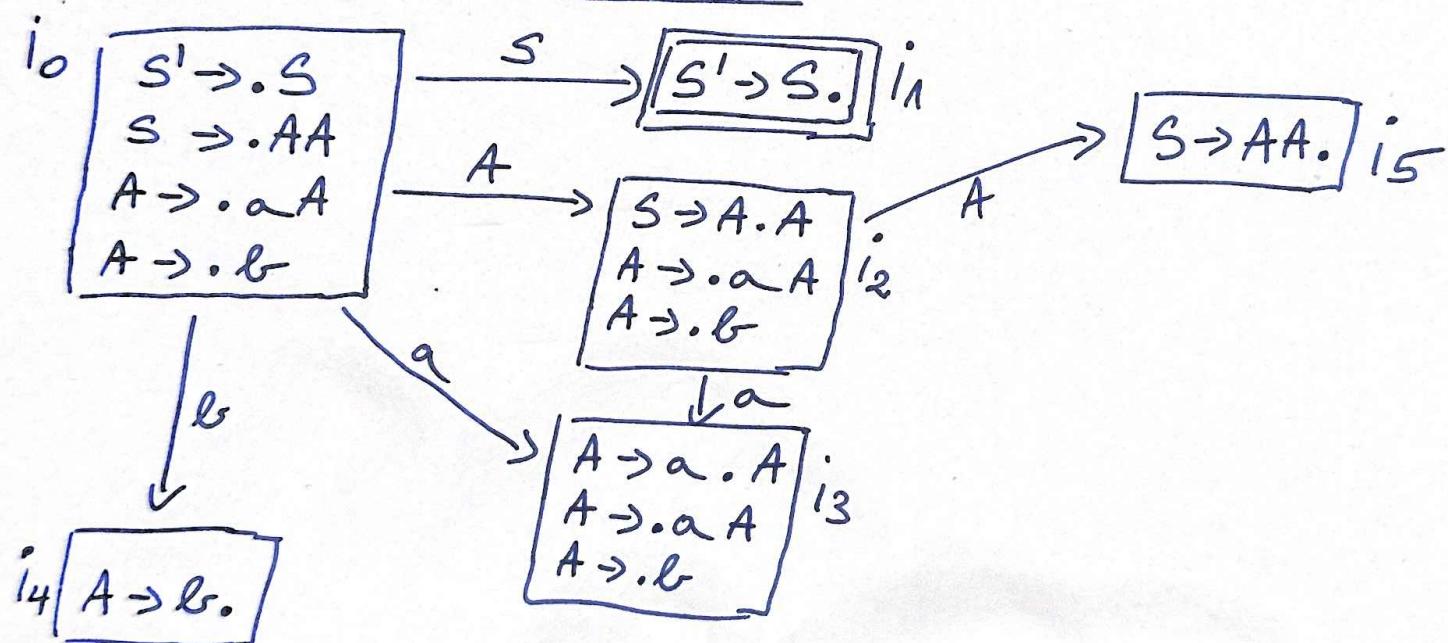
$$S' \rightarrow S \quad (0)$$

$$S \rightarrow AA \quad (1)$$

$$A \rightarrow a A \quad (2)$$

$$A \rightarrow b \quad (3)$$

Construim colecția canonico-LR(0)



Analiză sintactică $LR(0)$

\hookrightarrow se aplică operările de obiecte

secvență de interacție posibilă de la L \rightarrow R

1) Fie gramatică

$$S \rightarrow AA$$

$$A \rightarrow aA$$

$$A \rightarrow b$$

a) Îmbogățim gramatica

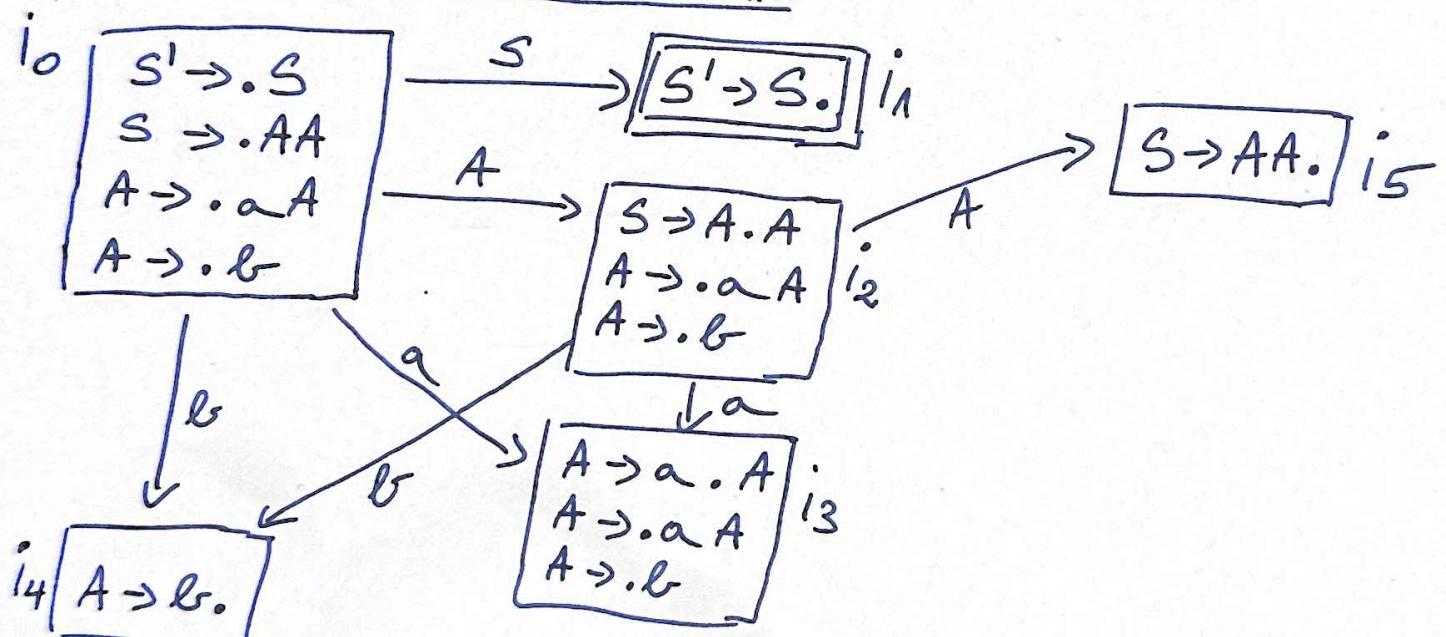
$$S' \rightarrow S \quad (0)$$

$$S \rightarrow AA \quad (1)$$

$$A \rightarrow aA \quad (2)$$

$$A \rightarrow b \quad (3)$$

Construim colectia conormica $LR(0)$



Analiză sintactică LR(0)

↪ aplică ordinea de obicei
acordată de întăreșterea de la L la R

1) Fie gramatică

$$S \rightarrow AA$$

$$A \rightarrow a A$$

$$A \rightarrow b$$

2) Îmbogățim gramatică

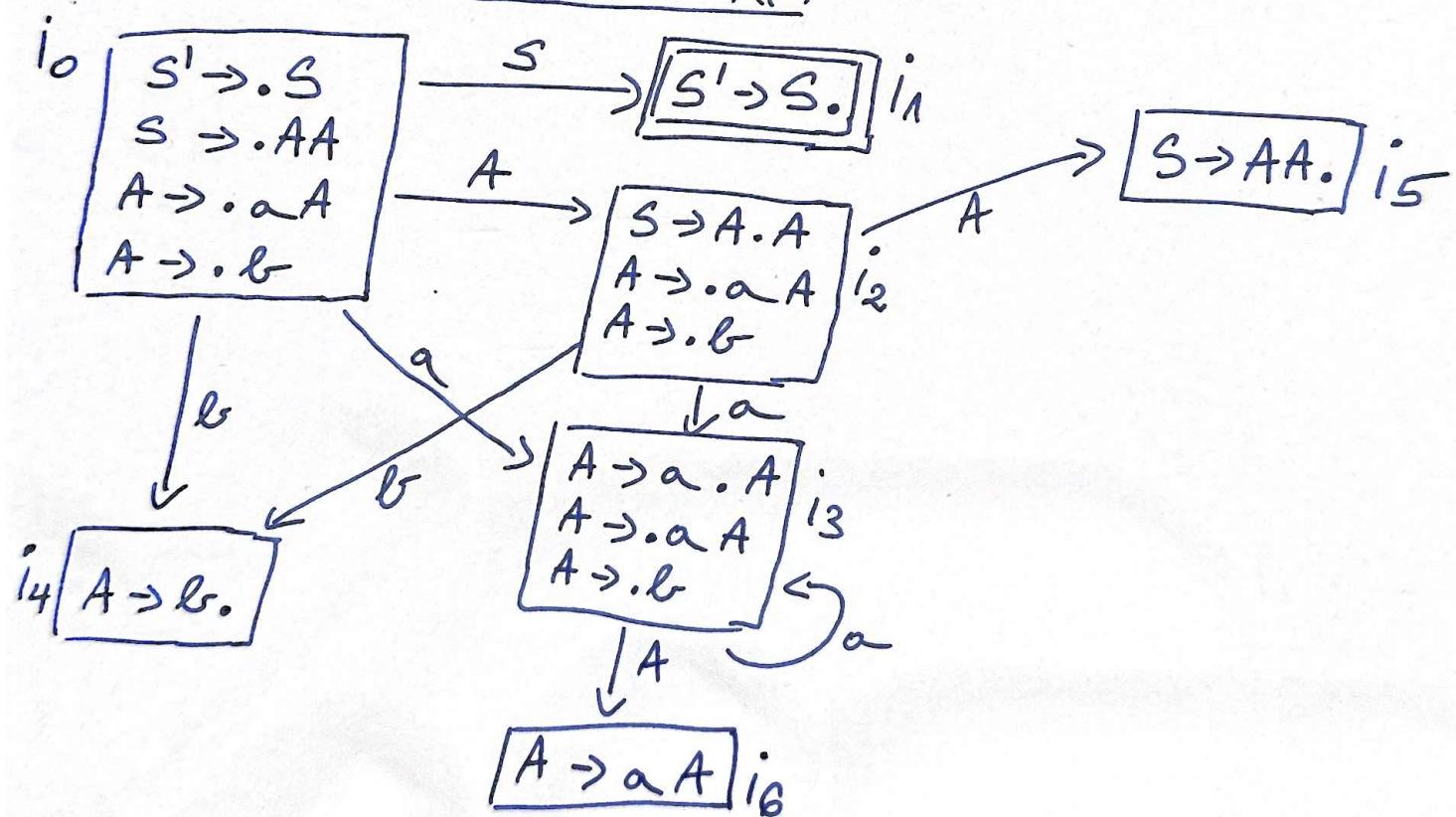
$$S' \rightarrow S \quad (0)$$

$$S \rightarrow AA \quad (1)$$

$$A \rightarrow a A \quad (2)$$

$$A \rightarrow b \quad (3)$$

Construim colecția canonico-LR(0)



Analiză sintactică LR(0)

