

22V-1. CIKLUS

17.

$$A: JP_a^{z \rightarrow x}, B: JP_b^{x \rightarrow a}, \text{visi: } JP_z^{x \rightarrow y}$$

- (não)mo $JP_z^{y \rightarrow b} \geq ? \in \{x, y, z\}$ t.d.g. $P_x \rightarrow P_b$

$$P_x \rightarrow JP_z^{x \rightarrow ?} \rightarrow P_z \rightarrow JP_z^{? \rightarrow ?} \rightarrow \dots \rightarrow P_y \rightarrow JP_z^{y \rightarrow b} \rightarrow P_b$$

$$JP_z^{x \rightarrow y} \xrightarrow{x} JP_z^{z \rightarrow ?} \rightarrow JP_z^{x \rightarrow ?} \xrightarrow{x} A: JP_a^{z \rightarrow x}, JP_a^{x \rightarrow y}$$

$$JP_x^{x \rightarrow y} \rightarrow JP_b^{x \rightarrow a} \rightarrow JP_a^{x \rightarrow y} \xrightarrow{y} B: JP_b^{x \rightarrow a}$$

$$1) X: JP_x^{y \rightarrow b} \rightarrow JP_b^{x \rightarrow a} \rightarrow JP_a^{y \rightarrow b}$$

$$2) Y: JP_y^{y \rightarrow b} \rightarrow JP_z^{y \rightarrow ?} \rightarrow ?$$

$$3) Z: JP_z^{y \rightarrow b} \rightarrow JP_a^{z \rightarrow x} \rightarrow JP_x^{y \rightarrow b} \rightarrow JP_b^{x \rightarrow a} \rightarrow JP_a^{y \rightarrow b}$$

$$z \rightarrow x \rightarrow a$$

$$\downarrow y \rightarrow b$$

14.

$$A: JP_a^{l \rightarrow o}, B: JP_b^{n \rightarrow o}, C: JP_c^{o \rightarrow c}, \text{visi: } JP_e^{l \rightarrow n}, JP_o^{o \rightarrow b}$$

$$P_l \rightarrow \dots \rightarrow P_n$$

$$5) JP_o^{l \rightarrow n} \rightarrow JP_c^{o \rightarrow c} \rightarrow \boxed{JP_c^{l \rightarrow n}}$$

$$1) JP_e^{l \rightarrow n} \rightarrow JP_e^{l \rightarrow o} \rightarrow \boxed{JP_n^{l \rightarrow o}}$$

$$2) JP_o^{o \rightarrow b} \rightarrow JP_c^{o \rightarrow c} \rightarrow \boxed{JP_c^{o \rightarrow b}}$$

$$3) JP_n^{l \rightarrow n} \rightarrow JP_b^{n \rightarrow o} \rightarrow \boxed{JP_o^{l \rightarrow n}} \rightarrow JP_c^{o \rightarrow b} \rightarrow \boxed{JP_b^{l \rightarrow b}}$$

$$4) JP_e^{l \rightarrow n} \rightarrow JP_f^{l \rightarrow o} \rightarrow \boxed{JP_o^{l \rightarrow n}}$$

(15) A: $JP_a^{l \rightarrow a}$, B: $JP_b^{n \rightarrow c}$, C: /, visi: $JP_m^{m \rightarrow n}$, $JP_n^{m \rightarrow p}$

$P_m \rightarrow \dots \rightarrow P_c$

1) $e: JP_e^{m \rightarrow c} \rightarrow JP_a^{l \rightarrow a} \rightarrow JP_a^{m \rightarrow c}$

2) m: $JP_m^{m \rightarrow n} \rightarrow JP_m^{m \rightarrow n} \rightarrow JP_n^{m \rightarrow c} \rightarrow JP_b^{n \rightarrow c} \rightarrow JP_c^{m \rightarrow c}$

3) n: $JP_n^{m \rightarrow c} \rightarrow JP_a^{l \rightarrow a} \rightarrow JP_a^{m \rightarrow c}$

$m \rightarrow l \rightarrow c$

$\searrow n \rightarrow c$

(16) A: $JP_a^{l \rightarrow a}$, B: /, C: $JP_c^{l \rightarrow r}$, $JP_c^{o \rightarrow b}$, visi: $JP_m^{m \rightarrow b}$, $JP_n^{n \rightarrow o}$, $JP_m^{o \rightarrow b}$

-stvomiti: $JP_b^{o \rightarrow b}$

1) $JP_n^{o \rightarrow b} \rightarrow JP_m^{n \rightarrow o} \rightarrow JP_o^{o \rightarrow b}$

2) $JP_o^{o \rightarrow b} \rightarrow JP_c^{o \rightarrow b} \rightarrow JP_b^{o \rightarrow b}$

(17) A: /, B: $JP_b^{c \rightarrow b}$, visi: $JP_p^{c \rightarrow b}$, $JP_p^{p \rightarrow b}$, $JP_c^{p \rightarrow a}$, $JP_c^{c \rightarrow b}$

-stvomiti: $JP_a^{p \rightarrow b}$

1) $JP_c^{p \rightarrow a} \rightarrow JP_p^{c \rightarrow b} \rightarrow JP_b^{p \rightarrow a}$

2) $JP_p^{p \rightarrow b} \rightarrow JP_b^{p \rightarrow a} \rightarrow JP_a^{p \rightarrow b}$

(18) A: $JP_a^{p \rightarrow s}$, $JP_a^{s \rightarrow a}$, B: $JP_b^{l \rightarrow q}$, $JP_b^{r \rightarrow a}$, visi: $JP_e^{l \rightarrow a}$, $JP_r^{q \rightarrow p}$

$P_p \rightarrow \dots \rightarrow P_a$

-dobjiti: $JP_q^{r \rightarrow p}$

$$JP_{\ell}^{l \rightarrow a} \rightarrow JP_b^{l \rightarrow q} \rightarrow \underline{JP_q^{l \rightarrow a}} \rightarrow JP_r^{q \rightarrow p} \rightarrow \underline{JP_p^{l \rightarrow a}}$$

$$JP_p^{l \rightarrow s} \rightarrow JP_d^{p \rightarrow s} \rightarrow \underline{JP_s^{l \rightarrow s}} \rightarrow JP_a^{s \rightarrow a} \rightarrow \boxed{JP_a^{l \rightarrow a}}$$

- (20.) A: $JP_e^{m \rightarrow o}$, B: /, Visi: $JP_m^{l \rightarrow b}$, $JP_e^{m \rightarrow o}$, $JP_e^{l \rightarrow o}$, $JP_m^{m \rightarrow b}$
 - konstruiert: $JP_b^{l \rightarrow o}$

$$1) JP_e^{l \rightarrow o} \rightarrow JP_m^{l \rightarrow b} \rightarrow \boxed{JP_b^{l \rightarrow o}}$$

- (21.) A: $JP_a^{k \rightarrow o}$, B: $JP_b^{l \rightarrow b}$, $JP_b^{k \rightarrow c}$, C: /, Visi: $JP_k^{l \rightarrow k}$, $JP_e^{m \rightarrow c}$
 - 120 Möglich.: $JP_c^{m \rightarrow c}$

$$1) JP_e^{m \rightarrow c} \rightarrow JP_k^{l \rightarrow k} \rightarrow \boxed{JP_k^{m \rightarrow c}}$$

$$2) JP_k^{m \rightarrow c} \rightarrow JP_b^{l \rightarrow c} \rightarrow \boxed{JP_c^{m \rightarrow c}}$$

- (22.) A: $JP_a^{x \rightarrow c}$, C: $JP_c^{y \rightarrow c}$, $JP_c^{z \rightarrow c}$, Visi: $JP_y^{o \rightarrow k}$, $JP_z^{z \rightarrow b}$, $JP_a^{a \rightarrow y}$, $JP_z^{y \rightarrow c}$
 - konstruiert: $JP_c^{x \rightarrow c}$

$$1) JP_a^{x \rightarrow c} \rightarrow JP_y^{a \rightarrow y} \rightarrow \boxed{JP_y^{x \rightarrow c}}$$

$$2) JP_y^{x \rightarrow c} \rightarrow JP_z^{y \rightarrow c} \rightarrow \boxed{JP_c^{x \rightarrow c}}$$

52. y_1 -AUTO, y_2 -AUTOMOBIL \rightarrow AUTOMATSKI AUTOMOBIL

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19

AUTOMATSKI AUTOMOBIL

Představ Závěšek Poslední y_2 ?

