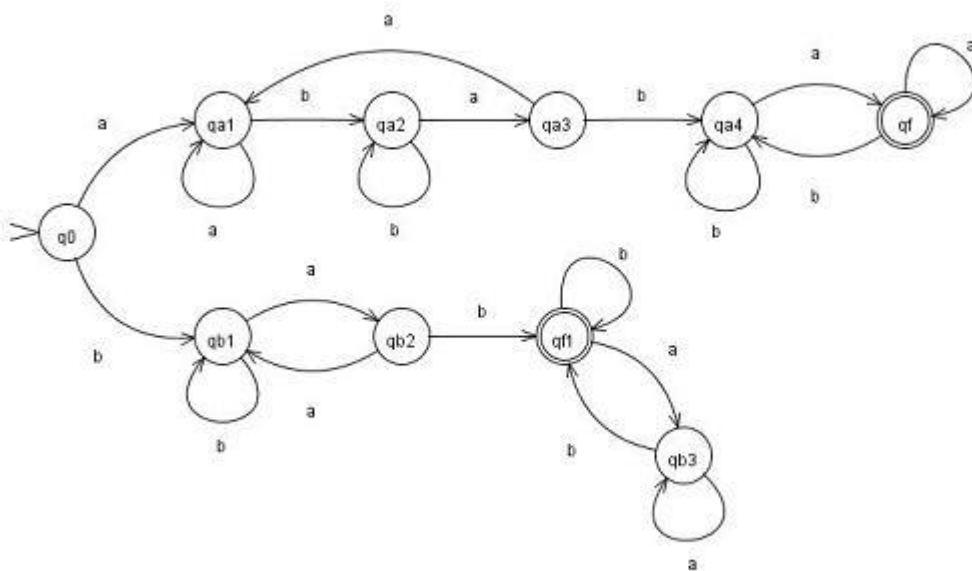


(10) **Zadatak 1.** *Konstruirajte DKA koji prepoznaje jezik*
 $L = \{w \in (a + b)^* \mid \text{riječ počinje i završava istim slovom, te sadrži riječ } bab \}$. *Koji regularni izraz opisuje jezik L ?*

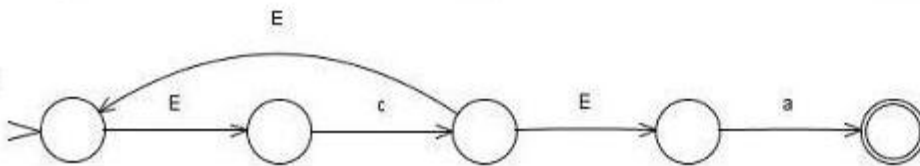
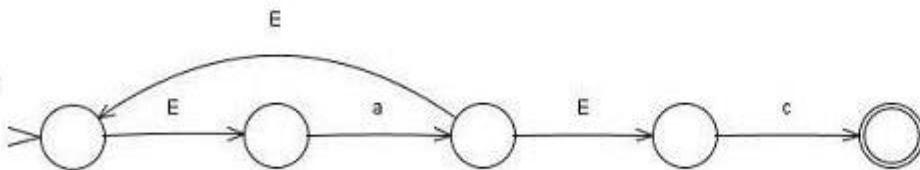
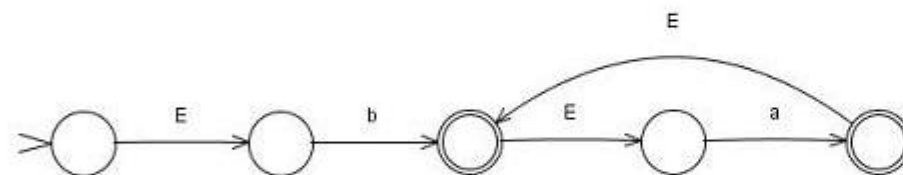
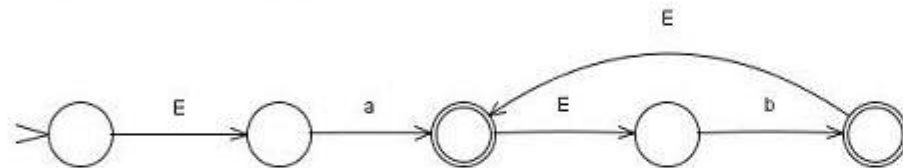
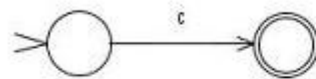
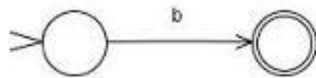
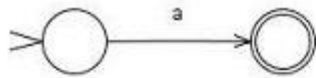
DKA:

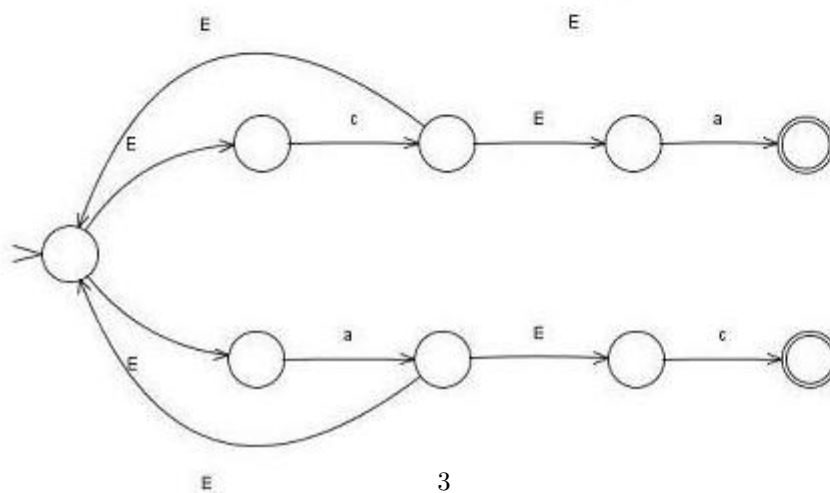
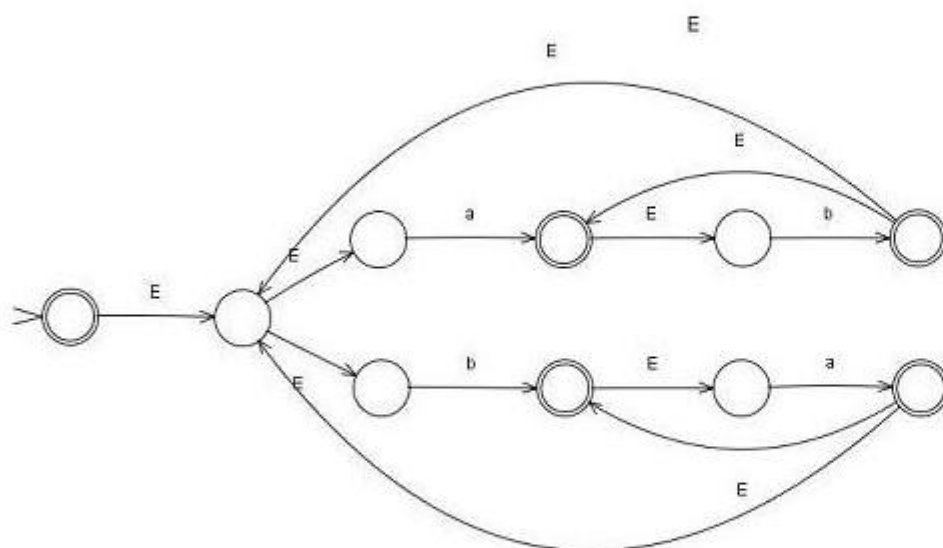
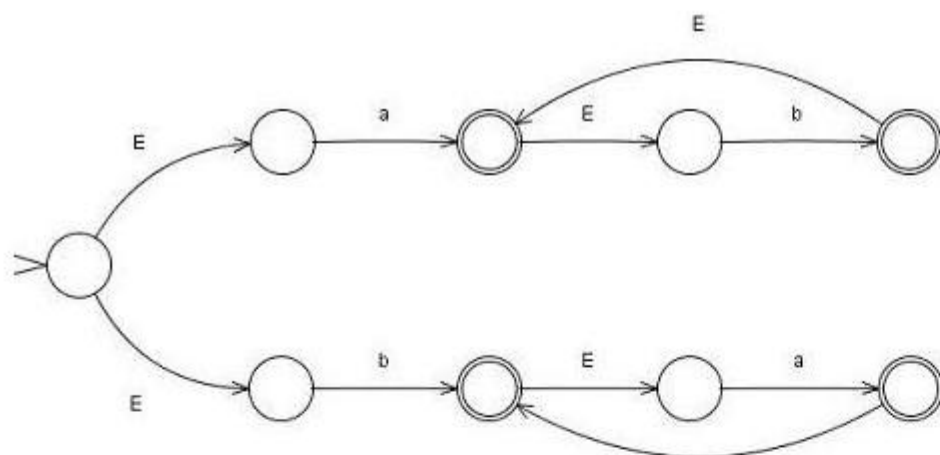


