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Prvi zadatak 15 bodova.

Za jezik:

$$L = \{a^m b^n c^p \mid m + n + p \equiv 1 \pmod{3}\}$$

pronadite sve rezidualne te konstruirajte minimalni DKA koji ga prepoznaje. Konstruirajte automat koji prepoznaje L^c .

Rješenje:

$$a^{-1}L = \{a^m b^n c^p \mid m + n + p \equiv 0 \pmod{3}\} = L_1$$

$$b^{-1}L = \{b^n c^p \mid n + p \equiv 0 \pmod{3}\} = L_2$$

$$c^{-1}L = \{c^p \mid p \equiv 0 \pmod{3}\} = L_3$$

$$a^{-1}L_1 = \{a^m b^n c^p \mid m + n + p \equiv 2 \pmod{3}\} = L_4$$

$$b^{-1}L_1 = \{b^n c^p \mid n + p \equiv 2 \pmod{3}\} = L_5$$

$$c^{-1}L_1 = \{c^p \mid p \equiv 2 \pmod{3}\} = L_6$$

$$a^{-1}L_2 = \emptyset$$

$$b^{-1}L_2 = \{b^n c^p \mid n + p \equiv 2 \pmod{3}\} = L_5$$

$$c^{-1}L_2 = \{c^p \mid p \equiv 2 \pmod{3}\} = L_6$$

$$a^{-1}L_3 = \emptyset$$

$$b^{-1}L_3 = \emptyset$$

$$c^{-1}L_3 = \{c^p \mid p \equiv 2 \pmod{3}\} = L_6$$

$$a^{-1}L_4 = L$$

$$b^{-1}L_4 = \{b^n c^p \mid n + p \equiv 1 \pmod{3}\} = L_7$$