1	0	1	0
1	1	1	A
1	2	1	AU
1	3	1	AUT
1	4	1	AUTO $\rightarrow y_1 \checkmark$
1	5	2	M
1	6	4	MA

(...) 5 19 4 NATSKI AUTOMOBIL X

6 5 5 O

6 6 5 A

6 7 5 AT

(...) 6 10 5 ATSKI AUTOMOBIL X

(...) odbudit de NATSKI

11 10 10 0

11 11 10 A

11 12 10 AU

11 20 19 AUTOMOBIL $\rightarrow y_2 \checkmark$

20 19 19 KRAJ

\rightarrow ponezat de AUTO, nele ponezati ostatok mizde de
odbaoti NATSKI po ponezati AUTOMOBIL

53. y_1 -ANA, y_2 -ANANAS \rightarrow ANAVOLI ANANAS

1 2 3 4 5 6 7 8 9 10 11 12 13

ANAVOLI ANANAS

Povratak -> Završetak -> Postupak -> Izvor

1	0	1	0
1	1	1	A
1	2	1	AN
1	3	1	ANA \rightarrow Y1V
1	4	3	V
1	5	3	VO
1	(...)	3	VO LI ANANAS X
1	13	4	O
5	41	4	O
5	5	4	O
5	(...)	4	OLI ANANAS X
8	7	7	O
8	8	7	A
8	(...)	12	ANANAS \rightarrow Y2 V
13	13	12	KRAJ

\rightarrow propozicija ANA i onda prodi ostatak niza te neće propoziciji mijedom niza \rightarrow odbacit će V i glodati tako za O, A, I pa će nakon što ne propozna sponziti VOLI kao leks. jadištu i onda će prepoznati ANANAS

58. a) aabbab

aab - r1 (prijetot po redoksu
naj. $r_2^{(r_2)}$)

ab - r2

clabababc

abab - r3 (prijet. po chljinu)

ab - r2 (prijet. po imleksu mog.
izvoru)

c - r8

b) ababbbaa

ababb - r5 (S; ONBAC)
(prijetot po chljinu)

abab - r3 (prijetot po chljinu)

bbab - r7 (izvrti i z S)

(59.) a) $aabbccaaab$
 $aab - r_1$ (prioritet po indeksu)
 $ab - r_4$ (prebrojavanje
desni kontekst)
 $c - r_8$
 $aaab - r_2$

b) $ccabbbba$
 $cc - r_8$
 $abbb - r_5$ (ucti νs ; ODBACI)
 $abab - r_3$ (prioritet po duljini)
 $bbab - r_7$ (izostati νs)

(60.) a) aab
 $aa - r_4$ (desni kontekst &
 $b - r_6$ prioritet po duljini)
 b) $a\%b\%$
 $aaa - r_5$ (prioritet po duljini)
 $\%b - r_1$ (prioritet po
indeksu negativ. izvrsenosti)

c) $b\#\%\%$
 $b\# - r_7$ (νs ; ODBARI)
 $b - r_6$
 $\#\% - r_8$ (izostati νs)

(63.) - ukloni lijevu mokunziju

$S \rightarrow aAbBa$	$A \rightarrow AaBb$	$B \rightarrow Ab$
$S \rightarrow bBaAb$	$A \rightarrow Ba$	$B \rightarrow b$
$A \rightarrow AaBb$	$A \rightarrow a$	
$A \rightarrow Ab$		
$A \rightarrow a$		
$B \rightarrow AaBbb$		$B \rightarrow AaBbbD$
$B \rightarrow Bab$	$A \rightarrow baC$	$B \rightarrow abD$
$B \rightarrow b$	$A \rightarrow ac$	$B \rightarrow bD$
	$C \rightarrow aBbC$	$D \rightarrow abD$
	$C \rightarrow baC$	$D \rightarrow E$
	$C \rightarrow E$	

$B \rightarrow AdBbb$
 $B \rightarrow Bab$
 $B \rightarrow ab$
 $B \rightarrow b$

104. $S \rightarrow aAbB_a$ $A \rightarrow Bb$ $B \rightarrow Aa$
 $S \rightarrow bB_aA_b$ $A \rightarrow b$ $B \rightarrow BaAb$
 $B \rightarrow a$

$S \rightarrow aAbB_a$
 $S \rightarrow bB_aA_b$ $A \rightarrow BaAb_bC$ $B \rightarrow baD$
 $| A \rightarrow Aab | \Rightarrow A \rightarrow abC$ $B \rightarrow aD$
 $A \rightarrow BaAb_b$ $A \rightarrow bC$
 $A \rightarrow ab$ $C \rightarrow abc$ $D \rightarrow baD$
 $A \rightarrow b$ $C \rightarrow \epsilon$ $D \rightarrow baAbD$
 $B \rightarrow Bba$
 $B \rightarrow ba$
 $B \rightarrow Bb_aA_b$
 $B \rightarrow \emptyset$

(105) Lijevarekurzija & je li gram. LL(1)?

LL(1)-gramatička, PRIMJENI skupovi produkcija s istim nezavrsnim znakovima su disjunktivni!

PRIMJENI \rightarrow 1. element (nezavr. znak)

SLUENI \rightarrow svih znakovih (nezavrsnih)iza završnog znaka (koji se gleda)

$S \rightarrow aAbB$ $B \rightarrow AbS_b$ $A \rightarrow dcSacC$ $B \rightarrow aAbS_bD$
 $A \rightarrow Bcd$ $B \rightarrow dCS_a$ $A \rightarrow aAC$ $B \rightarrow bS_bD$
 $A \rightarrow aA$
 $A \rightarrow \emptyset$ $\Rightarrow C \rightarrow bS_bcdC$ $B \rightarrow dcSaD$
 $S \rightarrow dAbB$ $B \rightarrow aAbS_b$ $C \rightarrow \emptyset$ $D \rightarrow cdBShD$
 $| A \rightarrow AbS_bcd |$ $B \rightarrow bS_b$ $D \rightarrow \emptyset$
 $A \rightarrow dcSacC$ $B \rightarrow dCS_a$
 $A \rightarrow aA$
 $A \rightarrow \emptyset$
 $B \rightarrow BcdBSh$

LL(1) ?

- 1) $S \rightarrow aAb \in \text{PRIMEN}(1) = \{a\}$
 - 2) $A \rightarrow dcS \in \text{PRIMEN}(2) = \{d\}$
 - 3) $A \rightarrow aAC \rightarrow \dots \in \text{PRIMEN}(3) = \{a\}$
 - 4) $A \rightarrow C \rightarrow \dots \in \text{ZAPRIMEN}(c) \cup \text{SLUEN}(c) = \{b\}$
 - 5) $C \rightarrow bSbc \rightarrow \dots \in \text{PRIMEN}(5) = \{b\}$
 - 6) $C \rightarrow \epsilon \rightarrow \dots \in \text{PRIMEN}(6) = \text{SLUEN}(c) = \{\epsilon\}$
 - 7) $B \rightarrow aAbS \in \text{PRIMEN}(7) = \{a\}$
 - 8) $B \rightarrow bSbD \rightarrow \dots \in \text{PRIMEN}(8) = \{b\}$
 - 9) $B \rightarrow dcS \in \text{PRIMEN}(9) = \{d\}$
 - 10) $D \rightarrow cdB \in \text{PRIMEN}(10) = \{c\}$
 - 11) $D \rightarrow \epsilon \rightarrow \dots \in \text{PRIMEN}(11) = \text{SLUEN}(d) = \{\epsilon\}$
- DISJ. ✓

Dobivena gramatička je LL(1) ✓

(07) → ukloni ligiju rečenziju

$$\begin{array}{ll} S \rightarrow aAB & A \rightarrow Ab \quad B \rightarrow Acb \\ S \rightarrow bB & A \rightarrow Bac \quad B \rightarrow bc \\ & A \rightarrow a \end{array}$$

$$\begin{array}{llll} S \rightarrow AB & A \rightarrow bcac & C \rightarrow bC & B \rightarrow AbcbD \\ A \rightarrow Ab & A \rightarrow a & C \rightarrow bC & B \rightarrow bcd \\ A \rightarrow Acbac & \Rightarrow & C \rightarrow \epsilon & D \rightarrow accbd \\ A \rightarrow bcac & C \rightarrow cbaC & & D \rightarrow \epsilon \\ A \rightarrow a & C \rightarrow \epsilon & & \end{array}$$

$B \rightarrow Abcb$
 $B \rightarrow Bacccb$
 $B \rightarrow bc$

② PA $A \rightarrow aA$ a) Struktura PA = $\{Q, I, F, S, \emptyset\}$, $Q = \{q_0\}$
 $S \rightarrow aABc$ $A \rightarrow \emptyset$ $I = \{a, b, c, \perp\}$, $F = \{S, A, B, b, c, \vee\}$
 $S \rightarrow cBAb$ $B \rightarrow bB$ $b \rightarrow c$

b) Povezivanje proizvodnje u akcije PA: 1) Proizvodnje oblike $A \rightarrow bA$

$S \rightarrow aABc \Rightarrow \#1$ Zamijeni (cBA) ; Pomakni;

$S \rightarrow cBAb \Rightarrow \#2 - \#1 - (bAB)$; - - -;

$A \rightarrow aA \Rightarrow \#3 - \#1 - (A)$; - - -;

$B \rightarrow bB \Rightarrow \#4 - \#1 - (B)$; - - -;

2) Proizvodnje oblike $A \rightarrow b$

$B \rightarrow c \Rightarrow \#5$ Izvuci; Pomakni;

3) Proizvodnje oblike $A \rightarrow \emptyset$

$A \rightarrow \emptyset \Rightarrow \#6$ Izvuci; Zadrsi;

PRIMJERI (A) = SKLJEDI ($A = \{b, c\}$)

c) Definiranje akcija za završetakove na vrhu stoga: $\#7$ Izvuci; Pomakni

d) Prikazivanje / Odbijanje miza: $\#8$ Prikazati; - Odbaci

	a	b	c	\perp
S	#1	-	#2	-
A	#3	#6	#6	-
B	-	#4	#5	-
b	-	#7	-	-
c	-	-	#7	-
\vee	-	-	-	#8