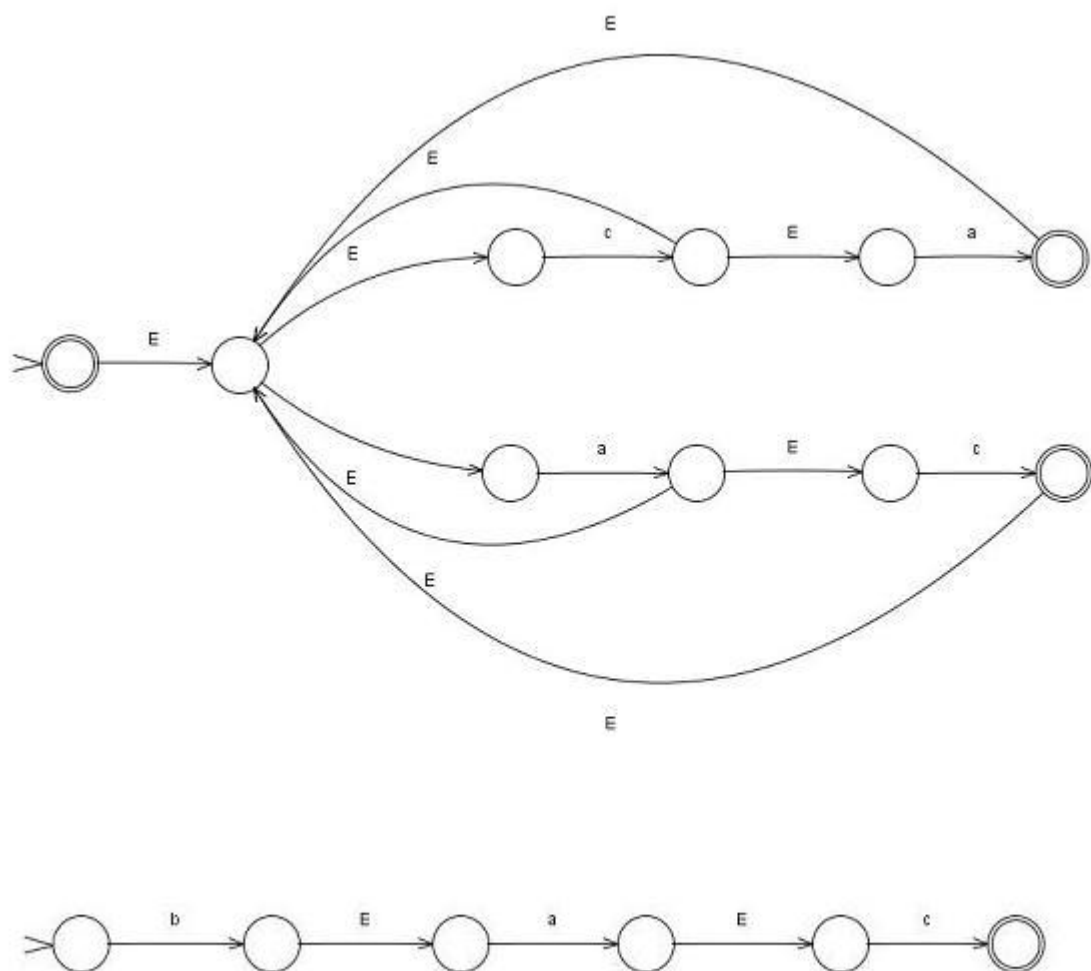
regularni izraz:

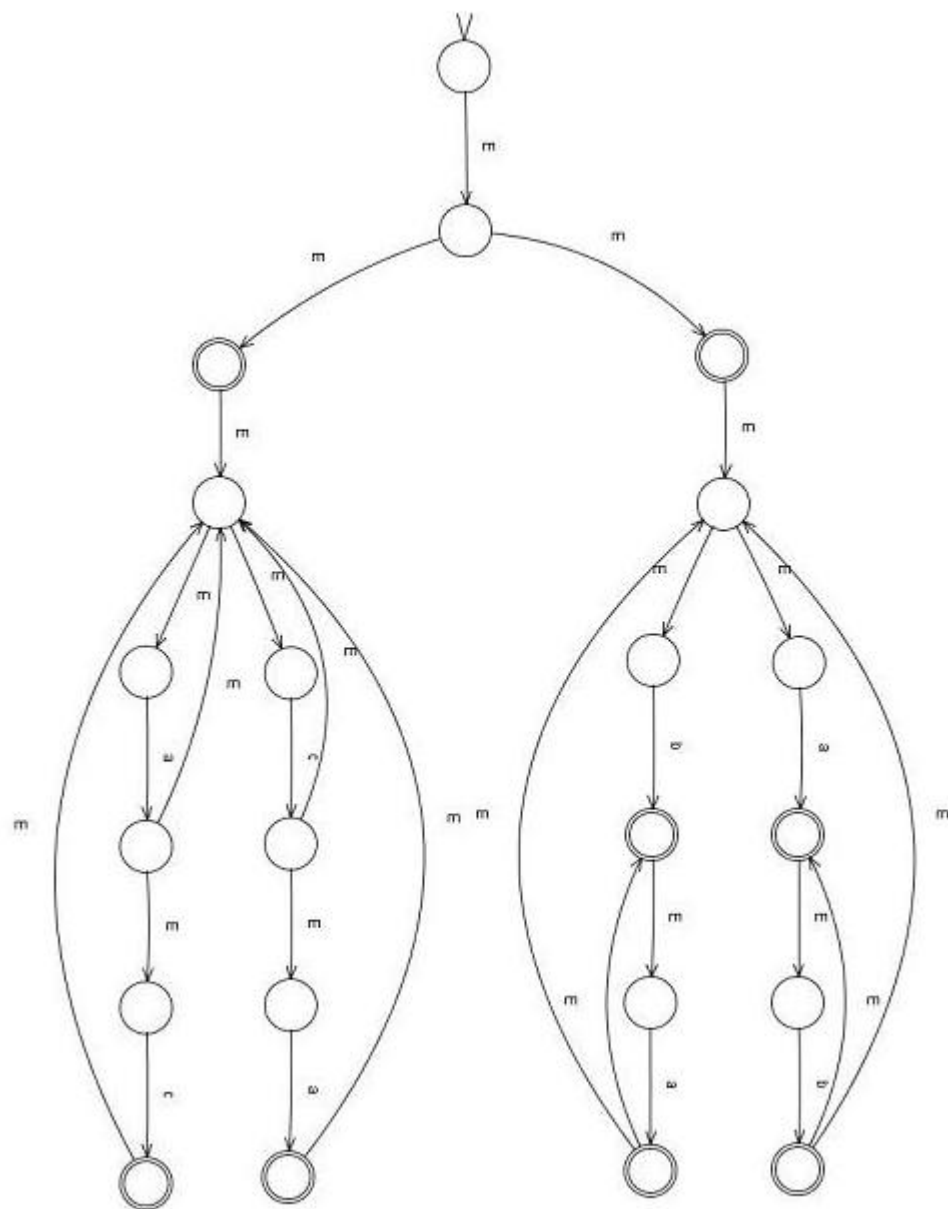
$bab + a(a + b)^*bab(a + b)^*a + b(a + b)^*bab(a + b)^*b$