↪ se aplică operările de obiectiv
securitatea ole intrare potrivită de la L la R

1) Fie gramatica

$$S \rightarrow AA$$

$$A \rightarrow a A$$

$$A \rightarrow b$$

2) Îmbogățim gramatica

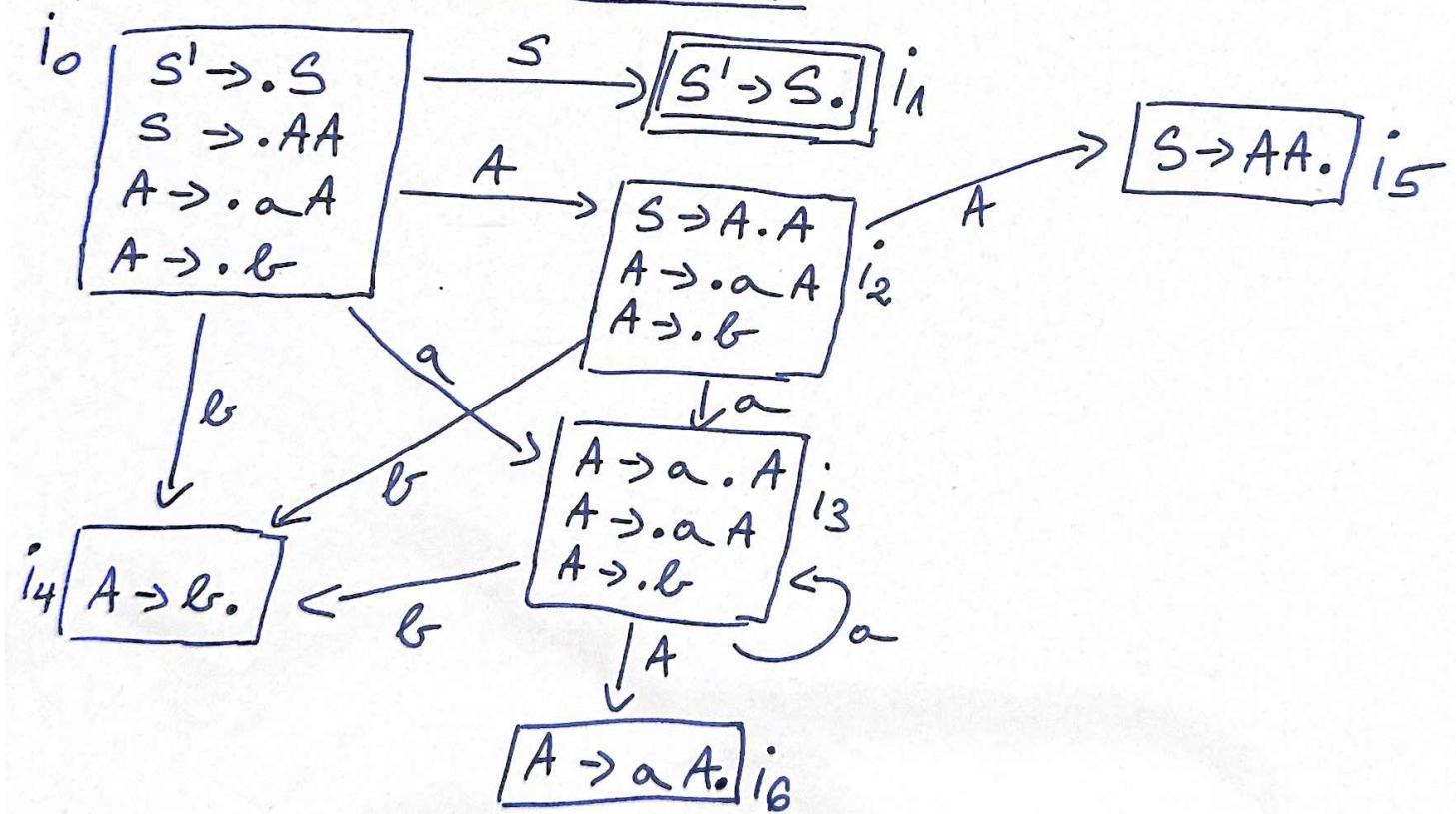
$$S' \rightarrow S \quad (0)$$

$$S \rightarrow AA \quad (1)$$

$$A \rightarrow a A \quad (2)$$

$$A \rightarrow b \quad (3)$$

Construim colectia cononica LR(0)



Tabel de omisión LR(0)

	Actuaciones
i ₀	
i ₁	
i ₂	
i ₃	
i ₄	
i ₅	
i ₆	

(0) A.L -> ε ε.0

ε.0</

Tabel de omzetting LR(0)

	Actiune	S	A	a	b
i ₀					
i ₁					
i ₂					
i ₃					
i ₄					
i ₅					
i ₆					

(0) A₁ → ε \rightarrow S₁

\rightarrow S₁ → ε \rightarrow A₁

ε → A₂ \rightarrow S₂

S₂ → ε \rightarrow A₂

ε → A₃ \rightarrow S₃

S₃ → ε \rightarrow A₃

ε → A₄ \rightarrow S₄

S₄ → ε \rightarrow A₄

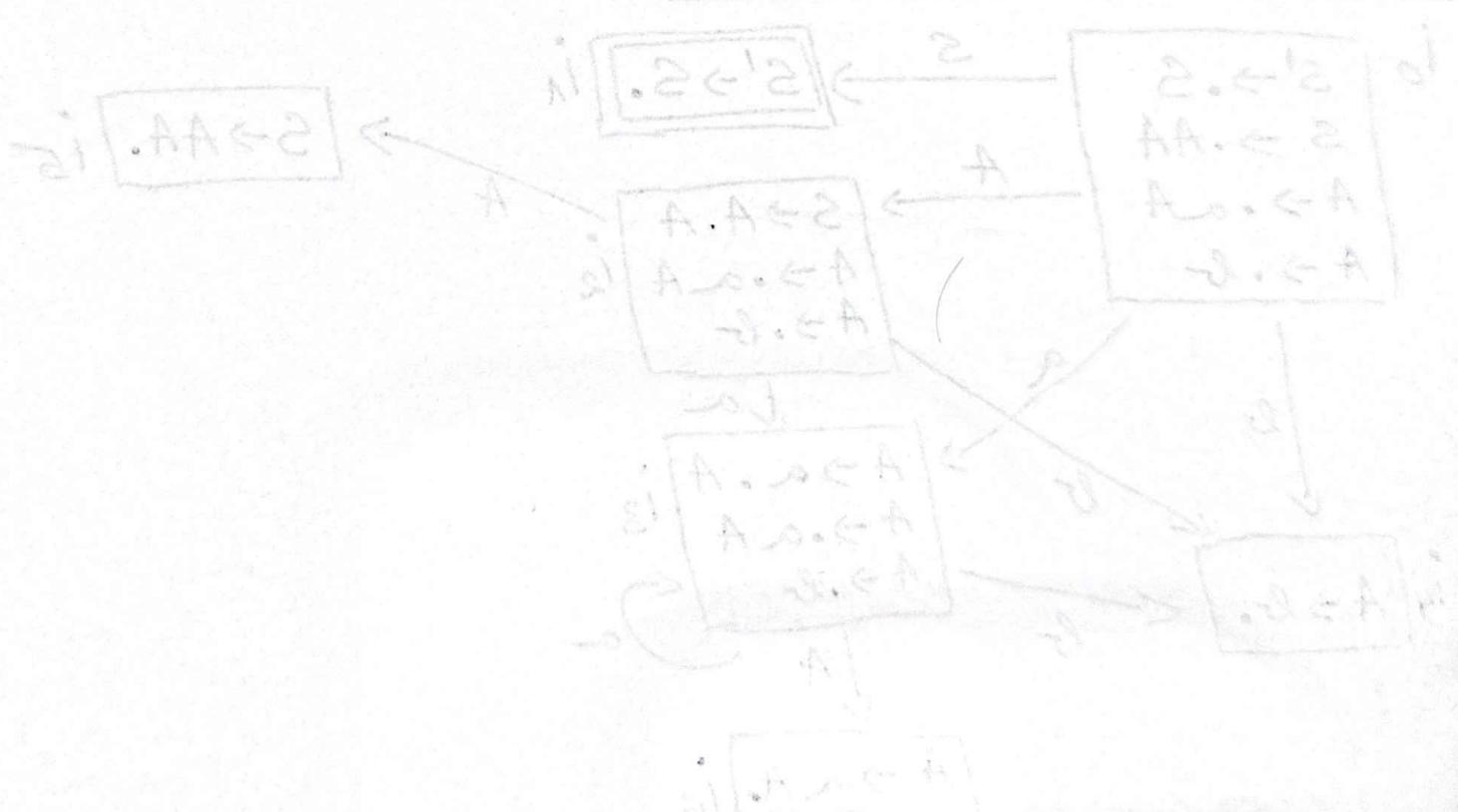
ε → A₅ \rightarrow S₅

S₅ → ε \rightarrow A₅

ε → A₆ \rightarrow S₆

S₆ → ε \rightarrow A₆

(0) R₁ → ε \rightarrow S₁



Tabel de omalizare LR(0)

	Actiune	S	A	a	b
i_0	deplasare				
i_1					
i_2					
i_3					
i_4					
i_5					
i_6					

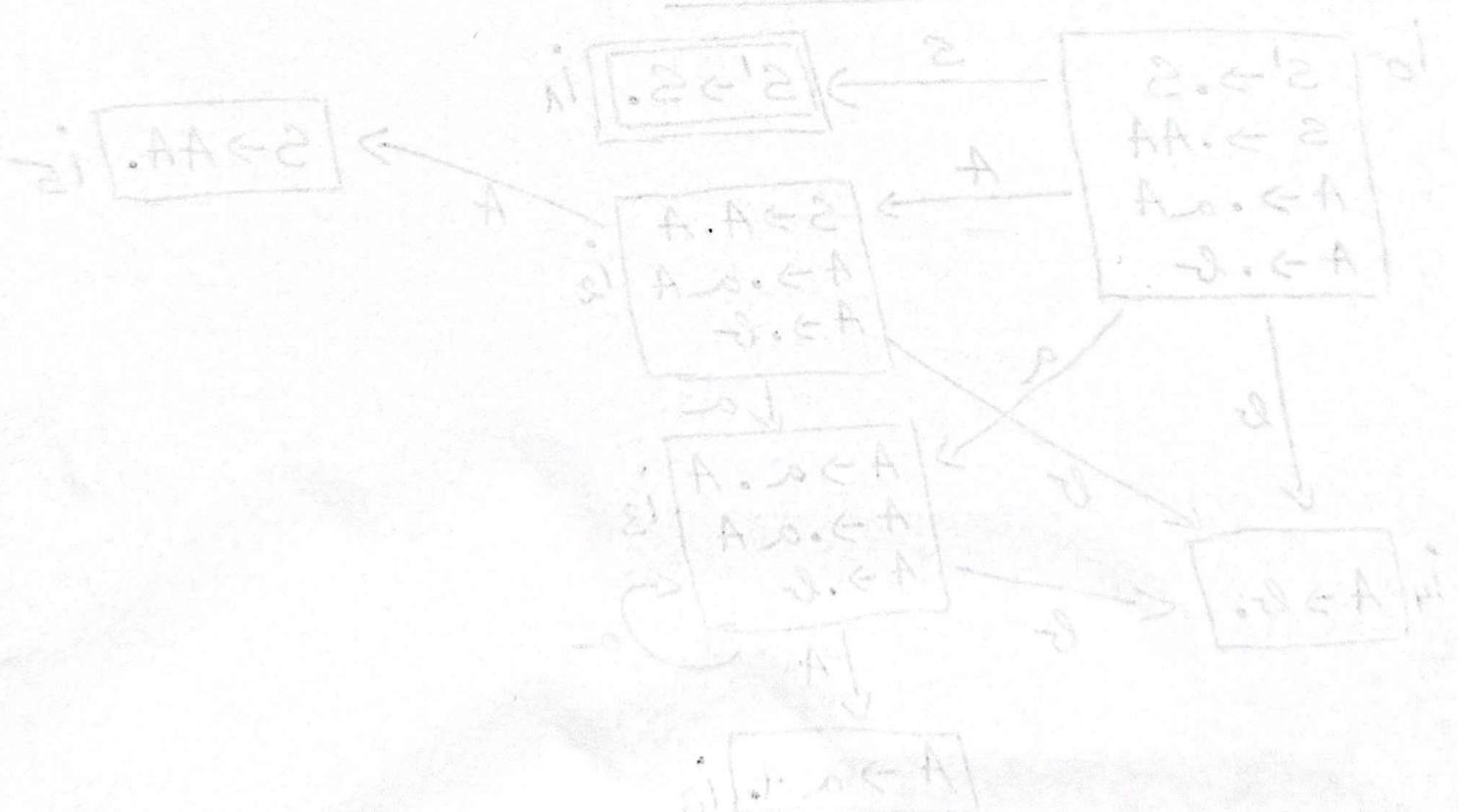
Aren 3 actiuni disponibile:

Shiftare / Deplasare \Rightarrow
doco $[A \rightarrow \alpha. \beta] \in i_i$

Reducere \Rightarrow
doco $[A \rightarrow \beta.] \text{ și } A \neq S'$

Acceptare \Rightarrow
doco $[S' \rightarrow S.] \in i_i$

Doco goto $(i_i, X) = i_j \Rightarrow \text{goto}(i, X) = j$



Tabel de analiza LR(0)

		Actione	S	A	a	b
i ₀	deplasare	i ₁	i ₂	i ₃	i ₄	
i ₁	acceptare					
i ₂	deplasare		i ₅	i ₃	i ₄	
i ₃	deplasare		i ₆	i ₃	i ₄	
i ₄	Reducere 3					
i ₅	Reducere 1					
i ₆	Reducere 2					

Aren 3 optiuni disponibile:

Shiftare / Deplasare \Rightarrow doco $[A \rightarrow \alpha \cdot a \beta] \in i_j$

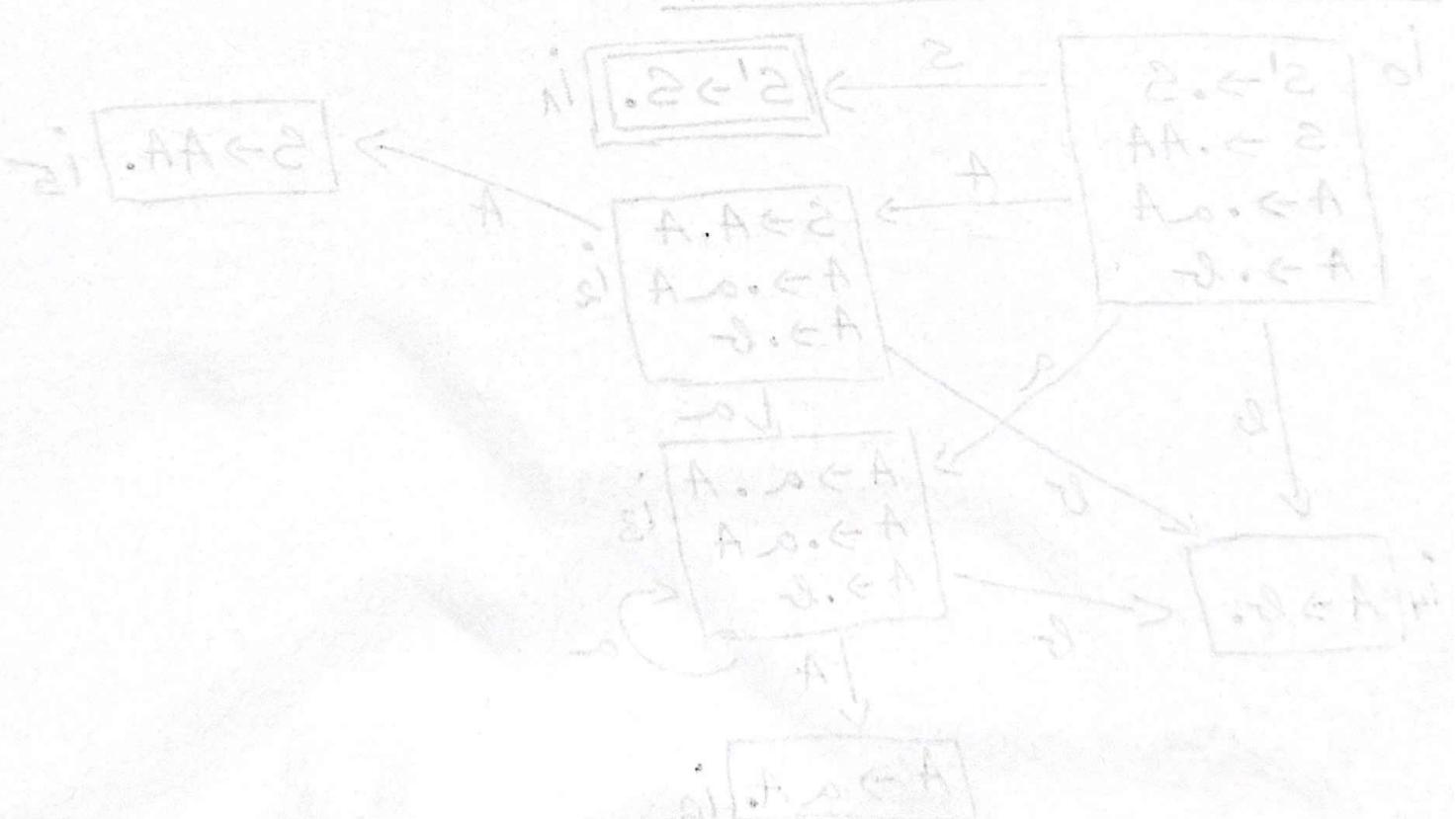
Reducere \Rightarrow

doco $[A \rightarrow \beta \cdot] \text{ si } A \neq S'$

Acceptare \Rightarrow

doco $[S' \rightarrow S \cdot] \in i_j$

Doco goto (i^j, X) = $i^{j'}$ \Rightarrow goto (i, X) = j'



Tabel de oranjizare LR(0)

	Actiune	S	A	a	b
i ₀	deplasare	i ₁	i ₂	i ₃	i ₄
i ₁	acceptare				
i ₂	deplasare		i ₅	i ₃	i ₄
i ₃	deplasare	i ₆	i ₃	i ₄	
i ₄	Reducere 3				
i ₅	Reducere 1				
i ₆	Reducere 2				

Aren 3 optiuni disponibile:

Shiftare / Deplasare \Rightarrow doco $[A \rightarrow \alpha \cdot a \beta] \in i_j$

Reducere \Rightarrow

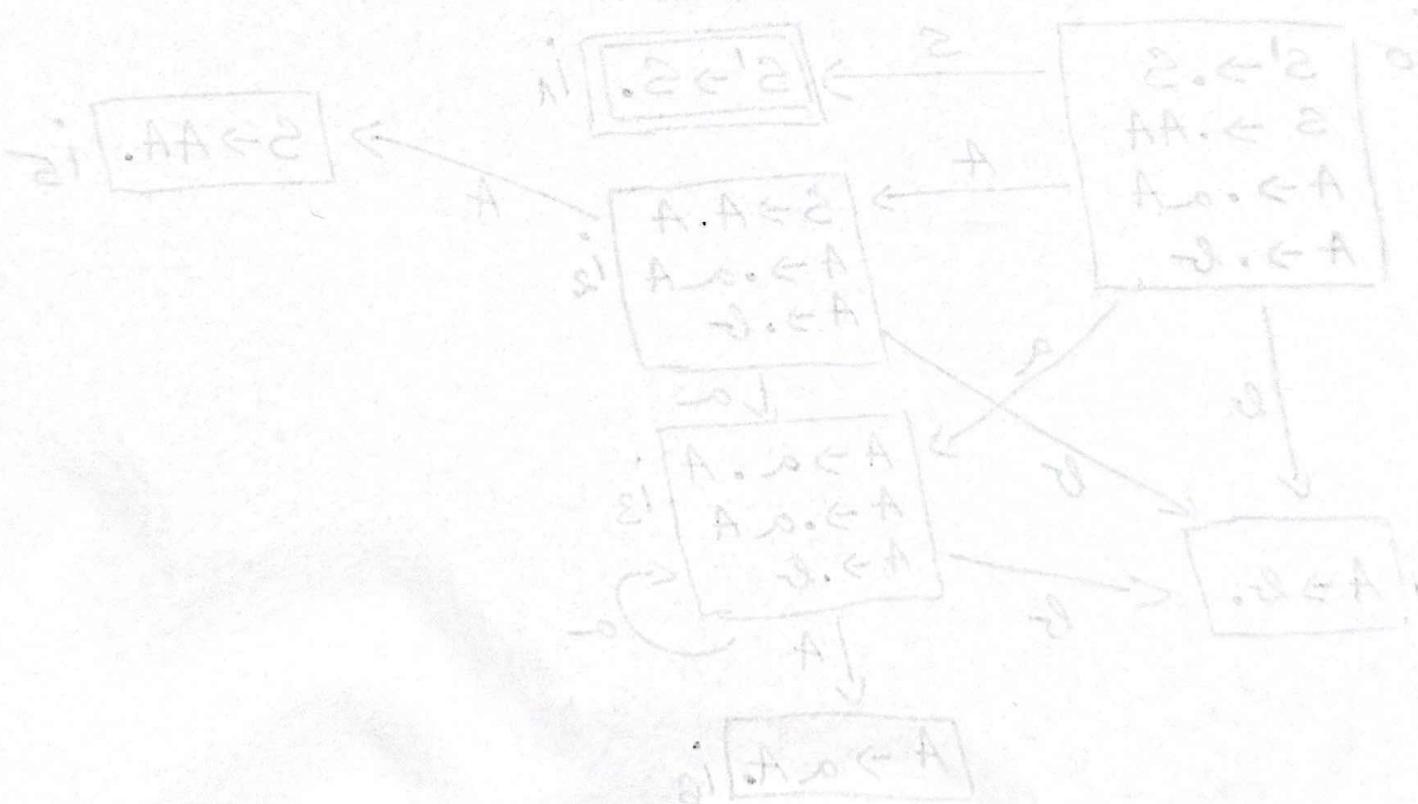
doco $[A \rightarrow \beta \cdot] \text{ și } A \neq S'$

Acceptare \Rightarrow

doco $[S' \rightarrow S \cdot] \in i_j$

Doco goto (i^j_i, X) = $i^j_j \Rightarrow \text{goto}(i, X) = j$

\Rightarrow Nu avem conflict \Rightarrow gramatica este LR(0)



Tabel de omabilă LR(0)

Actiune		S	A	a	b
i ₀	deplasare	i ₁	i ₂	i ₃	i ₄
i ₁	acceptare				
i ₂	Deplasare		i ₅	i ₃	i ₄
i ₃	Deplasare		i ₆	i ₃	i ₄
i ₄	Reducere 3				
i ₅	Reducere 1				
i ₆	Reducere 2				

Arenm 3 actiuni disponibile:

Shiftare / Deplasare \Rightarrow doco $[A \rightarrow \alpha. \alpha \beta] \in i_j$