(114) $A|B|C|DC|EC$ 0/1/2 ... $A|B|C|DC|EC$

$\langle Pono \rangle \rightarrow \langle Di_0 \rangle | \langle Pono \rangle \langle Br_{oj} \rangle | \langle Di_02 \rangle$

$\langle Di_0 \rangle \rightarrow A \langle Br_{oj} \rangle | B \langle Br_{oj} \rangle | \langle Br_{oj} \rangle | CD \langle Br_{oj} \rangle$

| $C|E \langle Br_{oj} \rangle$

$\langle Di_02 \rangle \rightarrow A|B|C|DC|EC$

$\langle Br_{oj} \rangle \rightarrow 0|1|2$

(115) $\langle S \rangle \rightarrow \langle D \rangle (A | \langle D \rangle CBA | \langle E \rangle A)$

$\langle D \rangle \rightarrow \langle D \rangle 0 | ABC$

$\langle E \rangle \rightarrow \langle E \rangle E | A$

DDP ... $|ABC + CA|CBA$

EEE ... $|A + A$

$\left\{ \begin{array}{l} D \dots [AB|C] \\ E \dots [A] \end{array} \right\} \quad \left\{ \begin{array}{l} (A) \\ CBA \\ A \end{array} \right\}$

(116) $\langle S \rangle \rightarrow a \langle A \rangle | b \langle B \rangle | c \langle C \rangle$

$\langle A \rangle \rightarrow ab \langle A \rangle | bac \langle A \rangle | c$

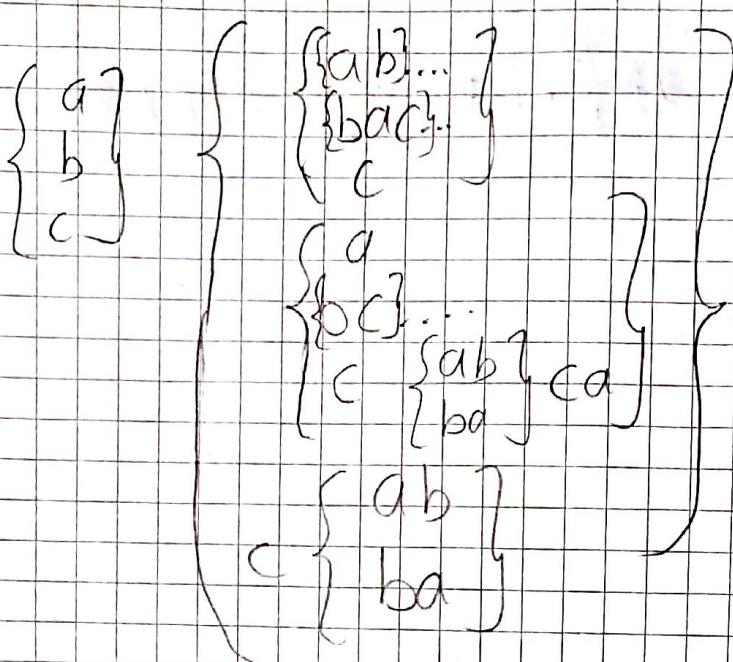
$\langle B \rangle \rightarrow d | bc \langle B \rangle | c \langle C \rangle ca$

$\langle C \rangle \rightarrow db | ba$

$a + (ab / bac) \dots / cc$

$b + a / (bc) \dots / \underbrace{c + (ab / ba) + ca}_{c + ab / ba}$

$c + ab / ba$



120. $(CC\dots / BB\dots / LL\dots + NOT + 2 / T000\dots + B + NOT$

$\langle \text{Ponovi} \rangle \rightarrow \langle \text{Pocetak} \rangle \langle \text{Dio} \rangle \langle \text{Ponovi} \rangle B \neg \langle \text{Dio} \rangle$

$\langle \text{Pocetak} \rangle \rightarrow (\langle \text{Pocetak} \rangle | B \langle \text{Pocetak} \rangle) | \langle \text{Pocetak} \rangle$

$\langle \text{Dio} \rangle \rightarrow NOT | \varepsilon$

$\langle \text{Ponovi} \rangle \rightarrow 2 | T | 0 \langle \text{Ponovi} \rangle$

123. $\text{PREZNAK} + \text{BROJ} \dots + \text{TOČKA} + \text{BROJ} \dots + e + \text{PREZNAK} | B20)$

$\langle \text{Ponovi} \rangle \rightarrow \langle \text{Preznak} \rangle \langle \text{Znamenke} \rangle, \langle \text{Znamenke} \rangle$

$\langle Ekspon \rangle \langle \text{Preznak} \rangle \langle \text{Znamenke} \rangle$

$\langle \text{Broj} \rangle \rightarrow 0 | 1 | 2 | \dots | 8 | 9$

$\langle \text{Prodruk} \rangle \rightarrow - | \varepsilon$

$\langle \text{Znamenke} \rangle \rightarrow \langle \text{Broj} \rangle \langle \text{Znamenke} \rangle | \varepsilon$

$\langle \text{Ekspon} \rangle \rightarrow e | \varepsilon$

124.

$[-] \text{broj} \dots . \text{broj} \dots [e] [-] [\text{broj}] \dots$

$$(127) \quad \begin{array}{ccccccccc} \checkmark & \checkmark \\ 7 \rightarrow x, 12 \rightarrow y, x^* y \rightarrow x, 3 \rightarrow z, x/2 \rightarrow y, x-y/2 \rightarrow \\ \vdash \text{dohvati } 7 \end{array}$$

$$1) \rightarrow x, x=7$$

$$2), 12 \rightarrow \text{dohvati } 12$$

$$3) \rightarrow y, y=12$$

$$4), x^* \text{dohvati } x=7$$

$$5) * y \rightarrow 12 \cdot 7 = 84$$

$$6) \rightarrow x, x=84$$

$$7), 3 \rightarrow \text{dohvati } 3$$

$$8) \rightarrow z, z=3$$

$$9), x/1 \text{dohvati } x=84$$

$$10) | 2 \rightarrow x/2=84/3=28$$

$$11) \rightarrow y, y=28$$

$$12), x-1 \text{dohvati } x=84$$

$$13) -y/1 x-y = 84-28=56$$

$$14) | 2 \rightarrow 56:2=28$$

$$\rightarrow x, x^* 2/1 y+z \rightarrow x, x^* 6-y+2^* 2-9^* x \rightarrow y, x+y/2 \rightarrow z$$

$$15) \rightarrow x, x=28$$

$$25) * 2-5 \cdot 2=10$$

$$16), x^* \text{dohvati } x=28$$

$$26) -9^* 10-9=1$$

$$17) | 2 | 28 \cdot 2=56$$

$$27) * x \rightarrow 1 \cdot 5=5$$

$$18) /y + 56:y = 56:28=2 \quad 28) \rightarrow y, y=5$$

$$19) +2 \rightarrow 2+2=2+3=5$$

$$29), x+1 \text{dohvati } x=5$$

$$20) \rightarrow x, x=5$$

$$30) +y/1 5+5=10$$

$$21), x^* \text{dohvati } x=5$$

$$31) | 2 \rightarrow 10|2=5$$

$$22) * 6-5 \cdot 6=30$$

$$32) \rightarrow z, z=5$$

$$23) -y+30-28=2$$

$$\underline{\text{VRAS}}$$

$$24) +z^* 2+3=5$$

133. Tablica relacija predunosti → odrediti umrežje relacija predunosti:

$S \rightarrow A \cup S \cup B$ 1) $\langle A \rangle \rightarrow \dots \ell \langle C \rangle \dots$, $\langle C \rangle$ generirano moćenim u kojem je krajnji
 $A \rightarrow B \cup D \cup D \cup d$ lijevi zavr. znak $d \quad \ell \leq d$

$B \rightarrow b$ 2) $\langle A \rangle \rightarrow \dots \ell d \dots$ ili $\langle A \rangle \rightarrow \dots \ell \langle B \rangle d \quad \ell \leq d$

$D \rightarrow c$ 3) $\langle A \rangle \rightarrow \dots \langle B \rangle d \dots$, $\langle B \rangle \rightarrow \ell$ krajnji dosni znak $\ell = d$

a b c d

$a \leq \leq \leq \leq$

b

c $\Rightarrow \leq \Rightarrow$

d $\Rightarrow \dots$

$\begin{array}{c} S \\ \downarrow \\ A \\ \downarrow \\ B \\ \downarrow \\ C \\ \downarrow \\ D \end{array}$

$\begin{array}{c} S \\ \downarrow \\ A \\ \downarrow \\ D \\ \downarrow \\ C \\ \downarrow \\ D \end{array}$

$\begin{array}{c} S \\ \downarrow \\ A \\ \downarrow \\ C \\ \downarrow \\ D \end{array}$

$\begin{array}{c} S \\ \downarrow \\ A \\ \downarrow \\ C \\ \downarrow \\ D \end{array}$

$\begin{array}{c} S \\ \downarrow \\ A \\ \downarrow \\ C \\ \downarrow \\ D \end{array}$

$\begin{array}{c} S \\ \downarrow \\ A \\ \downarrow \\ C \\ \downarrow \\ D \end{array}$

$\begin{array}{c} S \\ \downarrow \\ A \\ \downarrow \\ C \\ \downarrow \\ D \end{array}$

$\begin{array}{c} S \\ \downarrow \\ A \\ \downarrow \\ C \\ \downarrow \\ D \end{array}$

