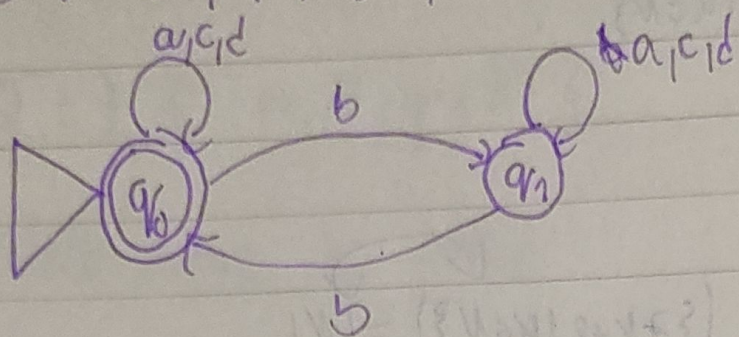


Domáca úloha 2

2.5.2 e) Dokážte, že nasledujúce jazyky sú regulárne
 $L_5 = \{ u \in \{a,b,c,d\}^* \mid \#_b u = 2k, k \in \mathbb{N} \}$



$$G = \{N, \bar{T}, P, S\}$$

$$N = \{S, X\}$$

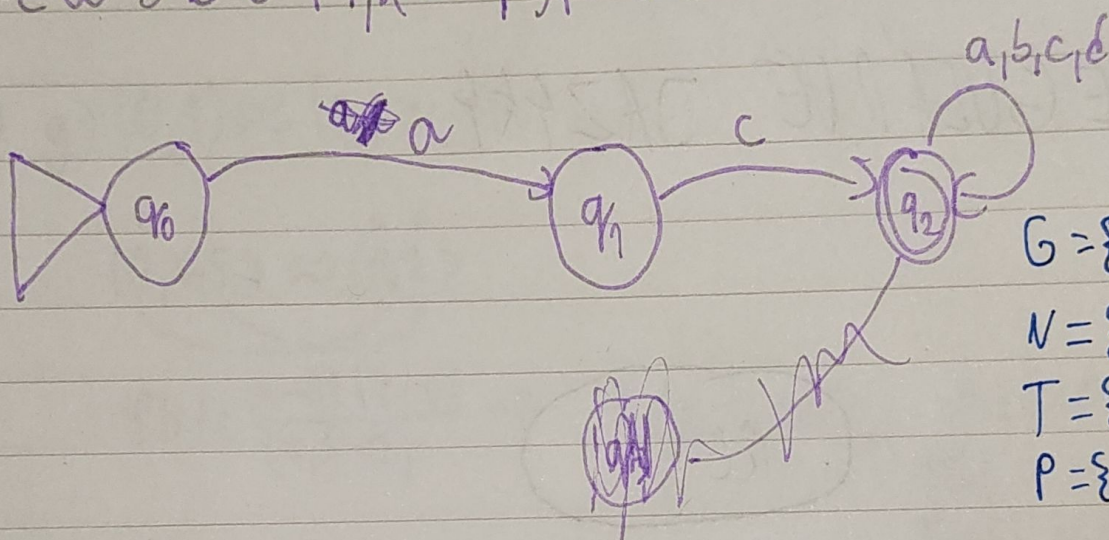
$$T = \{a, b, c, d\}$$

$$P = \{S \rightarrow aS \mid cS \mid dS \mid bX \mid \epsilon\}$$

Kieľ zostrojíte konečný automat, tak že
 $X \rightarrow bX \mid aX \mid cX \mid dX$
 je regulárny

b)

$$L_2 = \{ a^i b^j c^k d^n \mid i, k \in \mathbb{N}^+, j, n \in \mathbb{N} \}$$



$$G = \{N, \bar{T}, P, S\}$$

$$N = \{S, X, Y, Z\}$$

$$T = \{a, b, c, d\}$$

$$P = \{S \rightarrow aX \mid bY \mid cZ \mid \epsilon\}$$

$$X \rightarrow bX \mid Y$$

$$Y \rightarrow cZ \mid cY$$

$$Z \rightarrow \epsilon \mid dZ$$

2.5.6h)

$k \in \text{pre d'okladu}$

$$L_8 = \{ 2^i 3^{z_i} a b 4^j 5^{3k} 6^k 7^j \mid i, j, k \in \mathbb{N} \}$$

$$G = \{N, \bar{T}, P, S\}$$

$$N = \{S, A, B, C\}$$

$$T = \{2, 3, a, b, 4, 5, 6, 7\}$$

$$P = \{S \rightarrow A B \mid A B B \mid A a b \mid a b B\}$$

$$A \rightarrow 2 A 3 \mid 2 3 3$$

$$B \rightarrow 4 B 7 \mid 4 7 \mid C$$

$$C \rightarrow 5 5 5 C 6 \mid 5 5 5 6 \mid \epsilon$$

$$C \rightarrow 5 5 5 C 6 \mid 5 5 5 6 \mid \epsilon$$