Reducere \Rightarrow

doco $[A \rightarrow \beta.] \wedge A \neq S'$

Acceptare \Rightarrow

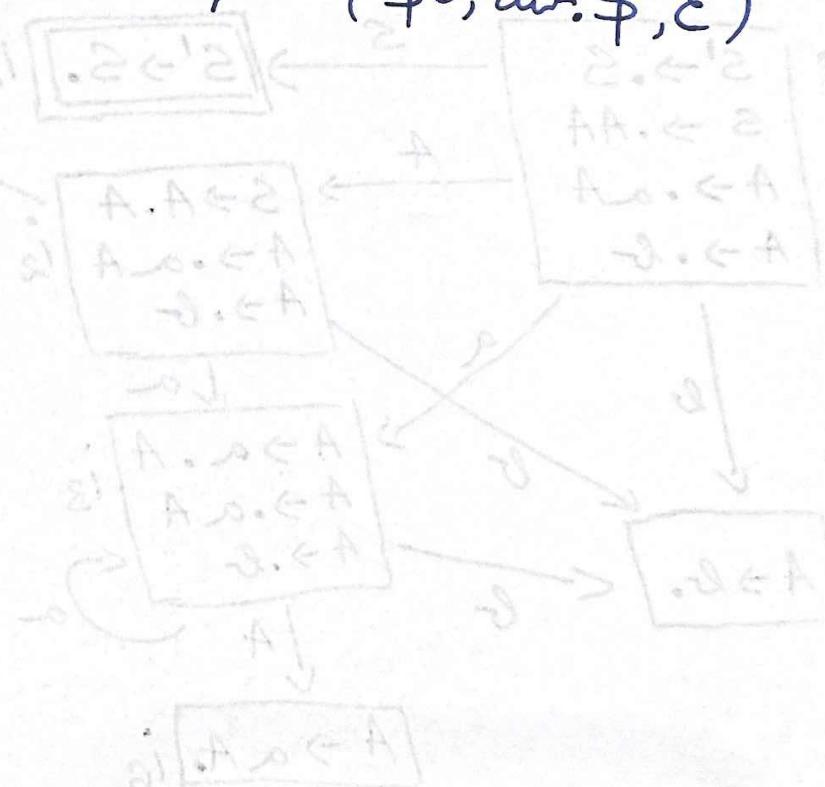
doco $[S' \rightarrow S.] \in i_j$

Doco goto (i^j, X) = $i^{j'}$ \Rightarrow goto (i, X) = j'

\Rightarrow Nu avem conflicte \Rightarrow gramatica este LR(0)

- b) $S \rightarrow AA$ (1)
- $A \rightarrow aA$ (2)
- $A \rightarrow b$ (3)

Stare initială ($\$0, cur. \$, \epsilon$)



Tabel de analiza LR(0)

Actiune		S	A	a	b
i ₀	deplasare	i ₁	i ₂	i ₃	i ₄
i ₁	acceptare				
i ₂	deplasare		i ₅	i ₃	i ₄
i ₃	deplasare		i ₆	i ₃	i ₄
i ₄	Reducere 3				
i ₅	Reducere 1				
i ₆	Reducere 2				

Avem 3 optiuni disponibile:

Shiftare / Deplasare \Rightarrow

daca $[A \rightarrow \alpha. \alpha\beta] \in i_j$

Reducere \Rightarrow

daca $[A \rightarrow \beta.] \wedge A \neq S'$

Acceptare \Rightarrow

daca $[S' \rightarrow S.] \in i_j$

Daca $goto(i^j, X) = i^k \Rightarrow goto(i, X) = j$

\Rightarrow Nu avem conflicte \Rightarrow gramatica este $LR(0)$

b) $S \rightarrow AA$ (1)

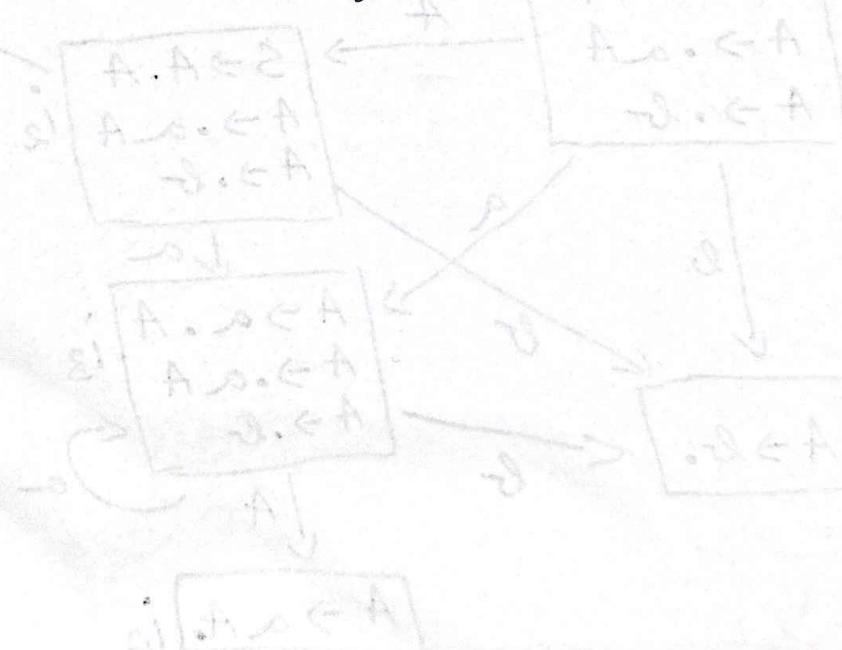
$A \rightarrow \alpha A$ (2)

$A \rightarrow b$ (3)

$(\$0, abab \$, \epsilon) \vdash$

Stare initială ($\$0, \text{cur. } \$, \epsilon$)

abab $\in L(G)$?



Tabel de ornameză LR(0)

	Actiune	S	A	a	b
i ₀	deplasare	i ₁	i ₂	i ₃	i ₄
i ₁	acceptare				
i ₂	deplasare		i ₅	i ₃	i ₄
i ₃	deplasare		i ₆	i ₃	i ₄
i ₄	Reducere 3				
i ₅	Reducere 1				
i ₆	Reducere 2				

Aren 3 actiuni disponibile:

Shiftare / Deplasare \Rightarrow doco $[A \rightarrow \alpha \cdot a \beta] \in i_j$

Reducere \Rightarrow

doco $[A \rightarrow \beta \cdot] \wedge A \neq S'$

Acceptare \Rightarrow

doco $[S' \rightarrow S \cdot] \in i_j$

Doco goto (i^j, X) = $i^j \Rightarrow \text{goto}(i, X) = j^i$

\Rightarrow Nu avem conflict \Rightarrow gramatica este LR(0)

b) $S \rightarrow AA$ (1)

$A \rightarrow aA$ (2)

$A \rightarrow b$ (3)

$(\$^0, abab \$, \epsilon) \xrightarrow{\text{deplasare}} (\$a^3, bab \$, \epsilon)$

Stare initială ($\$, \text{cur. } \$, \epsilon$)

abab $\in L(G)$?

Tabel de ornameză LR(0)

	Actiune	S	A	a	b
i ₀	deplasare	i ₁	i ₂	i ₃	i ₄
i ₁	acceptare				
i ₂	deplasare		i ₅	i ₃	i ₄
i ₃	deplasare		i ₆	i ₃	i ₄
i ₄	Reducere 3				
i ₅	Reducere 1				
i ₆	Reducere 2				

Arenm 3 optiuni disponibile:

Shiftare / Deplasare \Rightarrow

doco $[A \rightarrow \alpha \cdot \alpha \beta] \in i_j$

Reducere \Rightarrow

doco $[A \rightarrow \beta \cdot] \text{ și } A \neq S'$

Acceptare \Rightarrow

doco $[S' \rightarrow S \cdot] \in i_j$

Doco goto (i_j, X) = $i_{j'}$ \Rightarrow goto (i, X) = j'

\Rightarrow Nu avem conflicte \Rightarrow gramatica este LR(0)

b) $S \rightarrow AA$ (1)
 $A \rightarrow a \cdot A$ (2)
 $A \rightarrow b \cdot$ (3)

Stare initială ($\$0, \text{cur.} \$, \epsilon$)

abab $\in L(G)$?

$(\$0, abab \$, \epsilon) \xrightarrow{\text{deplasare}} (\$0a3, bab \$, \epsilon) \xrightarrow{\text{deplasare}}$
 $(\$0a3b4, ab \$, \epsilon)$

Tabel de oranjiza LR(0)

	Actiune	S	A	a	b
i ₀	deplasare	i ₁	i ₂	i ₃	i ₄
i ₁	acceptare				
i ₂	deplasare		i ₅	i ₃	i ₄
i ₃	deplasare		i ₆	i ₃	i ₄
i ₄	Reducere 3				
i ₅	Reducere 1				
i ₆	Reducere 2				

Avem 3 optiuni disponibile:

Shiftare / Deplasare \Rightarrow
doco $[A \rightarrow \alpha \cdot a \beta] \in i_j$

Reducere \Rightarrow

doco $[A \rightarrow \beta \cdot] \wedge A \neq S'$

Acceptare \Rightarrow

doco $[S' \rightarrow S \cdot] \in i_j$

Doco goto (i^j_i, X) = $i^j_j \Rightarrow \text{goto}(i, X) = j$

\Rightarrow Nu avem conflict \Rightarrow gramatica este LR(0)

b) $S \rightarrow AA \quad (1)$

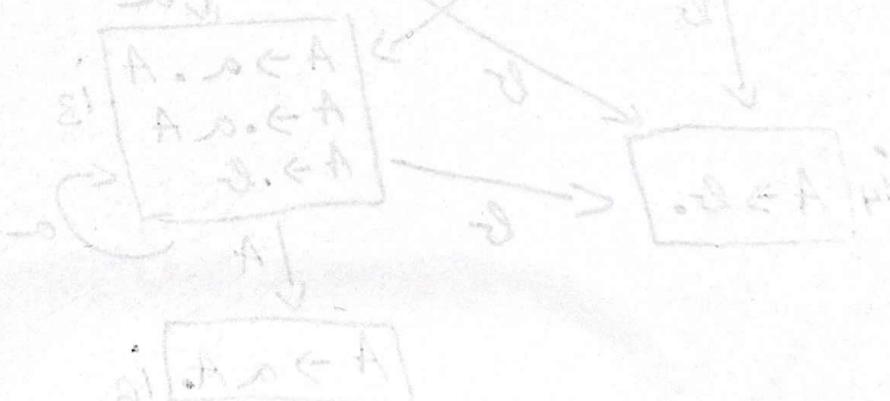
$A \rightarrow aA \quad (2)$

$A \rightarrow b \quad (3)$

Stare initială ($\$_0, \text{cur. } \$, \epsilon$)

abab $\in L(G)$?