$c \Rightarrow a \quad a \leq a$

$b \Rightarrow c \quad a \leq d$

$c \leq c$

$a \leq c$

$d \Rightarrow a$

$c \Rightarrow d$

$a \leq b$

143. Prelovani u S-gramatiku: 1) D stranca \rightarrow završni znak

$S \rightarrow aAb \mid bAc \mid cBa$ 2) nema ϵ -mijelaza

$A \rightarrow d \mid \epsilon$

$B \rightarrow Bc \mid g$

3) više prod. isti nezavr. znak \Rightarrow razbiti
 zavr. znakovu

a) analiza, b) uklanjanje ϵ -produkcijski

$S \rightarrow aA_1b \mid bA_2b \mid bA_1c \mid bA_2c \mid cBa \Rightarrow$

$A \rightarrow d$

$B \rightarrow Bc \mid g$

$\Rightarrow S \rightarrow aAb \mid bAb \mid bAc \mid bc \mid cBa$

c) uklanjanje pot. nezavr. znakovu D stranca produkcijski

$B \rightarrow Bc$

$S \rightarrow cBa \Rightarrow cga, cgca, sgcca, sgccca, \dots$

$B \rightarrow g$

$S \rightarrow cX$

$S \rightarrow cBa \Rightarrow X \rightarrow gY$

$Y \rightarrow cY$

$Y \rightarrow d$

d) Uvrstavanje novih prod.: e) Lijivo izlurivanje znakova a, b:

$$S \rightarrow aAb \quad A \rightarrow d$$

$$S \rightarrow ab \quad X \rightarrow g \quad Y$$

$$S \rightarrow bAc \quad Y \rightarrow c \quad Y$$

$$S \rightarrow bc \quad Y \rightarrow a$$

$$S \rightarrow cX$$

$$S \rightarrow aP \quad Q \rightarrow Ac$$

$$S \rightarrow bQ \quad Q \rightarrow c$$

$$S \rightarrow cX \quad A \rightarrow d$$

$$P \rightarrow Ab \quad X \rightarrow g \quad Y$$

$$P \rightarrow b \quad Y \rightarrow c \quad Y$$

$$Y \rightarrow d$$

f) uklanjanje novog rezavn. znakova:

$$S \rightarrow aP \mid bQ \mid cX \quad X \rightarrow g \quad Y$$

$$P \rightarrow db \mid b \quad Y \rightarrow c \quad Y \mid a$$

$$Q \rightarrow dc \mid c$$

144. S-gram.

a) uklanjanje ε-prod.

$$S \rightarrow C \mid aAc \mid bB \quad S \rightarrow C \mid aA_1c \mid aA_2c \mid bB_1 \mid bB_2 \mid a$$

$$A \rightarrow abA \mid bacA \mid \epsilon \quad A \rightarrow abA_1 \mid dbA_2 \mid bacA_1 \mid bacA_2 \Rightarrow$$

$$B \rightarrow Cc \mid bcB \mid \epsilon \quad B \rightarrow Cc \mid bcB_1 \mid bcB_2$$

$$C \rightarrow cab \mid cba \quad C \rightarrow cab \mid cba$$

$$\Rightarrow S \rightarrow C \mid aA_1c \mid aA_2c \mid bB_1 \mid bB_2 \mid a$$

$$\Rightarrow A \rightarrow abA \mid ab \mid bacA \mid bac \mid c$$

$$B \rightarrow Cc \mid bcB \mid bc$$

$$C \rightarrow cab \mid cba$$

b) uklanjanje par. rezavn. znakova desnih strana produkacija

$$S \rightarrow C \Rightarrow cab \mid cba$$

$$B \rightarrow Cc \Rightarrow cabc \mid cbac$$

$$C \rightarrow cab$$

$$C \rightarrow cba$$

$$S \rightarrow cX$$

$$X \rightarrow ab$$

$$X \rightarrow ba$$

$$B \rightarrow cXc$$

$$C \rightarrow cX$$

c) Uvjetom je novih pravila:

$$\begin{aligned} S &\rightarrow cX \mid aAc \mid aS \mid bBa \mid ba \\ A &\rightarrow abA \mid ab \mid bac \mid bac \\ B &\rightarrow cX \mid brB \mid b \\ \gamma &\rightarrow ab \mid ba \\ X &\rightarrow ab \mid ba \end{aligned}$$

d) Razlikiti za svrhu znakovni:

$$\begin{aligned} S &\rightarrow cX \mid aP \mid bQ \\ 1) P &\rightarrow A \mid ac \\ 2) Q &\rightarrow Ba \mid ba \\ A &\rightarrow abA \mid bac \mid A \\ B &\rightarrow cX \mid bcB \\ \cancel{C} &\rightarrow cX \\ X &\rightarrow ab \mid ba \end{aligned}$$

$$1) ab \dots c \mid bac \dots bac$$

$$2) ba \mid cab \mid cbc \mid bac \mid bac + cab \mid cba$$

$$P \rightarrow abAc \mid bacAc \mid ac \quad P \rightarrow aR \mid bac \mid c$$

$$Q \rightarrow cX \mid ca \mid bcBa \mid ba \quad Q \rightarrow cX \mid ca \mid bT$$

$$R \rightarrow bAc \mid c$$

$$T \rightarrow cBa \mid ba$$

Pj. $S \rightarrow cX \mid aP \mid bQ$

$$P \rightarrow aR \mid bac \mid Ac$$

$$Q \rightarrow cX \mid ca \mid bT$$

$$R \rightarrow bAc \mid c$$

$$T \rightarrow cBa \mid ba$$

$$A \rightarrow abA \mid bac \mid A$$

$$B \rightarrow cX \mid bcB$$

$$X \rightarrow ab \mid ba$$

146. S-gramm.

$$S \rightarrow abA$$

$$A \rightarrow Bbc \mid cba$$

$$B \rightarrow aSa \mid ccBb \mid \epsilon$$

a) Uklanjanje ε produkcija:

$$A \rightarrow B_1 bc \mid B_2 bc \mid cbA \Rightarrow$$

$$B_1 \rightarrow aS_a \mid ccB_1 b \mid ccB_2 b$$

$$S \rightarrow abA$$

$$A \rightarrow Bbc \mid bcl \mid cba$$

$$B \rightarrow aSa \mid ccBb \mid ccb$$

b) uklanjanje par. nezavr. znakovih dvostrukih strana produkacija:

$$A \rightarrow Bbc \Rightarrow Bbc \rightarrow aSa bc \rightarrow abA abc$$

$$B \rightarrow aSa \mid ccBb \mid \epsilon \quad Bbc \rightarrow \underline{cc} \underline{cc} Bbb \underline{bc}$$

$$B \rightarrow ccBb \quad A \rightarrow aSa bc \mid ccBbb \mid bcl \mid cbA$$

c) Uvođenje novih produkacija:

$$S \rightarrow abA$$

$$A \rightarrow aSa bc \mid ccBbb \mid bcl \mid cbA$$

$$B \rightarrow ccBb \mid ccb$$

d) Različiti zapisni znakovi; e) nezavr. znakovi:

$$S \rightarrow abA$$

$$A \rightarrow aSa bc \mid bcl \mid cP$$

$$P \rightarrow cBbb \mid ba$$

$$B \rightarrow ccQ$$

$$Q \rightarrow Bb \mid b$$

$$S \rightarrow abA$$

$$A \rightarrow aSa bc \mid bcl \mid cP$$

$$P \rightarrow cBbb \mid ba$$

$$B \rightarrow ccQ$$

$$Q \rightarrow ccQb \mid b$$

(148.) Q-gramatika: \Rightarrow 1) D stranica \rightarrow zavr. znak ili ϵ
S \rightarrow AcD|c 2) Ako više prod. imma isti nezavr. znak na L stranici ponda
A \rightarrow Ba|bDc njihovi skupovi PRIMIJENJ nemaju zajedn.
B \rightarrow Ce|efA elementata

C \rightarrow B|a B \rightarrow Ce \rightarrow Be \rightarrow Cee \rightarrow Bee \rightarrow Ceee
D \rightarrow a|D|b

1) Uklanjanje por. nezavr. znakova:

B \rightarrow eC|efA \Rightarrow B \rightarrow eP

C \rightarrow eC|efA|a C \rightarrow ePla

P \rightarrow C|fA \Rightarrow P \rightarrow ePla|fA

A \rightarrow ePa|bDc

S \rightarrow ePacD|bDccD|c

A \rightarrow ePa|bDc

B \rightarrow eP

C \rightarrow eP|o

P \rightarrow ePla|fA

(150.) LL(1)-opravni:

- 1) $S \rightarrow S_{Co} \rightarrow \text{PRIMIJE} \cap \{1\} = \text{ZAP}(S) \cup \text{ZAP}(c) = \{a, c\}$
- 2) $S \rightarrow aAc \rightarrow \dots - (2) = \{a\}$
- 3) $S \rightarrow abSb \rightarrow \dots - (3) = \{b\}$
- 4) $A \rightarrow cAc \rightarrow \dots - (4) = \{c\}$
- 5) $A \rightarrow dBac \rightarrow \dots - (5) = \{d\}$
- 6) $A \rightarrow dbAc \rightarrow \dots - (6) = \{d\}$
- 7) $B \rightarrow badB \rightarrow \dots - (7) = \{b\}$
- 8) $B \rightarrow bbaB \rightarrow \dots - (8) = \{b\}$
- 9) $B \rightarrow d \rightarrow \dots - (9) = \{d\}$