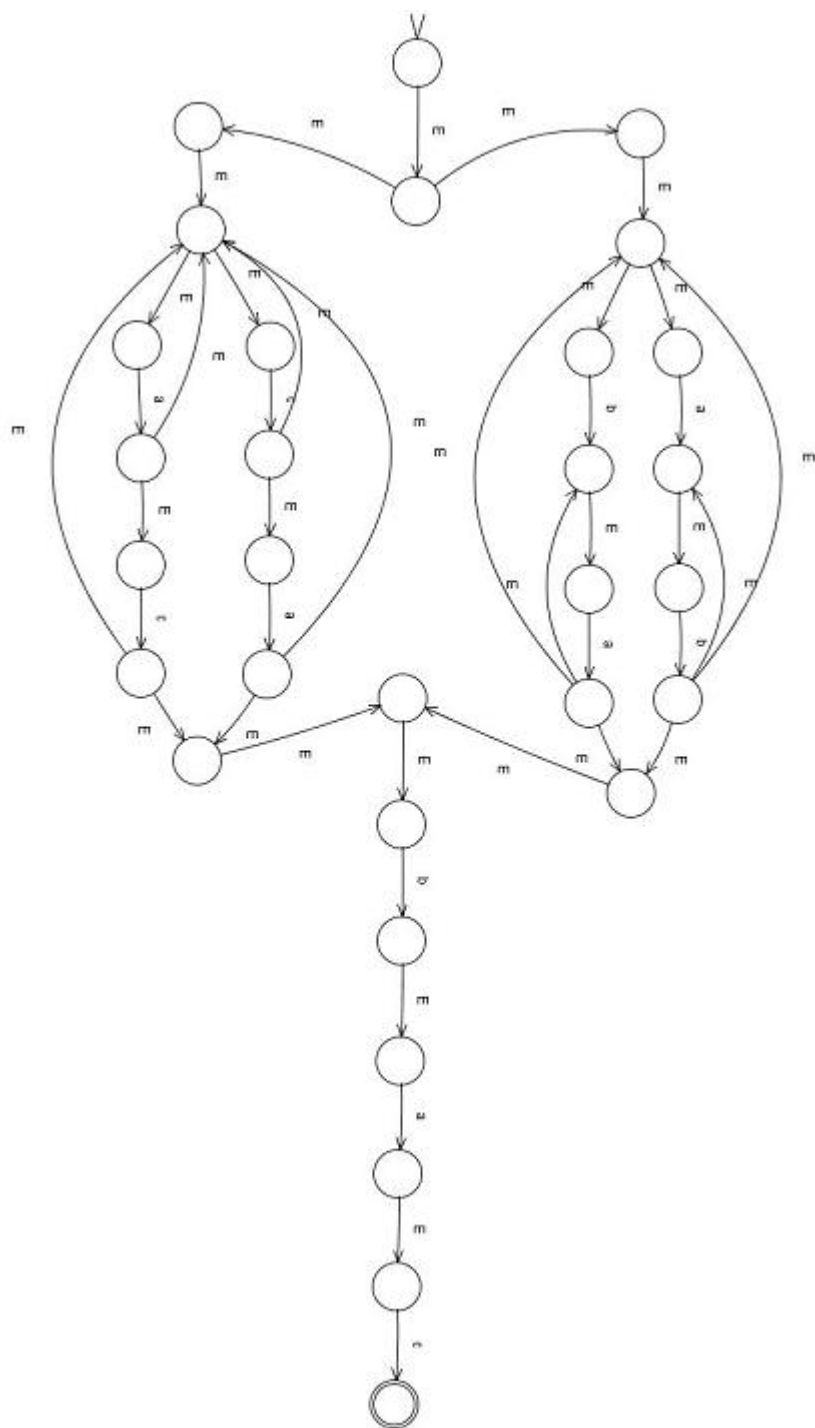
(10) **Zadatak 2.** Za dani regularni izraz algoritamski konstruirajte NDKA koji prepoznaje pripadni jezik.
 $((ab^* + ba^*)^* + (c^*a + a^*c)^*)bac$