$(\$_0, abab \$, \epsilon) \xleftarrow{\text{deplasare}} (\$a_3, bab \$, \epsilon) \xleftarrow{\text{deplasare}}$
 $(\$a_3 b_4, ab \$, \epsilon) \xleftarrow{\text{Reducere 3}} (\$a_3 A_6, a \$, \epsilon)$



Tabel de analiza LR(0)

	Actiune	S	A	a	b
i ₀	deplasare	i ₁	i ₂	i ₃	i ₄
i ₁	acceptare				
i ₂	deplasare		i ₅	i ₃	i ₄
i ₃	deplasare		i ₆	i ₃	i ₄
i ₄	Reducere 3				
i ₅	Reducere 1				
i ₆	Reducere 2				

Avem 3 optiuni disponibile:

Shiftare / Deplasare \Rightarrow

doco $[A \rightarrow \alpha \cdot a \beta] \in i_j$

Reducere \Rightarrow

doco $[A \rightarrow \beta \cdot] \text{ și } A \neq S'$

Acceptare \Rightarrow

doco $[S' \rightarrow S \cdot] \in i_j$

Doco $goto(i^*, X) = i_j^* \Rightarrow goto(i, X) = j^*$

\Rightarrow Nu avem conflict \Rightarrow gramatica este LR(0)

b) $S \rightarrow AA \quad (1)$

$A \rightarrow aA \quad (2)$

$A \rightarrow b \quad (3)$

Stare initială $(\$^0, \text{cur. } \$, \mathcal{E})$

$abab \in L(G) ?$

$(\$^0, abab \$, \mathcal{E}) \xleftarrow{\text{deplasare}} (\$a_3, bab \$, \mathcal{E}) \xleftarrow{\text{deplasare}}$

$(\$a_3 b_4, ab \$, \mathcal{E}) \xleftarrow{\text{reducere}_3} (\$a_3 A_6, a \$, \mathcal{E}) \xleftarrow{\text{reducere}_2}$

$(\$^0 A_2, ab, \mathcal{E}) \xleftarrow{\text{ }} \dots$

Tabel de omaliza LR(0)

	Actiune	S	A	a	b
i ₀	deplasare	i ₁	i ₂	i ₃	i ₄
i ₁	acceptare				
i ₂	deplasare		i ₅	i ₃	i ₄
i ₃	deplasare		i ₆	i ₃	i ₄
i ₄	Reducere 3				
i ₅	Reducere 1				
i ₆	Reducere 2				

Arenm 3 actiuni disponibile:

Shiftare / Deplasare \Rightarrow doco $[A \rightarrow \alpha \cdot \alpha \beta] \in i_j$

Reducere \Rightarrow

doco $[A \rightarrow \beta \cdot] \wedge A \neq S'$

Acceptare \Rightarrow

doco $[S' \rightarrow S \cdot] \in i_1$

Doco goto $(i^*, X) = i^j \Rightarrow \text{goto}(i, X) = j^*$

\Rightarrow Nu avem conflict \Rightarrow gramatica este LR(0)

b) $S \rightarrow AA \quad (1)$

$A \rightarrow aA \quad (2)$

$A \rightarrow b \quad (3)$

Stare initială $(\$0, \text{cur. } \$, \epsilon)$

abab $\in L(G)$?

$(\$0, abab \$, \epsilon) \xrightarrow{\text{deplasare}} (\$a_3, bab \$, \epsilon) \xrightarrow{\text{deplasare}}$

$(\$0a_3b_4, ab \$, \epsilon) \xrightarrow{\text{reducere}_3} (\$0a_3A_6, a \$ \$, 3) \xrightarrow{\text{reducere}_2}$

$(\$0A_2, ab, 23) \xrightarrow{\text{deplasare}} (\$0A_2a_3, b \$, 23) \xrightarrow{\text{deplasare}}$

Tabel de omnilizare LR(0)

	Actiune	S	A	a	b
i ₀	deplasare	i ₁	i ₂	i ₃	i ₄
i ₁	acceptare				
i ₂	deplasare		i ₅	i ₃	i ₄
i ₃	deplasare		i ₆	i ₃	i ₄
i ₄	Reducere 3				
i ₅	Reducere 1				
i ₆	Reducere 2				

Arenm 3 optiuni disponibile:

Shiftare / Deplasare \Rightarrow

daca $[A \rightarrow \alpha \cdot a \beta] \in i_j$

Reducere \Rightarrow

daca $[A \rightarrow \beta \cdot] \wedge A \neq S'$

Acceptare \Rightarrow

daca $[S' \rightarrow S \cdot] \in i_j$

Dacă $goto(i^j, X) = i^{j'}$ $\Rightarrow goto(i, X) = j'$

\Rightarrow Nu avem conflicte \Rightarrow gramatica este LR(0)

b) $S \rightarrow AA$ (1)

$A \rightarrow aA$ (2)

$A \rightarrow b$ (3)

Stare initială ($\$, \text{cur.} \$, \epsilon$)

abab $\in L(G)$?

$(\$, abab \$, \epsilon) \xrightarrow{\text{deplasare}} (\$, a_3, bab \$, \epsilon)$

$(\$, a_3 b_4, ab \$, \epsilon) \xrightarrow{\text{reducere}_3} (\$, a_3 A_6, a b \$, \epsilon)$

$(\$, A_2, ab, \epsilon) \xrightarrow{\text{deplasare}} (\$, A_2 a_3, b \$, \epsilon)$

$(\$, A_2 a_3 b_4, \$, \epsilon) \xrightarrow{\text{deplasare}}$

Tabel de ornameză LR(0)

Actiune		S	A	a	b
i ₀	deplasare	i ₁	i ₂	i ₃	i ₄
i ₁	acceptare				
i ₂	deplasare		i ₅	i ₃	i ₄
i ₃	deplasare		i ₆	i ₃	i ₄
i ₄	Reducere 3				
i ₅	Reducere 1				
i ₆	Reducere 2				

Avem 3 actiuni disponibile:

Shiftare / Deplasare \Rightarrow
doco $[A \rightarrow \alpha \cdot \beta] \in i_j$

Reducere \Rightarrow
doco $[A \rightarrow \beta \cdot] \prec A + S'$
Acceptare \Rightarrow
doco $[S' \rightarrow S \cdot] \in i_1$

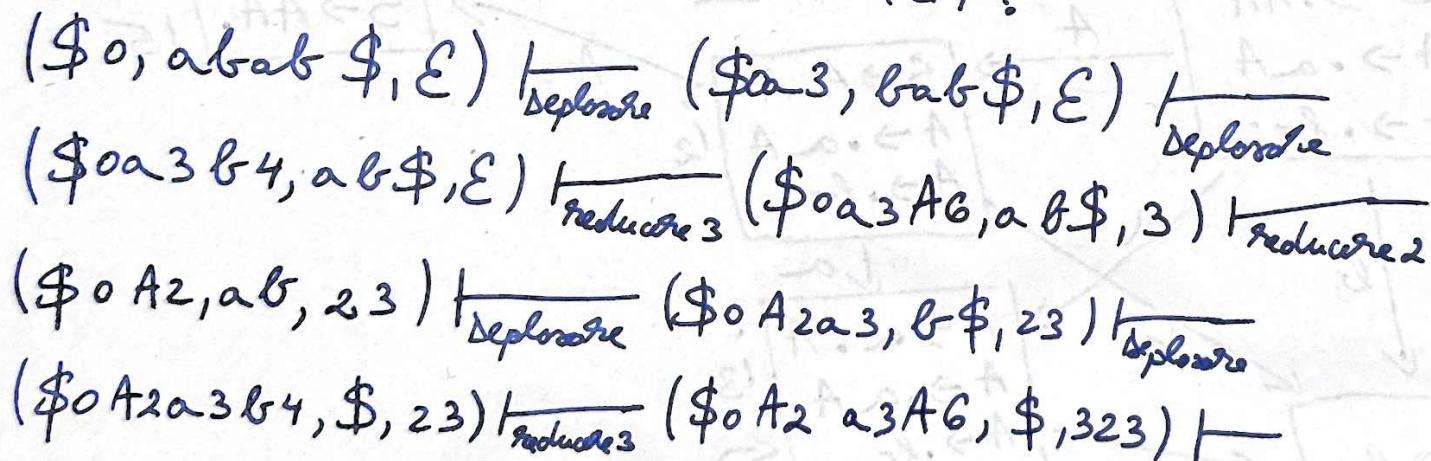
$$\text{Doco goto } (i^j, X) = i^{j'} \Rightarrow \text{goto } (i, X) = j'$$

\Rightarrow Nu avem conflict \Rightarrow gramatica este $LR(0)$

b) $S \rightarrow AA \quad (1)$
 $A \rightarrow aA \quad (2)$
 $A \rightarrow b \quad (3)$

Stare initială $(\$0, \text{cur. } \$, \epsilon)$

abab $\in L(G)$?



Tabel de analiza LR(0)

	Actiune	S	A	a	b
i ₀	deplasare	i ₁	i ₂	i ₃	i ₄
i ₁	acceptare				
i ₂	deplasare		i ₅	i ₃	i ₄
i ₃	deplasare		i ₆	i ₃	i ₄
i ₄	Reducere 3				
i ₅	Reducere 1				
i ₆	Reducere 2				

Avem 3 actiuni disponibile:

Shiftare / Deplasare \Rightarrow

daca $[A \rightarrow \alpha \cdot \alpha \beta] \in i_j$

Reducere \Rightarrow

daca $[A \rightarrow \beta \cdot] \text{ si } A \neq S'$

Acceptare \Rightarrow

daca $[S' \rightarrow S \cdot] \in i_j$

Dacă $\text{goto}(i^*, X) = i^j \Rightarrow \text{goto}(i, X) = j^*$

\Rightarrow Nu avem conflict \Rightarrow gramatica este $LR(0)$

b) $S \rightarrow AA \quad (1)$

$A \rightarrow aA \quad (2)$

$A \rightarrow b \quad (3)$

Stare initială $(\$, \text{cur.} \$, \epsilon)$

abab $\in L(G)$?

$(\$, abab \$, \epsilon) \xleftarrow{\text{deplasare}} (\$, a_3, bab \$, \epsilon) \xleftarrow{\text{deplasare}}$

$(\$, a_3 b_4, ab \$, \epsilon) \xleftarrow{\text{reducere}_3} (\$, a_3 A_6, a \$, 3) \xleftarrow{\text{reducere}_2}$

$(\$, A_2, ab, 23) \xleftarrow{\text{deplasare}} (\$, A_2 a_3, b \$, 23) \xleftarrow{\text{deplasare}}$

$(\$, A_2 a_3 b_4, \$, 23) \xleftarrow{\text{reducere}_3} (\$, A_2 a_3 A_6, \$, 323) \xleftarrow{\text{reducere}_2}$

$(\$, A_2 A_5, \$, 2323) \xleftarrow{\text{---}}$

Tabel de ornameță LR(0)

	Actiune	S	A	a	b
i ₀	deplasare	i ₁	i ₂	i ₃	i ₄
i ₁	acceptare				
i ₂	deplasare		i ₅	i ₃	i ₄
i ₃	deplasare			i ₆	i ₄
i ₄	Reducere 3				
i ₅	Reducere 1				
i ₆	Reducere 2				

Arenm 3 optiuni disponibile:

Shiftare / Deplasare \Rightarrow

dacă $[A \rightarrow \alpha \cdot a \beta] \in i_j$

Reducere \Rightarrow

dacă $[A \rightarrow \beta \cdot] \text{ și } A \neq S'$

Acceptare \Rightarrow

dacă $[S' \rightarrow S \cdot] \in i_j$

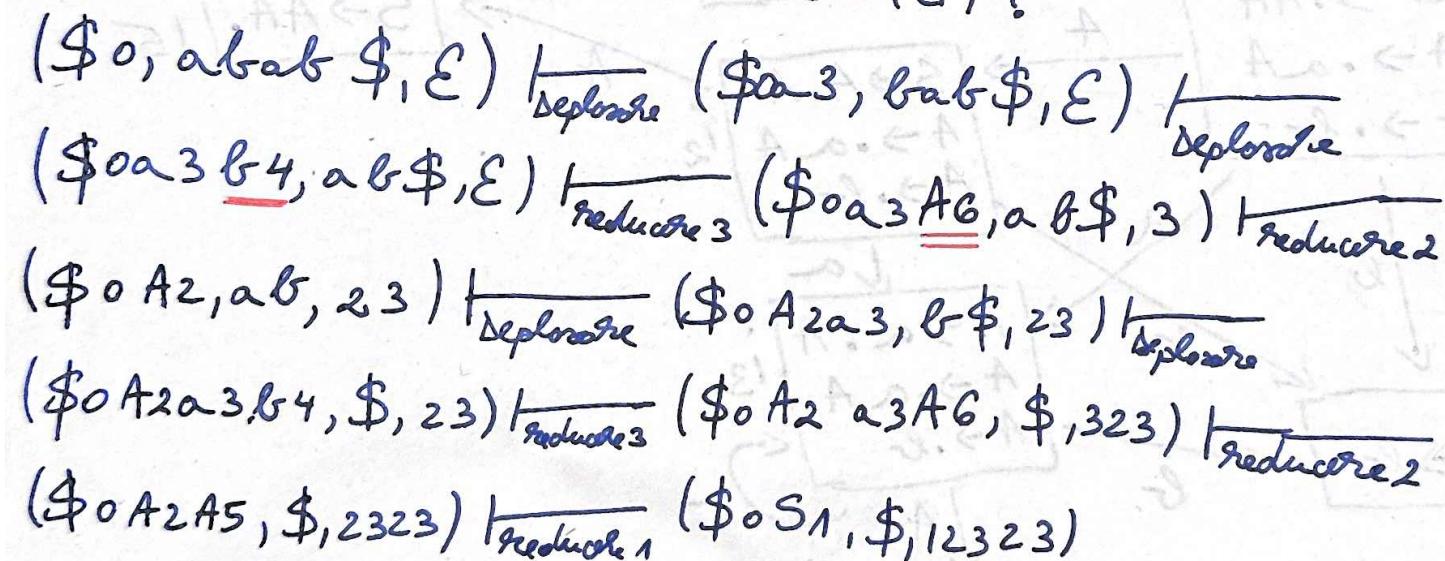
$$\text{Doco goto } (i^j, X) = i^{j'} \Rightarrow \text{goto } (i, X) = j'$$

\Rightarrow Nu avem conflicte \Rightarrow gramatica este LR(0)

$$\begin{aligned} b) \quad S &\rightarrow AA \quad (1) \\ A &\rightarrow a \cdot A \quad (2) \\ A &\rightarrow b \cdot \quad (3) \end{aligned}$$

Stare initială $(\$, \text{cur.}\$, \epsilon)$

$abab \in L(G) ?$



Tabel de analiza LR(0)

	Actiune	S	A	a	b
i0	deplasare	i1	i2	i3	i4
i1	acceptare				
i2	deplasare	i5	i3	i4	
i3	deplasare	i6	i3	i4	
i4	Reducere 3				
i5	Reducere 1				
i6	Reducere 2				

Avem 3 actiuni disponibile:

Shiftare / Deplasare \Rightarrow

dacă $[A \rightarrow \alpha \cdot \alpha \beta] \in i_i$

Reducere \Rightarrow

dacă $[A \rightarrow \beta \cdot] \text{ și } A \neq S'$

Acceptare \Rightarrow

dacă $[S' \rightarrow S \cdot] \in i_i$

Dacă $goto(i_i, X) = i_j \Rightarrow goto(i_i, X) = j$

\Rightarrow Nu avem conflicte \Rightarrow gramatica este LR(0)

b) $S \rightarrow AA \quad (1)$ State inițiale ($\$, \text{cur}, \$, \epsilon$)

$A \rightarrow aA \quad (2)$

$A \rightarrow b \quad (3)$

$abab \in L(G) ?$

$(\$, abab, \$, \epsilon) \xleftarrow{\text{deplasare}} (\$, a_3, bab, \$, \epsilon) \xleftarrow{\text{deplasare}}$

$(\$, a_3 b_4, ab, \$, \epsilon) \xleftarrow{\text{reducere}_3} (\$, a_3 \underline{A_6}, a b, \$, 3) \xleftarrow{\text{reducere}_2}$

$(\$, A_2, ab, 23) \xleftarrow{\text{deplasare}} (\$, A_2 a_3, b, \$, 23) \xleftarrow{\text{deplasare}}$

$(\$, A_2 a_3 b_4, \$, 23) \xleftarrow{\text{reducere}_3} (\$, A_2 a_3 A_6, \$, 323) \xleftarrow{\text{reducere}_2}$

$(\$, A_2 A_5, \$, 2323) \xleftarrow{\text{reducere}_1} (\$, S_1, \$, 12323) \xleftarrow{\text{acceptare}}$

$\Rightarrow abab \in L(G) \text{ și } \pi_1 \text{ și } \pi_2 \text{ regulile de producție utilizate}$

sunt 1, 2, 3, 2, 3

Teme - 4.2

6) Fie gramatica

$$S \rightarrow \text{begin } SL \text{ end}$$

$$S \rightarrow \text{stmt}$$

$$SL \rightarrow S$$

$$SL \rightarrow S \text{ semicolon } SL$$

a) Verificati daca gramatica este LR(0)

Rezolvare: begin cu b, end cu e, stmt cu s, semicolon cu ; si ;
SL cu L nu imbolozit gramatica

$$S' \rightarrow S \quad (0)$$

$$S \rightarrow bL e \quad (1)$$

$$S \rightarrow s \quad (2)$$

$$L \rightarrow S \quad (3)$$

$$L \rightarrow S; L \quad (4)$$

Construirea colectiei comonice LR(0):

b	$S' \rightarrow S$
	$S \rightarrow .bL e$
	$S \rightarrow .s$

Teme - 4.2

6) Fix gramatica

$S \rightarrow \text{begin } SL \text{ end}$

$S \rightarrow \text{stmt}$

$SL \rightarrow S$

$SL \rightarrow S \text{ semicolon } SL$

a) Verificati daca gramatica este $SL \in LR(0)$

Rezolvare: begin cu b, end cu e, stmt cu s, semicolon cu ; si ; nu apar in SL cu L si imbogatim gramatica

$S' \rightarrow S \quad (0)$

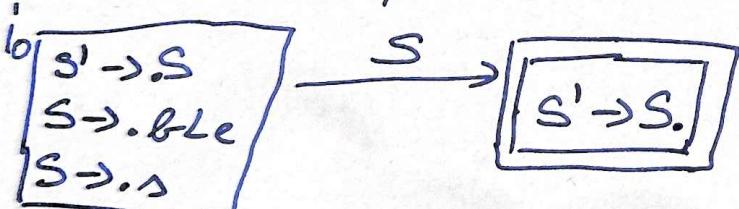
$S \rightarrow bL e \quad (1)$

$S \rightarrow s \quad (2)$

$L \rightarrow S \quad (3)$

$L \rightarrow S; L \quad (4)$

Construim colectia cononica $LR(0)$:



Teme - 4.2

6) Fie gramatica

$$S \rightarrow \text{begin } SL \text{ end}$$

$$S \rightarrow \text{stmt}$$

$$SL \rightarrow S$$

$$SL \rightarrow S \text{ semicolon } SL$$

a) Verificati daca gramatica este $\text{SL} \in LR(0)$

Rezolvare: begin cu b, end cu e, stmt cu s, semicolon cu ; si ;
SL cu L si imbolozim gramatica

$$S' \rightarrow S \quad (0)$$

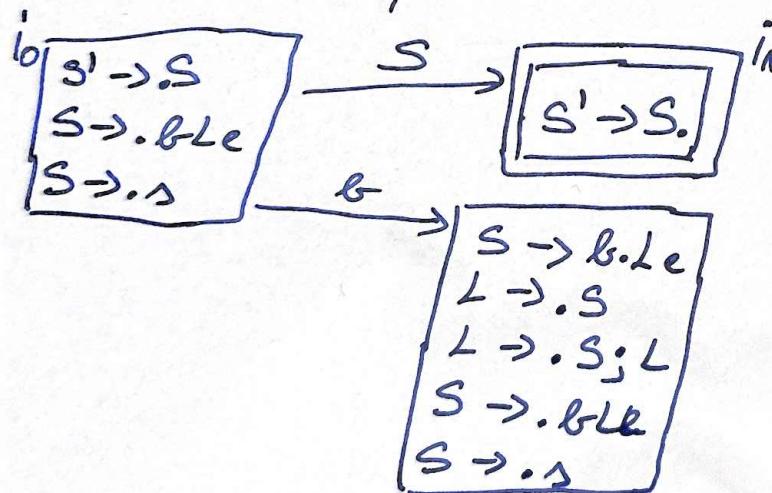
$$S \rightarrow bL e \quad (1)$$

$$S \rightarrow s \quad (2)$$

$$L \rightarrow S \quad (3)$$

$$L \rightarrow S; L \quad (4)$$

Construim colectia cononică $LR(0)$:



Teme 4.2

6) Fie gramatica

$$S \rightarrow \text{begin } SL \text{ end}$$

$$S \rightarrow \text{stmt}$$

$$SL \rightarrow S$$

$$SL \rightarrow S \text{ semicolon } SL$$

a) Verificati daca gramatica este $SL \in LR(0)$

Rechenunim: begin cu b, end cu e, stmt cu s, semicolon cu ; si ;

SL cu L si imediat im gramatica

$$S' \rightarrow S \quad (0)$$

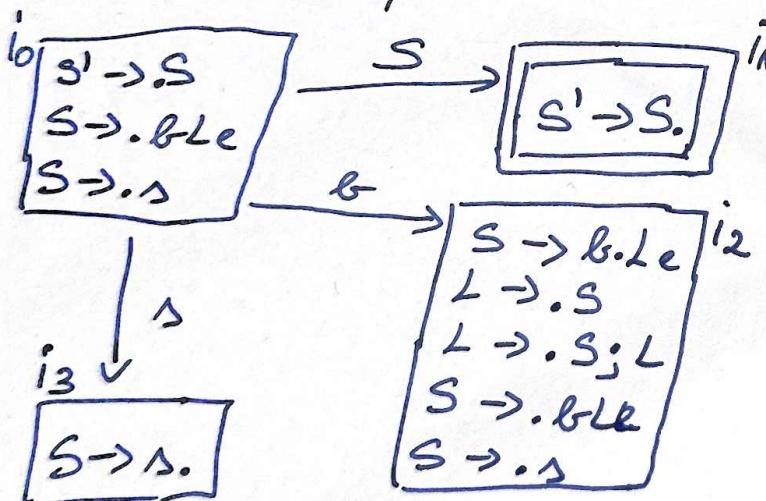
$$S \rightarrow b.L \epsilon \quad (1)$$

$$S \rightarrow .s \quad (2)$$

$$L \rightarrow S \quad (3)$$

$$L \rightarrow S; L \quad (4)$$

Construim colectia conditiei $LR(0)$:



Teme - 4.2

6) Fie gramatica

$$S \rightarrow \text{begin } SL \text{ end}$$

$$S \rightarrow \text{stmt}$$

$$SL \rightarrow S$$

$$SL \rightarrow S \text{ semicolon } SL$$

a) Verificati daca gramatica este $SL \in LR(0)$

Reenumeram: begin cu b, end cu e, stmt cu s, semicolon cu ; si ;