3 NAČINA PRETVORBE: 1) lijevo izlučivanje, 2) zamjena nezavisnih znakova, 3) lijeva mukurzija

$$S \rightarrow aP \rightarrow 2, 3$$

$$P \rightarrow \epsilon$$

$$P \rightarrow Ac$$

$$P \rightarrow bSb$$

$$5, 6: A \rightarrow dBQdR$$

$$Q \rightarrow aC$$

$$R \rightarrow bAc$$

$$7, 8: B \rightarrow bT$$

$$T \rightarrow \epsilon$$

$$T \rightarrow aaB$$

$$T \rightarrow bcB$$

~~$$S \rightarrow aPcd$$~~

~~$$P \rightarrow cda$$~~

$$\Rightarrow S \rightarrow aP$$

$$= P \rightarrow Ac | bSb | ca | \epsilon$$

$$A \rightarrow cAc | dBQdR$$

$$Q \rightarrow aC$$

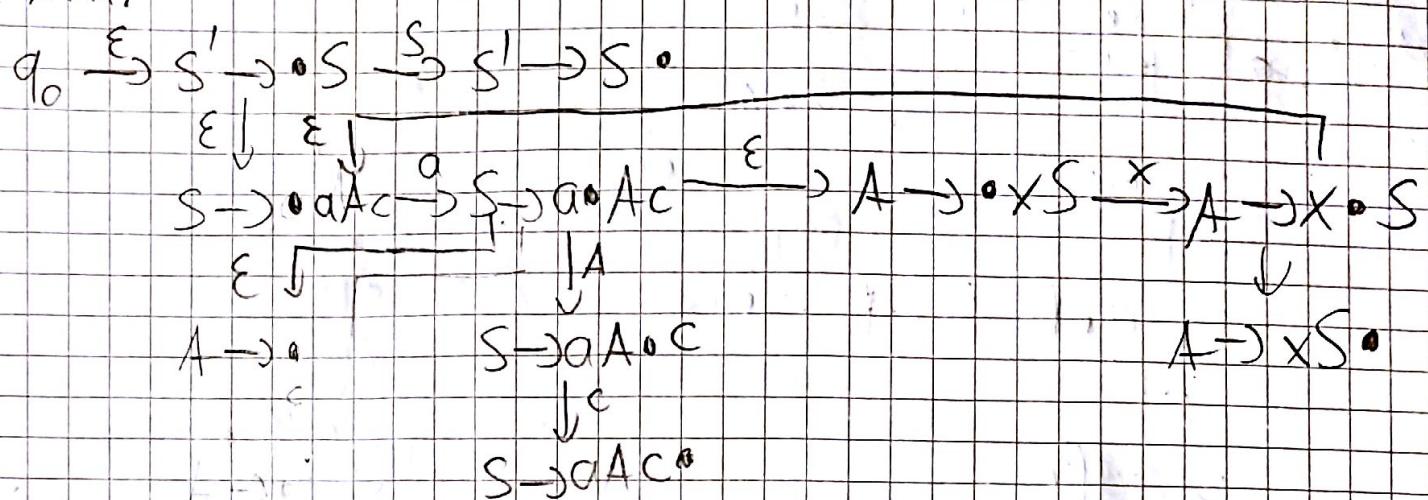
$$R \rightarrow bAc$$

$$B \rightarrow bT$$

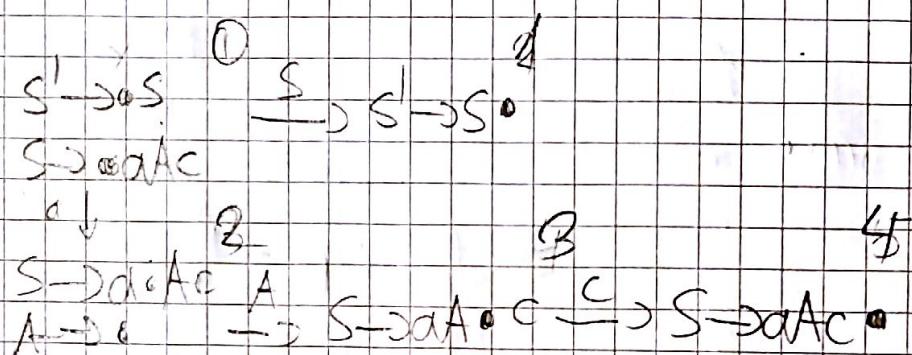
$$T \rightarrow aaB | bcB | bT$$

$$180. \text{ SLR}(1)\text{-PARSER} \Rightarrow \begin{array}{c} 1) S \rightarrow \varnothing A C \\ 2) A \rightarrow x S \\ | \\ 3) 4) S' \rightarrow S \end{array}$$

E-NKA



PICA



$A \rightarrow^{\circ} S$
 $X \downarrow 10$
 $A \rightarrow^{\circ} X \cdot S$ \xrightarrow{S} $A \rightarrow X \cdot S^{\circ}$
 $S \rightarrow^{\circ} S' / C$

Stumjo a c x I S A
O P2 S1

1 Prithvi

2 i 123 p5

3 11. PL

4 B-1 R1

5 p2

6 R6

6 Slijediti $\{SF\} \{c_1 \perp\}$

$$\text{slipcl}(A) = \{c\}$$

Novo Štamjë

(176) $SU(2)$ $S \rightarrow^1 m | ^2 p$ 4) $Q \rightarrow b$
 $3) P \rightarrow O P$ 5) $S' \rightarrow S$

$$\begin{array}{c}
 \text{ENLA: } \epsilon \xrightarrow{\quad} S \xrightarrow{\epsilon} S \xrightarrow{\epsilon} S \xrightarrow{\epsilon} S \\
 q_0 \swarrow \qquad \downarrow \qquad \searrow \qquad \downarrow \qquad \searrow \\
 S \xrightarrow{\epsilon} QP \qquad \qquad \qquad S \xrightarrow{\epsilon} m \xrightarrow{m} S \xrightarrow{\epsilon} m \\
 \downarrow \qquad \qquad \qquad \qquad \qquad \downarrow \qquad \qquad \qquad \qquad \qquad \downarrow \\
 S \xrightarrow{\epsilon} QP \xrightarrow{\epsilon} P \xrightarrow{\epsilon} QP \xrightarrow{\epsilon} P \xrightarrow{\epsilon} QP \\
 \downarrow \qquad \qquad \qquad \qquad \qquad \downarrow \qquad \qquad \qquad \qquad \qquad \downarrow \\
 S \xrightarrow{\epsilon} QP \xrightarrow{\epsilon} P \xrightarrow{\epsilon} QP \xrightarrow{\epsilon} P \xrightarrow{\epsilon} QP \\
 \downarrow \qquad \qquad \qquad \qquad \qquad \downarrow \qquad \qquad \qquad \qquad \qquad \downarrow \\
 S \xrightarrow{\epsilon} QP \xrightarrow{\epsilon} P \xrightarrow{\epsilon} QP \xrightarrow{\epsilon} P \xrightarrow{\epsilon} QP
 \end{array}$$

DKA:

Stomije m q b f s ip q
① p1 p2 s1

1 Prithvi.

2 P4 S3S5

3 B7

11 104

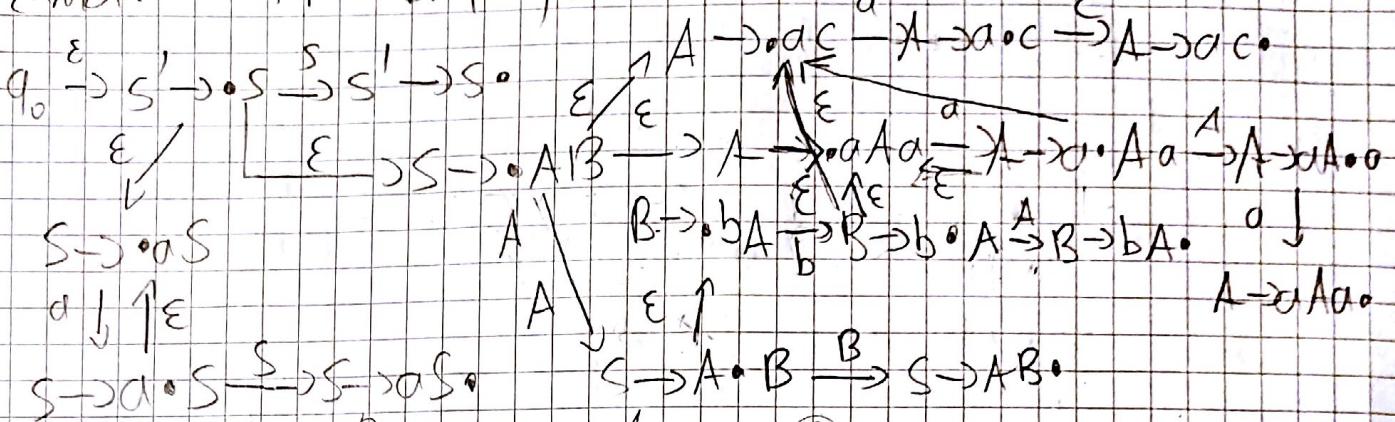
4 124
5 21

5 P4

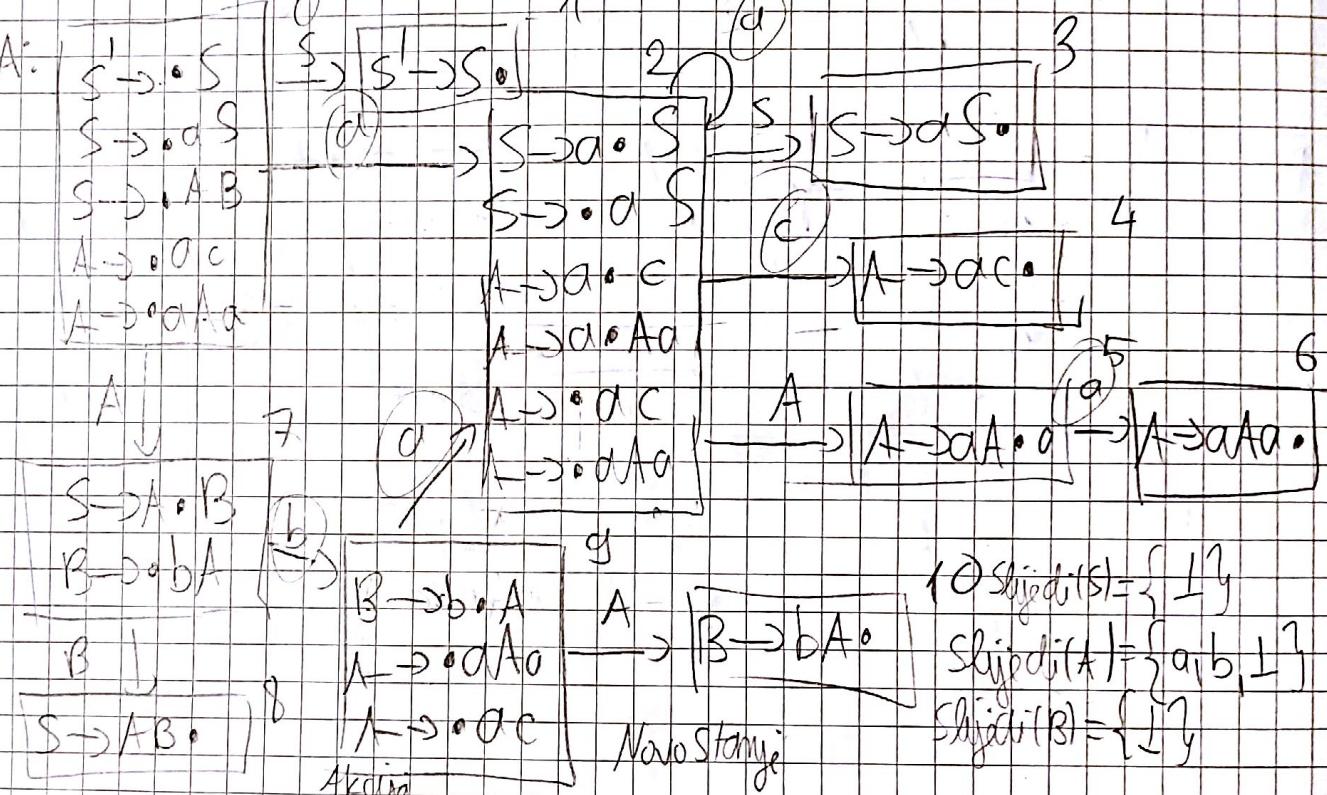
6 12

(178) SLR(1) 1) $S \rightarrow A B$, 2) $S \rightarrow aS$, 3) $A \rightarrow aA$, 4) $A \rightarrow ac$

$$\text{E-NKA: } 5) B \rightarrow bA, 6) S \rightarrow S$$



DKA 1



Stanje	a	b	c	\perp	S	A	B
0	P2						
1						S1	S7
2	P2		P4				
3						S3	
4	R2	R4			R2		
5	P6						S5
6	R4	R4			R4		
7		P9					S8
8					R1		
9	P2						S10
10					R5		

- ⑧ AUD #1 Zamijeni (1); Pomakni; $S \rightarrow aA$
 #2 - II-(S); - II-; $S \rightarrow bS$, ~~A~~ $A \rightarrow aS$
 #3 - II-(bB); - II-; $S \rightarrow cBb$
 #4 Izvući; Zamijeni ($A \rightarrow \epsilon$), $B \rightarrow \epsilon$
 #5 Zamijeni (AB), Pomakni; $B \rightarrow aBbA$
 #6 - II-(SS); - II-; $B \rightarrow cSS$
 #7 Izvući; Pomakni
 #8 Odloži; #9 Pmihvati;

$S \rightarrow aA \mid bS \mid cBb$

$A \rightarrow aS \mid \epsilon$

$B \rightarrow aBbA \mid cSS \mid \epsilon$

160) 1. red: $S \rightarrow aAc$, $S \rightarrow bS$, $S \rightarrow cBb$

2. red: $A \rightarrow aS$, $A \rightarrow \epsilon$

3. red: $B \rightarrow aBbA$, $B \rightarrow \epsilon$, $B \rightarrow cSS$

R:

$S \rightarrow aAc \mid bS \mid cBb$

$A \rightarrow aS \mid \epsilon$

$B \rightarrow aBbA \mid cSS \mid \epsilon$

⑨ $AUD \rightarrow$ Parser Pomakni-Pronesti \Rightarrow 1) $S \rightarrow pA m C$, 2) $S \rightarrow bA$
 3) $A \rightarrow dSa$, 4) $A \rightarrow e$, 5) $C \rightarrow dA$

a) Određivanje relacije Jspodznaka:

Zapovijed(S) = {p, b}, Zapovijed(A) = {d, e}, Zapovijed(C) = {d}

1) $S \rightarrow pA m C \rightarrow$ Jspodznaka(p, d), Jspodznaka(p, e), Jspodznaka(A, m),
 Jspodznaka(m, d)

2) $S \rightarrow bA \rightarrow$ Jspodznaka(b, d), Jspodznaka(b, e)

3) $A \rightarrow dSa \rightarrow$ Jspodznaka(d, p), Jspodznaka(d, b), Jspodznaka(S, a)

5) $C \rightarrow dA \rightarrow$ Jspodznaka(d, d), Jspodznaka(d, e)

\rightarrow Dodatno: Jspodznaka(V, p), Jspodznaka(V, b)

b) Određivanje relacije Reduciранznakom ~~R2Z~~

Slijedi(S) = {a, ⊥}, Slijedi(A) = {a, m, ⊥}, Slijedi(C) = {a, ⊥}

pAmC \rightarrow pdSa mC \rightarrow pd bA mC, dSa \rightarrow d pAmCa

1) $S \rightarrow pA m C$

R2(C, a), R2(C, ⊥)

2) $S \rightarrow bA$

R2(A, a), R2(A, ⊥)

3) $A \rightarrow dSa$

R2(a, a), R2(a, m), R2(a, ⊥)

4) $A \rightarrow e$

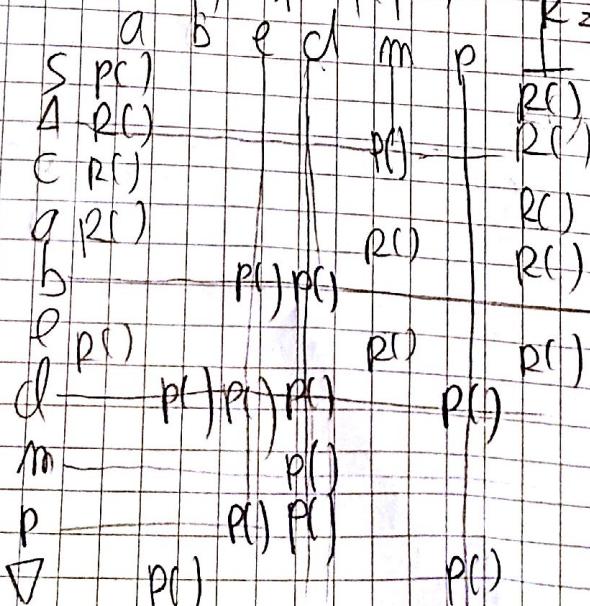
R2(e, a), R2(e, m), R2(e, ⊥)

5) $C \rightarrow dA$

R2(A, a), R2(A, ⊥)

Dodatako:

R2(S, ⊥)



Parsor:

P($\{$

Pomakni)

$\}$

R($\{$

ako(vrhStoga = "pAmC")

Reduciraj(1);

inace ako(vrhStoga = "bA")

Reduciraj(2);

inace ako(vrhStoga = "cSa")

Reduciraj(3);

inace ako(vrhStoga = "e")

Reduciraj(4);

inace ako(vrhStoga = "dA")

Reduciraj(5);

inace ako(vrhStoga = "Sv")

& & (fa2 = "1")

Prihvati();

inace Odbac(1)

$\}$

Parsor:

P($\{$

Pomakni)

$\}$

R($\{$

ako(vrhStoga = "abA")

Reduciraj(1);

inace ako(vrhStoga = "abB")

Reduciraj(2);

155. Parsor Pomakni - Pronaci:

1) S \rightarrow abA, 2) A \rightarrow abB, 3) A \rightarrow bb

4) B \rightarrow c

a) Ispod znaka \equiv Z :

Zapocinje(S) = {a}, Zapocinje(A) = {a, b},
Zapocinje(B) = {c}

1) S \rightarrow abA \rightarrow Z(a, b), Z(b, a), Z(b, b)

