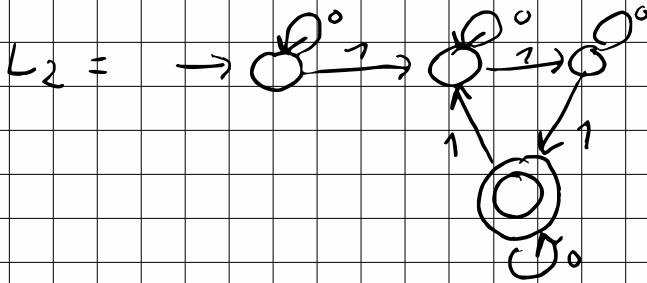
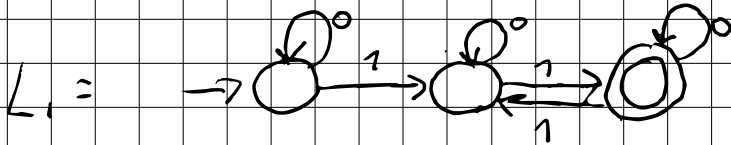


Øving 11)

oppgave 1) a) $\Sigma = \{0, 1\}$

$$L_1 = \{s \in \Sigma^* \mid \text{antall enere delelig med } 2\}$$

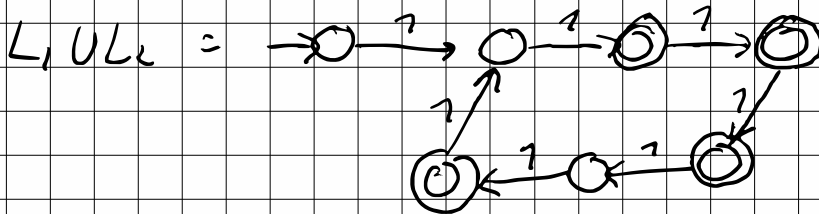
$$L_2 = \{s \in \Sigma^* \mid \text{antall enere delelig med } 3\}$$



b)

$$L_1 \cup L_2 = \{s \in \Sigma^* \mid \text{antall enere delelig med } 2 \text{ eller } 3\}$$

alle har \emptyset^0



oppgave 2) Terminalsymbol = $\{0, 1\}$

a) alfabet = $\{0, 1, s, m, p\}$

1) $s \rightarrow 1 m 1$

2) $s \rightarrow 0 m 0$

3) $m \rightarrow s$

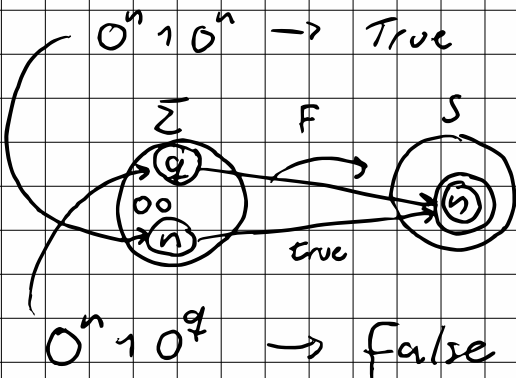
4) $m \rightarrow p$

5) $p \rightarrow 1$

6) $p \rightarrow 0$

7) $p \rightarrow \epsilon$

b) Pigeonhole principle



evig mange
strenger, gir et
antall tilsvarende
gir et ikke
regulært språk

QED ikke Regulært

Oppgave 4) $V = \{a, b, s, A\}$

a) $\Sigma = \{a, b\}$

$R = \{S \xrightarrow{1} AA, A \xrightarrow{2} AAA, A \xrightarrow{3} a, A \xrightarrow{4} bA, A \xrightarrow{5} Ab\}$

$S \xrightarrow{1} AA \xrightarrow{4} bAA \xrightarrow{4} bAbA$
 $\xrightarrow{4} bAbbA \xrightarrow{5} bAbbAb$
 $\xrightarrow{3} bAbbAb \xrightarrow{3} \underline{\underline{babbaab}}$

b)

$V = \{S, N, 0, 1\}$

$\Sigma = \{0, 1\}$

$S \xrightarrow{1} N1NS \xrightarrow{3} 1S \xrightarrow{1} 1N1NS \xrightarrow{3} 11S \xrightarrow{4} 11$

Oppgave 5)

$$\Sigma = \{p, q, r, (,), !, \parallel, \&\}$$

$$V = \{p, q, r, (,), !, \parallel, \&, S, A, B, C, \epsilon\}$$

$$1) S = (A)$$

$$2) S = (AC)$$

$$3) S = \epsilon$$

$$3) A = (ip) \quad b) C = \&A \quad 9) i = !$$

$$1) B = \parallel \quad 4) A = (iq) \quad \Rightarrow C = BS \quad 10) i = \epsilon$$

$$2) B = \&\& \quad 5) A = (ir) \quad 8) C = \epsilon$$