SL cu L și imboldam gramatica

$$S' \rightarrow S \quad (0)$$

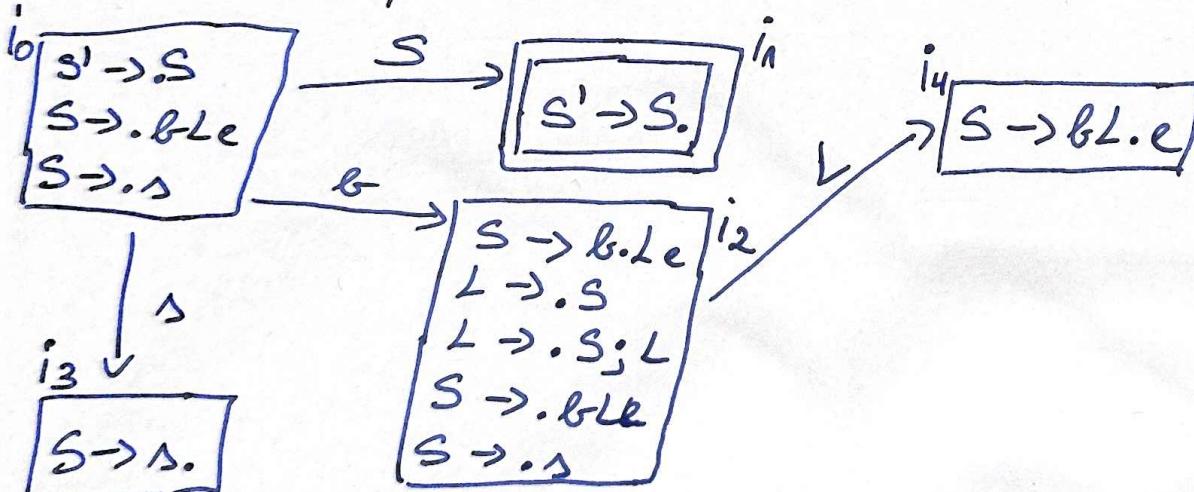
$$S \rightarrow bL e \quad (1)$$

$$S \rightarrow s \quad (2)$$

$$L \rightarrow S \quad (3)$$

$$L \rightarrow S; L \quad (4)$$

Construim colectia cononică $LR(0)$:



Teme - 4.2

6) Fix gramatica

$S \rightarrow \text{begin } SL \text{ end}$

$S \rightarrow \text{stmt}$

$SL \rightarrow S$

$SL \rightarrow S \text{ semicolon } SL$

a) Verifică dacă gramatica este $SL \in LR(0)$

Rezolvare: begin cu b, end cu e, stmt cu s, semicolon cu ; și σ' SL cu L și îmbogățim gramatica

$S' \rightarrow S \quad (0)$

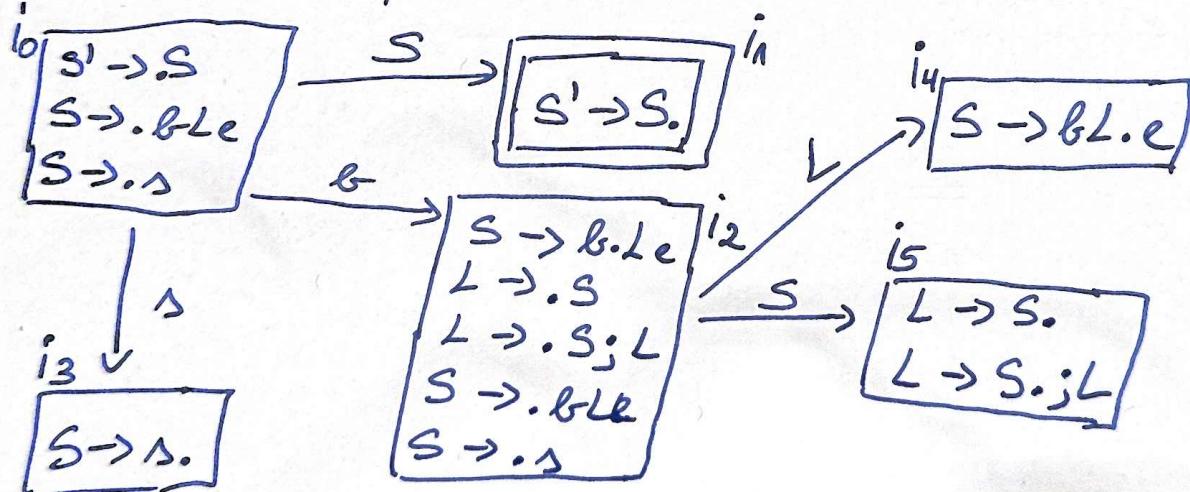
$S \rightarrow bL e \quad (1)$

$S \rightarrow s \quad (2)$

$L \rightarrow S \quad (3)$

$L \rightarrow S; L \quad (4)$

Construim colectia cononica $LR(0)$:



Teme - 4.2

6) Fix gramatica

$S \rightarrow \text{begin } SL \text{ end}$

$S \rightarrow \text{stmt}$

$SL \rightarrow S$

$SL \rightarrow S \text{ semicolon } SL$

a) Verificati daca gramatica este $SL \in LR(0)$

Rezolvare: begin cu b, end cu e, stmt cu s, semicolon cu ; si ;

$SL \in L$ și imbagat în gramatica

$S' \rightarrow S \quad (0)$

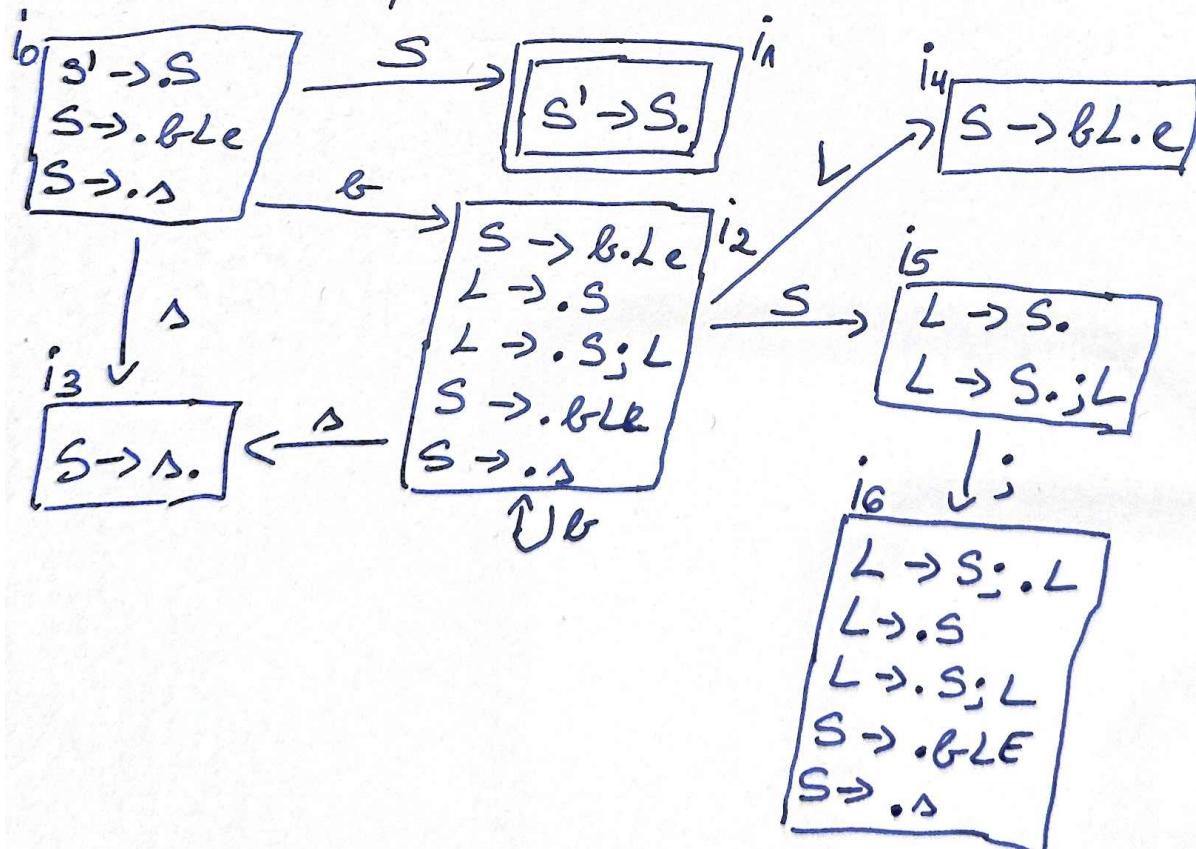
$S \rightarrow bL.e \quad (1)$

$S \rightarrow s \quad (2)$

$L \rightarrow S \quad (3)$

$L \rightarrow S; L \quad (4)$

Construim colectia cononică $LR(0)$:



Teme - 4.2

6) Fie gramatica

$S \rightarrow \text{begin } SL \text{ end}$

$S \rightarrow \text{stmt}$

$SL \rightarrow S$

$SL \rightarrow S \text{ semicolon } SL$

a) Verificati daca gramatica este $SL \in LR(0)$

Rezolvare: begin cu b, end cu e, stmt cu s, semicolon cu ; si ;