2) A \rightarrow abB \rightarrow Z(a, b), Z(b, c)

3) A \rightarrow bb \rightarrow Z(b, b)

Dod: Z(b, a)

b) Reduciran znakom \equiv RZ :

Slijedi(S) = { }, Slijedi(A) = { }, Slijedi(B) = { }

1) S \rightarrow abA \rightarrow RZ(A, 1), 2) A \rightarrow abB \rightarrow RZ(B, 1),

3) A \rightarrow bb \rightarrow RZ(b, 1), 4) B \rightarrow c \rightarrow RZ(c, 1)

Dod: RZ(S, 1)

a b c 1

S				
A				R(1)
B				R(1)
a	1		P(1)	
b	P(1)	P(1)	P(1)	R(1)
c				R(1)
v		P(1)		

inace ako(vrhStoga = "bb")

Reduciraj(3);

inace ako(vrhStoga = "c")

Reduciraj(4);

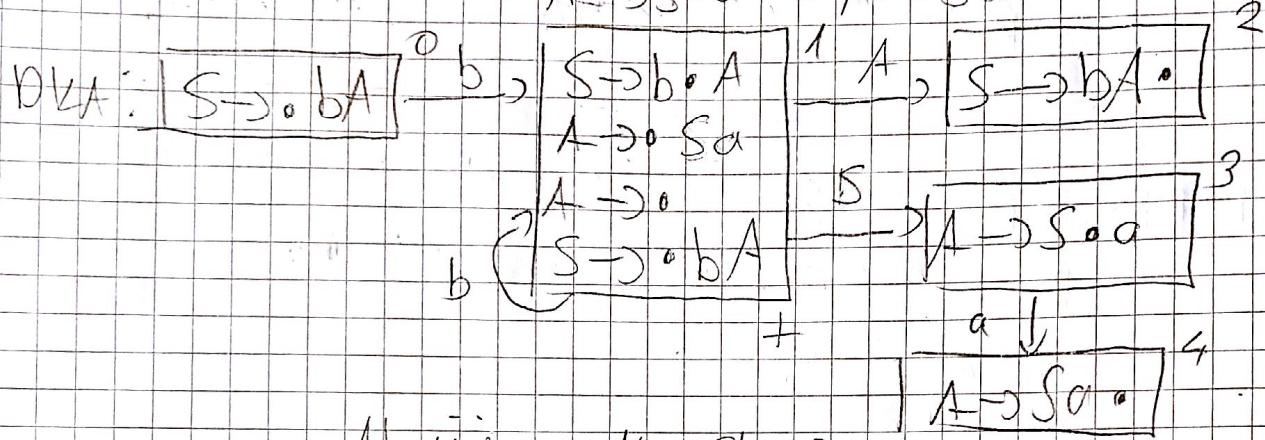
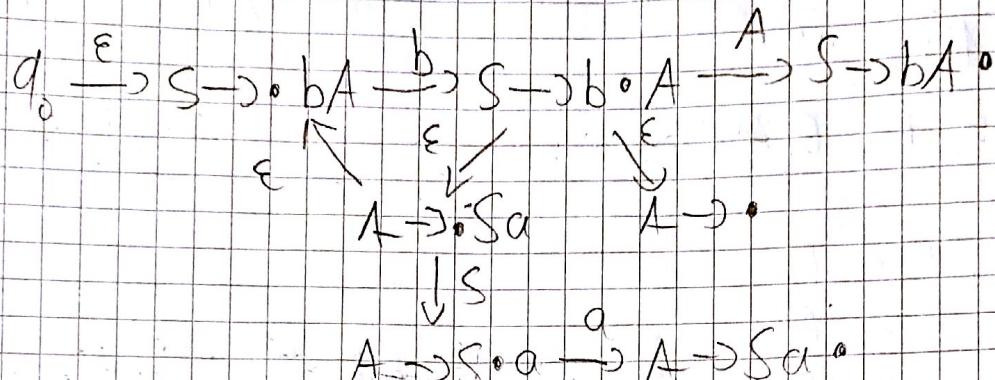
inace ako(vrhStoga = "Sv" & fa2 = "1")

Prihvati();

inace Odbac();

$$186. L2(1) \rightarrow S \xrightarrow{1)} bA \quad A \xrightarrow{2)} Sa \quad | \quad \varepsilon^3)$$

ε -NFA:



Akupo Novo Stmijo

Stanje b a | A S Sljedci(S) = {a?}

O p1

1

R3

R3

S2 S3

Sljedci(A) = { | , a? }

2

Pnihavci

3

P4

4

R2 R2

$$S \xrightarrow{} bA \rightarrow bS_a \rightarrow bbAa$$

MI 2013. / (6.) P_n, I_n

a) Kompildatonom:

$P_1 \rightarrow P_2 \rightarrow P_3 \rightarrow P_4 \rightarrow P_5 \rightarrow P_6 \rightarrow P_7 \rightarrow I_1 \rightarrow I_2 \rightarrow I_3 \rightarrow I_4 \rightarrow I_5 \rightarrow I_6 \rightarrow I_7 \rightarrow \text{STOP}$

b) Interpretatorom:

$P_1 \rightarrow I_1 \rightarrow P_2 \rightarrow I_2 \rightarrow P_3 \rightarrow I_3 \rightarrow P_4 \rightarrow I_4 \rightarrow P_5 \rightarrow I_5 \rightarrow P_6 \rightarrow I_6 \rightarrow P_7 \rightarrow I_7 \rightarrow \text{STOP}$

7. a) sodium 78ggg b) gggosom8 sodium 7 dovet 8

sodium r1

78 r4

ggg r4

ggg r4 dovet 8 r4

osom r2

8 r4

sodium r1

7 r4

c) dovet 97 sodium osom 8

dovet r3

97 r4

sodium r4

osom r2

8 r4

(42.)

PBR KPOS

- 1 main
 - 2 (
 - 3)
 - 4 {
 - 5 =
 - 6 *
 - 7 -
 - 8 .
 - 9 ,
 - 10 if
 - 11 >
 - 12 ~
 - 13 for
 - 14 <
-
- PER 1DN

- 1 023
- 2 0C
- 3 b67
- 4 a5
- 5 0
- 6 ..

- PER 1CN TIP
- 1 27 Jnt
 - 2 3 Jnf
 - 3 77 Jnt
 - 5 12 Jnt
 - 6 1 Jnt
 - 7 3, 7 NumPl
 - 4 0 Jnt

Jivomii Praharan

main

(

)

{

}

a23

=

c

+

b57

*

27

a5

if

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a5

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a

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a23

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a'

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12

(,..)

Unif. 3rd E

Kazaljka

KPOS

KROS

KROS

KROS

1DN

KROS

	RBR	IPN	TIP	J2U program	Uniformmí DNA	Kodali
1	import			import	KROS	1
2	.			java	IPN	2
3	*			.	KROS	3
4	:			swing	IPN	4
5	/			.	KROS	5
6	public			public	KROS	6
7	class			class	KROS	7
8	{			FrameDemo	IPN	8
9	void			.	KROS	9
10	(public	KROS	10
11	[static	KROS	11
12]			void	KROS	12
13)			main	IPN	13
14	=			.	KROS	14
15	now			String	IPN	15
16	:			.	KROS	16
17	}			String	IPN	17
	RBR	IPN		.	KROS	18
1	javay			.	KROS	19
2	swing			JFrame	IPN	20
3	FrameDemo			JFrame	IPN	21
4	main			=	KROS	22
5	String			new	KROS	23
6	args			JFrame	IPN	24
7	Jframe			(KROS	25
8	Jframe			"Exmpla"	KON	26
9	setSize)	KROS	27
10	setVisible			;	KROS	28
	RBR	IPN		JFrame	IPN	29
1	"Exmpla"			setSize	IPN	30
2	400			(KROS	31
3	100			400	KON	32
4	frame			;	KROS	33
				100	KON	34
)	KROS	35
				;	KROS	36
				;	KROS	37

J2v. program	<u>Uniformmi 2ndk</u>	<u>Kielfjka</u>
<u>ifname</u>	IPN	8
,	KROS	2
<u>setVisible</u>	IPN	10
(KROS	11
<u>final</u>	KON	4
)	KROS	12
,	KROS	4
)	KROS	18
<u>try</u>	KROS	18

51.

$$\text{AKO} \underline{I} + \underline{310 \text{MPA}} + j \underline{WACE} \underline{A} = 4 i$$

RBR | KROS

1 AKO
2 >
3 0 NDA
4 +
6 WACE
7 =
5 | i

Jzwnni program

AKO

I

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31
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WACE