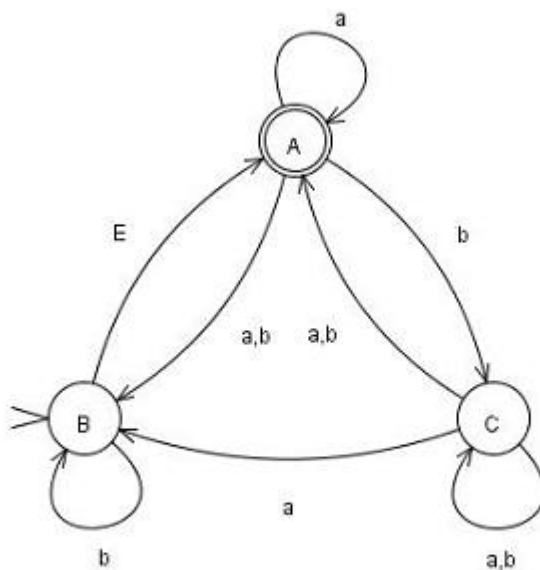








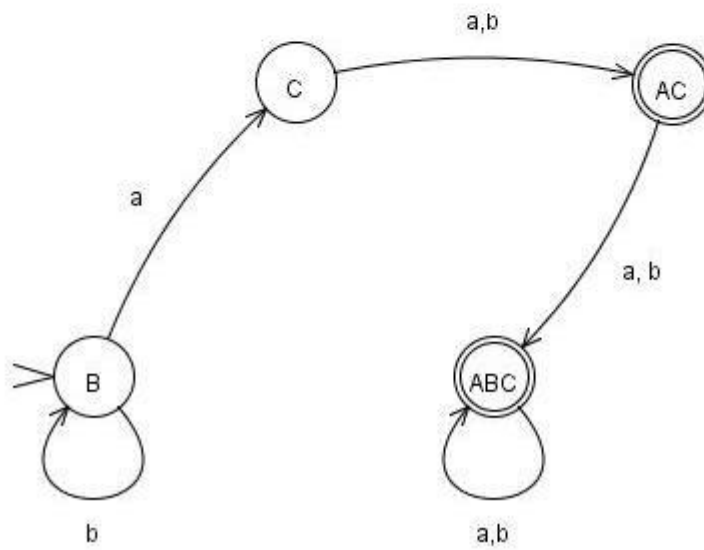
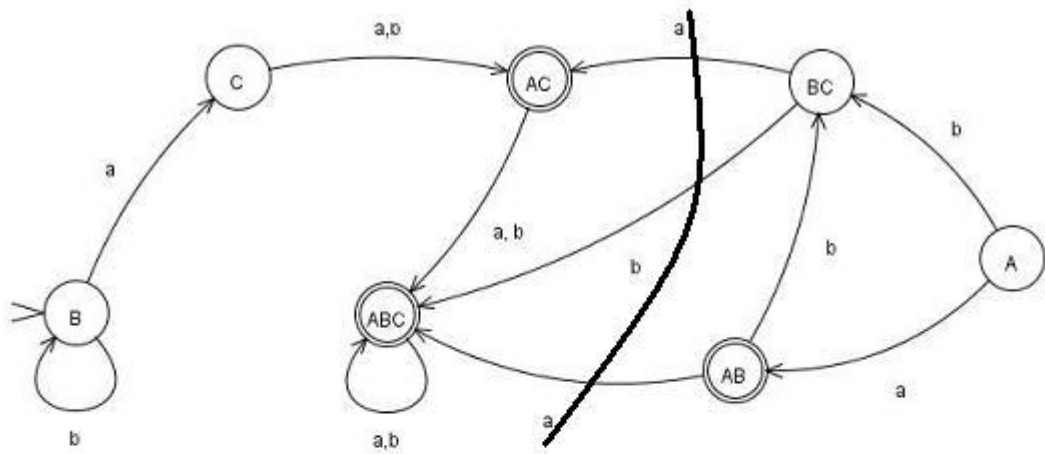
(10) **Zadatak 3.** Dani NDKA prebacite u ekvivalentni DKA. Te za dobiveni DKA konstruirati skupovne jednadžbe.
N...