$$c^{-1}L_4 = \{c^p \mid p \equiv 1 \pmod{3}\} = L_8$$

$$a^{-1}L_5 = \emptyset$$

$$b^{-1}L_5 = L_7$$

$$c^{-1}L_5 = L_8$$

$$a^{-1}L_6 = \emptyset$$

$$b^{-1}L_6 = \emptyset$$

$$c^{-1}L_6 = L_8$$

$$a^{-1}L_7 = \emptyset$$

$$b^{-1}L_7 = L_2$$

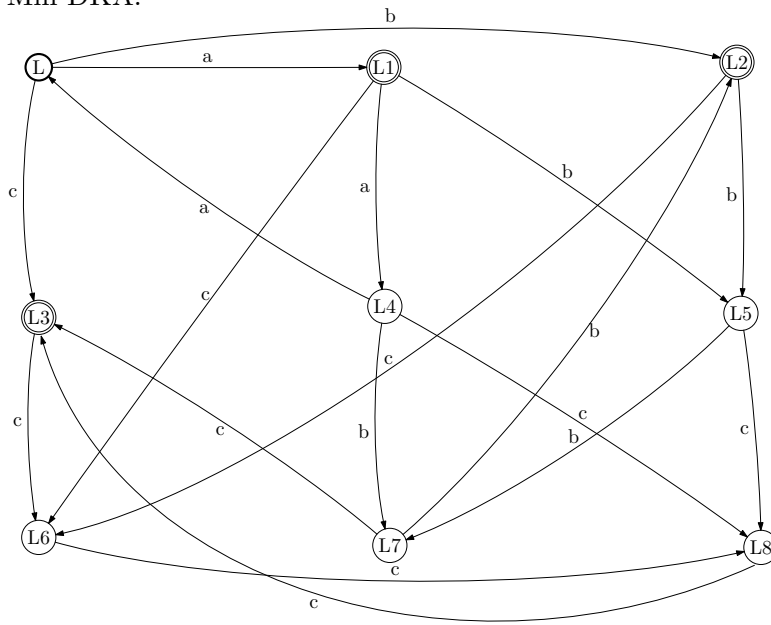
$$c^{-1}L_7 = L_3$$

$$a^{-1}L_8 = \emptyset$$

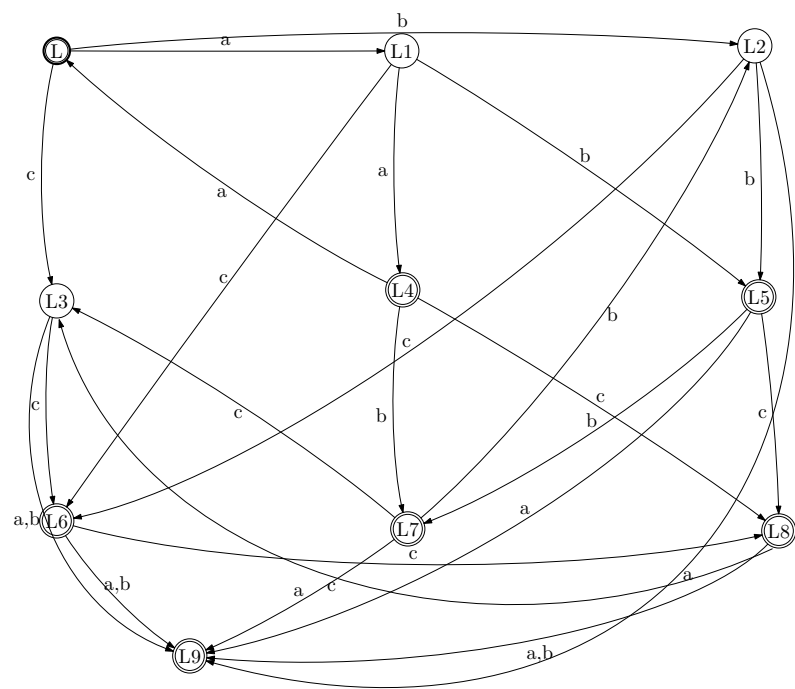
$$b^{-1}L_8 = \emptyset$$

$$c^{-1}L_8 = L_3$$

Min DKA:

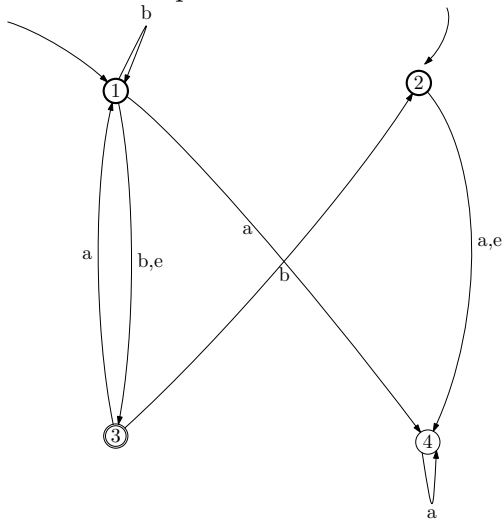


DKA za L^c :



Drugi zadatak 15 bodova

Dani NDKA prebacite u ekvivalentni DKA



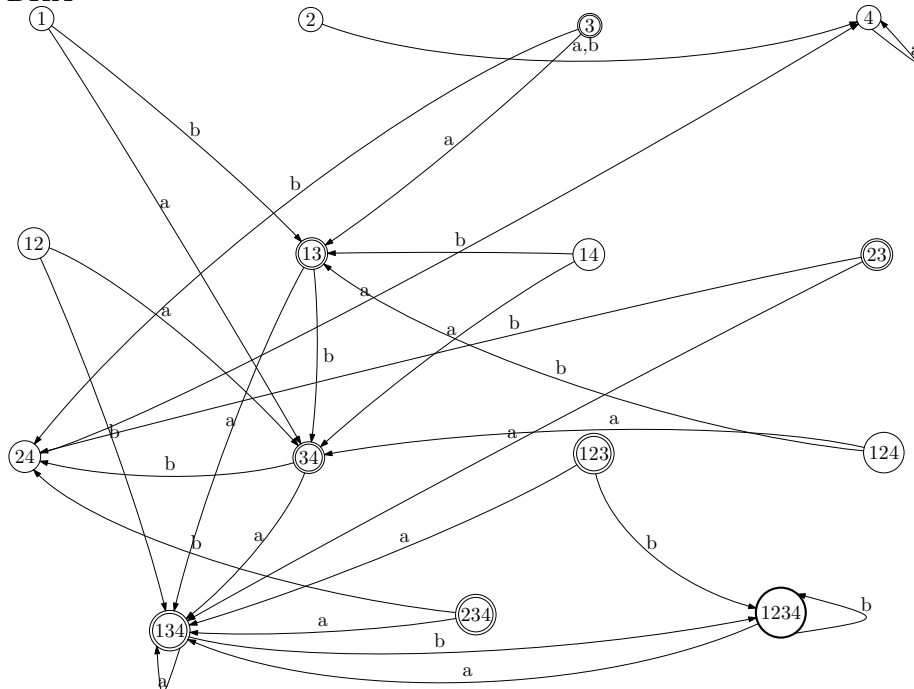
Rješenje.

$$Q = \rho(\{a, b, c\}), q_0 = E(\{1, 2\}) = \{1234\}$$

$$F = \{\{3\}, \{13\}, \{23\}, \{34\}, \{123\}, \{134\}, \{234\}, \{1234\}\}$$

	1	2	3	4	12	13	14	23	24	34	123	124	134	234	1234
a	34	4	13	4	34	134	34	134	4	134	134	34	134	134	134
b	13	4	24	\emptyset	134	123	13	24	\emptyset	24	1234	13	1234	24	1234

DKA



Nedostižna stanja su 1,2,3,4,12,13,14,23,24,34,123,124,234.