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i

Uniformni zndz

KROS

IDN

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RBR | KON

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KROS

KROS

KROS

IDN

KROS

KON

KROS

$$\begin{array}{ll}
 \text{(113)} \quad S \rightarrow aAbcB, \quad A \rightarrow aA & B \rightarrow bB \quad C \rightarrow c \\
 S \rightarrow cA & A \rightarrow b \\
 & A \rightarrow dAec
 \end{array}
 \quad
 \begin{array}{ll}
 & B \rightarrow eC \quad C \rightarrow d \\
 & C \rightarrow e
 \end{array}$$

$$a) PA = \{ Q, \bar{2}, \Gamma, S, q_0, S, \emptyset \}, Q = \{ q_0 \}, \Sigma = \{ a, b, c, d, e \}$$

$$\Gamma = \{ S, A, B, C, b, q_0, \bar{V} \}$$

$a \ b \ c \ d \ e \ $ $S \ 1 \ - \ 2 \ - \ - \ -$ $A \ B \ 7 \ - \ 4 \ - \ -$ $B \ - \ 5 \ - \ - \ 6 \ -$ $C \ - \ - \ 8 \ 9 \ 10 \ -$ $b \ - \ 11 \ - \ - \ - \ -$ $c \ - \ - \ 11 \ - \ -$ $e \ - \ - \ - \ 11 \ -$ $\bar{V} \ - \ - \ - \ - \ 12$	$a) A \rightarrow bd \Rightarrow \text{zamijeni } (d)$; Pomažući 1) $S \rightarrow aAbcB$ 2) $S \rightarrow cA$ 3) $A \rightarrow aA$ 4) $A \rightarrow dAec$ 5) $B \rightarrow bB$ 6) $B \rightarrow eC$
--	--

a) 1 zamjjeni $(BcbA)$; Pomažući;

$$\begin{array}{l}
 2 - 11 - (A) \quad | \quad - 11 - \\
 3 - 11 - (A) \quad | \quad - 11 - \\
 4 - 11 - (cA) \quad | \quad - 11 - \\
 5 - 11 - (B) \quad | \quad - 11 - \\
 6 - 11 - (C) \quad | \quad - 11 -
 \end{array}$$

b) $A \rightarrow b \rightarrow \text{zvuci}$; Pomažući;

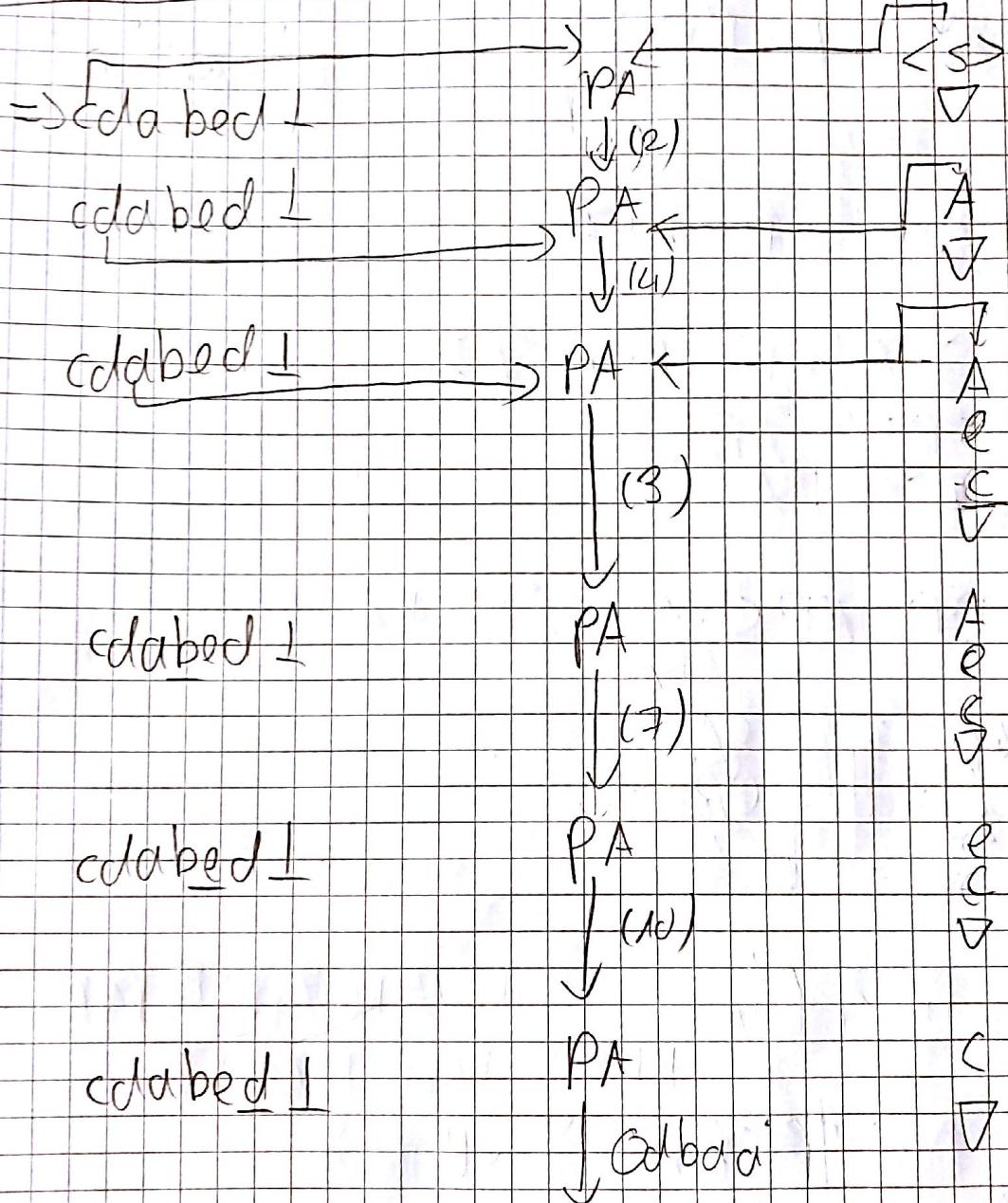
$$\begin{array}{l}
 7) A \rightarrow b \quad 7 - 1 \quad | \quad - \\
 8) C \rightarrow C \quad 8 - 11 \quad | \quad - \\
 9) C \rightarrow d \quad 9 - 11 \quad | \quad - \\
 10) C \rightarrow e \quad 10 - 11 \quad | \quad -
 \end{array}$$

c) Preliminarnje akcije za zavrsne znakove na vrhu stoga

M Izvuci i Pomakni

d) Preinvardanje i odbranjanje miza

12 Prahvatiti
- Odbraniti



$$Q28. \quad 3+5^*2 \Rightarrow R, 6+2^*B < R > 18$$

$$\downarrow \quad \text{AKUM: } 3 \\ \#1 \Rightarrow$$

$$+5^* \Rightarrow \#5 \quad \text{AKUM: } 8$$

$$+2^* \Rightarrow \#6 \quad \text{AKUM: } 16$$

$$\Rightarrow R_1 \Rightarrow \#2 \quad R = 16$$

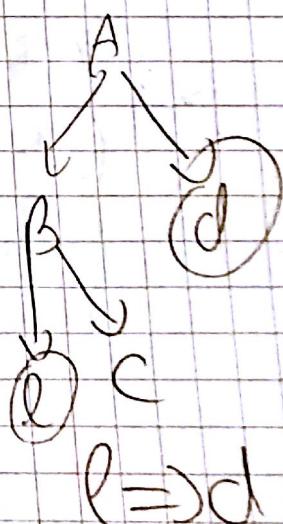
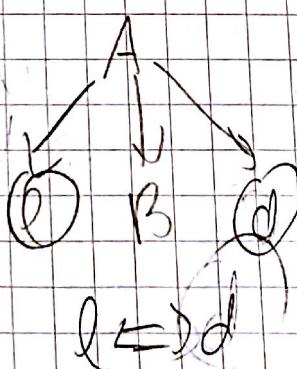
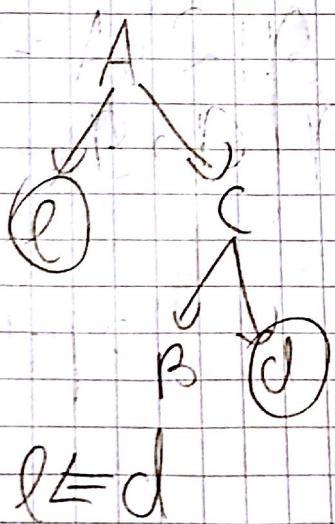
$$+6^* \Rightarrow \#1 \quad \text{AKUM: } 6$$

$$+2^* \Rightarrow \#5 \quad \text{AKUM: } 8$$

$$+B < \Rightarrow \#6 \quad \text{AKUM: } 24$$

$$< R > \Rightarrow \#3 \quad 16 < 24 \vee \Rightarrow \text{AKUM: } 16$$

$$> 18, \Rightarrow \text{GRESKA}$$



OPREĐIVANJE PĒLACIJA PREDMOSTI:

$\langle A \rangle \rightarrow \dots \ell \langle C \rangle \dots$, $\langle C \rangle$ generira modumiz u kojim je
krajnjoj lijevi znak. zatko d $\ell \leq d$

$\langle A \rangle \rightarrow \dots Ad \dots \ell \langle B \rangle d \quad \ell \leq d$

$\langle A \rangle \rightarrow \dots \langle B \rangle d \dots$, $\langle B \rangle \rightarrow d$ krajnjoj desni znak $\ell \Rightarrow d$

PR. $E \rightarrow E + T \mid T$

$T \rightarrow T * P \mid P$

$P \rightarrow (E) \mid a$

$\vdash * () a$

$\vdash \Rightarrow \Leftarrow E \Rightarrow \Leftarrow$

$\vdash \Rightarrow \Leftarrow E \Rightarrow \Leftarrow$

$\vdash \Leftarrow \Leftarrow \Leftarrow \Leftarrow$

$\vdash \Rightarrow \Rightarrow \Rightarrow \Rightarrow$

$a \Rightarrow \Rightarrow \Rightarrow \Rightarrow$