$$N = (\{A, B, C\}, \{a, b\}, \delta, \{B\}, \{A\})$$

$$M = (\{2^{A,B,C}\}, \{a, b\}, \delta', \{\{A, B\}\}, \{\{A\}, \{AB\}, \{AC\}, \{ABC\}\})$$

	A	B	C	AB	AC	BC	ABC
a	AB	C	AC	ABC	ABC	AC	ABC
b	BC	B	AC	BC	ABC	ABC	ABC



skupovne rovnice:

$$B = bB + aC$$

$$C = (a + b)AC$$

$$AC = (a + b)ABC$$

$$ABC = (a + b)ABC + \epsilon$$

Zadatak 8. *Opišite riječima najmanje 3 jezika te za njih konstruirajte regularne izraze.*

a) $L_1 = \{w | w = w_1, \dots, w_k w_i \in \{1, 2, 3, 4, 5, 6\}, \text{ iza svakog neparnog broja mora biti neki parni}\}$

$$A_N = \{1, 3, 5\}$$

$$A_P = \{2, 4, 6\}$$

$$A_P^*(A_N A_P)$$

b) $L_2 = \{w | w \text{ je datum oblika dan.mjesec, dan} \in \{1, 2, 3, \dots, 31\}, \text{ mjesec} \in \{\text{sječanj, veljača, } \dots, \text{prosinac}\} \}$
napomena: nije potrebno uzimati u obzir prijestupne godine.

$$d_1 = \{1, 2, 3, \dots, 28\}$$

$$d_2 = \{30\}$$

$$d_3 = \{31\}$$

$$t = \{.\}$$

$$m_1 = \{\text{sječanj, veljača, } \dots, \text{prosinac}\}$$

$$m_2 = \{\text{sječanj, ožujak, } \dots, \text{prosinac}\}$$

$$m_3 = \{\text{sječanj, ožujak, svibanj, srpanj, kolovoz, listopad, prosinac}\}$$

$$d_1 t m_1 + d_2 t m_2 + d_3 t m_3$$

c) $L = \{w | w \in \{a, b, c, \dots, z\}, |w| \neq 0 \text{ ne smije poceti samoglasnikom, ne smije završiti suglasnikom}\}$

$$A = \{a, b, c, \dots, z\}$$

$$SA = \{a, e, i, o, u\}$$

$$SU = A \setminus SA$$

$$SU^+ A * SA^+$$

Petra Dunkel