SL cu L nu imbolozit in gramatica

$S' \rightarrow S \quad (0)$

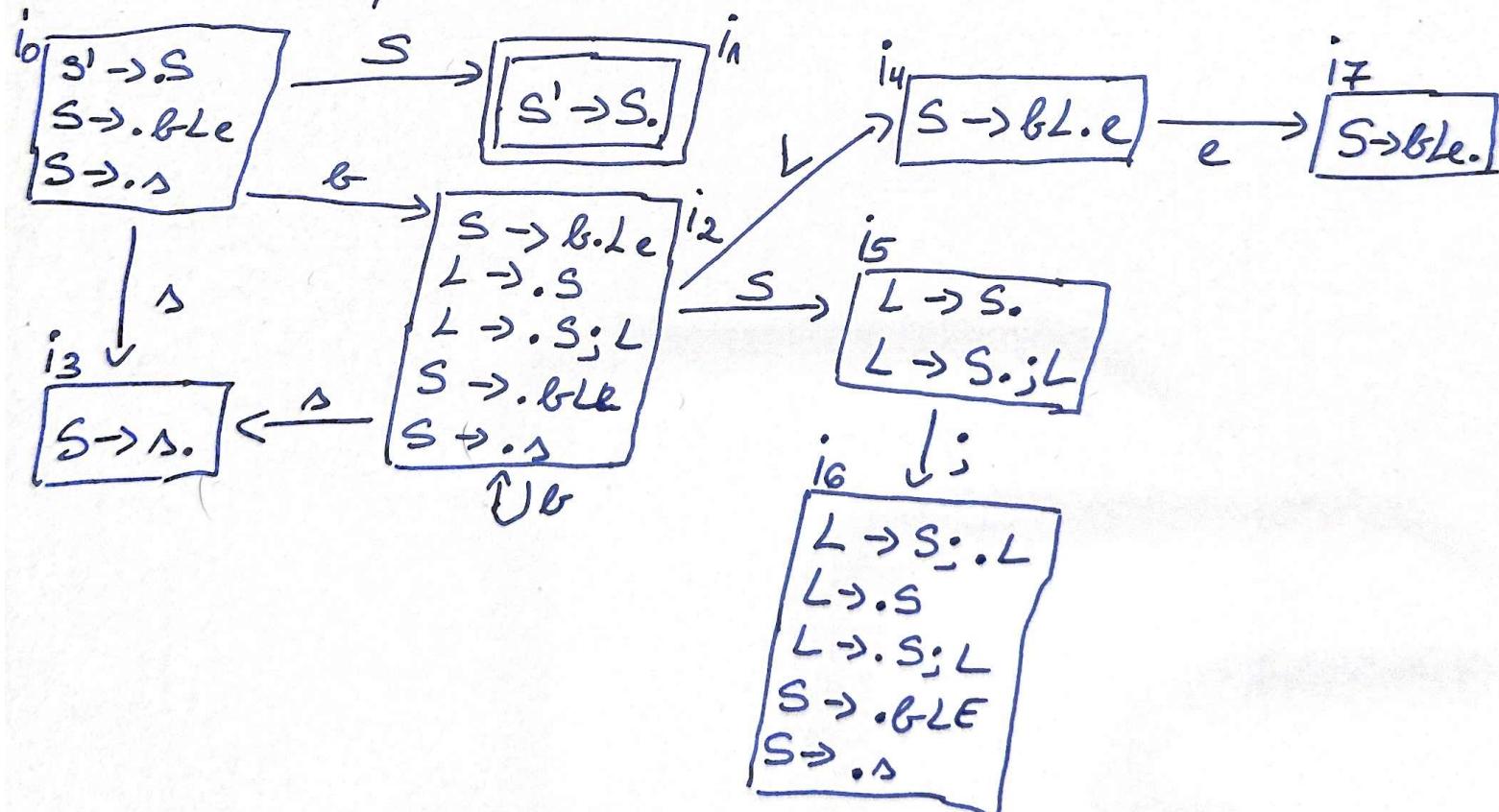
$S \rightarrow bL \epsilon \quad (1)$

$S \rightarrow s \quad (2)$

$L \rightarrow S \quad (3)$

$L \rightarrow S; L \quad (4)$

Construim colectia cononică $LR(0)$:



Teme - 4.2

6) Fix gramatica

$S \rightarrow \text{begin } SL \text{ end}$

$S \rightarrow \text{stmt}$

$SL \rightarrow S$

$SL \rightarrow S \text{ semicolon } SL$

a) Verificati daca gramatica este LR(0)

Rechenunim: begin cu b, end cu e, stmt cu s, semicolon cu ; si ;

SL cu L și imbolozim gramatica

$S' \rightarrow S \quad (0)$

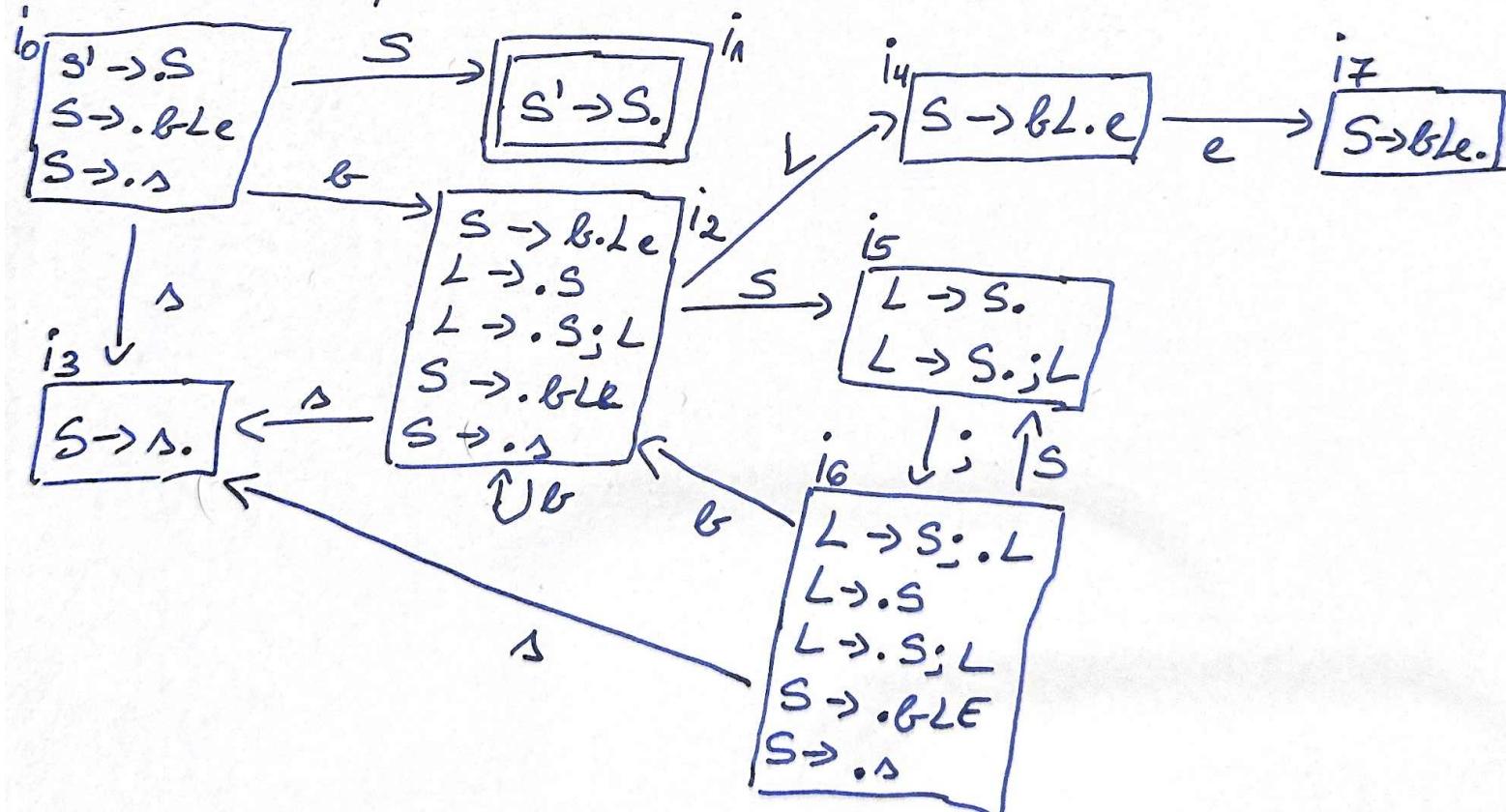
$S \rightarrow bL e \quad (1)$

$S \rightarrow s \quad (2)$

$L \rightarrow S \quad (3)$

$L \rightarrow S; L \quad (4)$

Construim colectia cononica LR(0):



Teme 4.2

6) Fie gramatica

$S \rightarrow \text{begin } SL \text{ end}$

$S \rightarrow \text{stmt}$

$SL \rightarrow S$

$SL \rightarrow S \text{ semicolon } SL$

a) Verificati daca gramatica este ~~SL~~ LR(0)

Rezolvare: Begin cu b, end cu e, stmt cu s, semicolon cu ; si ;

SL cu L și imbolozii gramatica

$S' \rightarrow S \quad (0)$

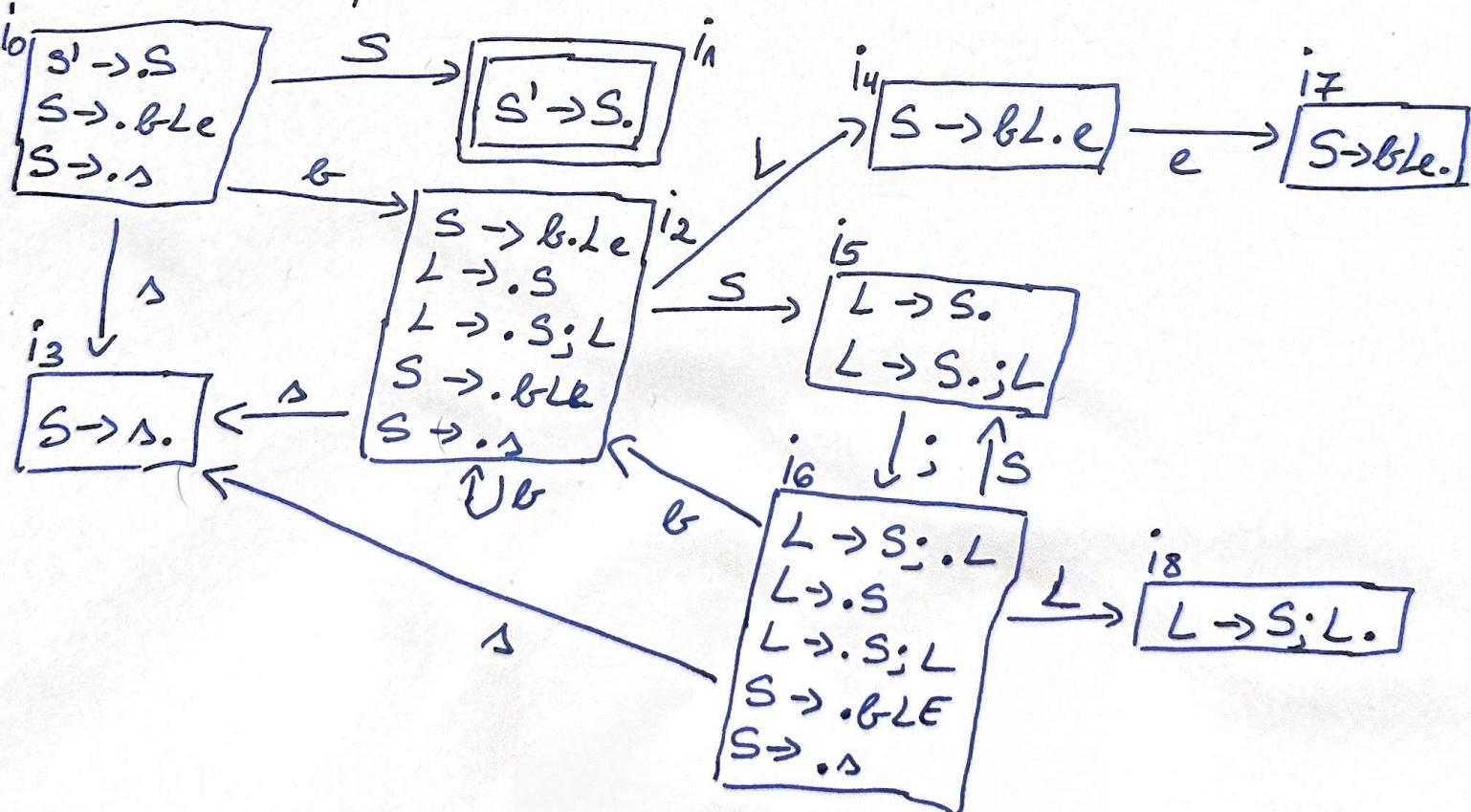
$S \rightarrow bL.e \quad (1)$

$S \rightarrow s \quad (2)$

$L \rightarrow S \quad (3)$

$L \rightarrow S; L \quad (4)$

Construim colectia cononica LR(0):



Tabelă de analiză LR(0)

	Actiune	S	L	B	C	S	;
i ₀ deploare	i ₁			i ₂		i ₃	
i ₁ acceptare							
i ₂ deploare	i ₅	i ₄	i ₂			i ₃	
i ₃ Reducere 2							
i ₄ deploare				i ₇			
i ₅ 3, deploare							
i ₆							
i ₇							
i ₈							

$\Rightarrow \exists$ conflict (Reducere - deploare) \Rightarrow gramatica nu e de tip LR(0)

