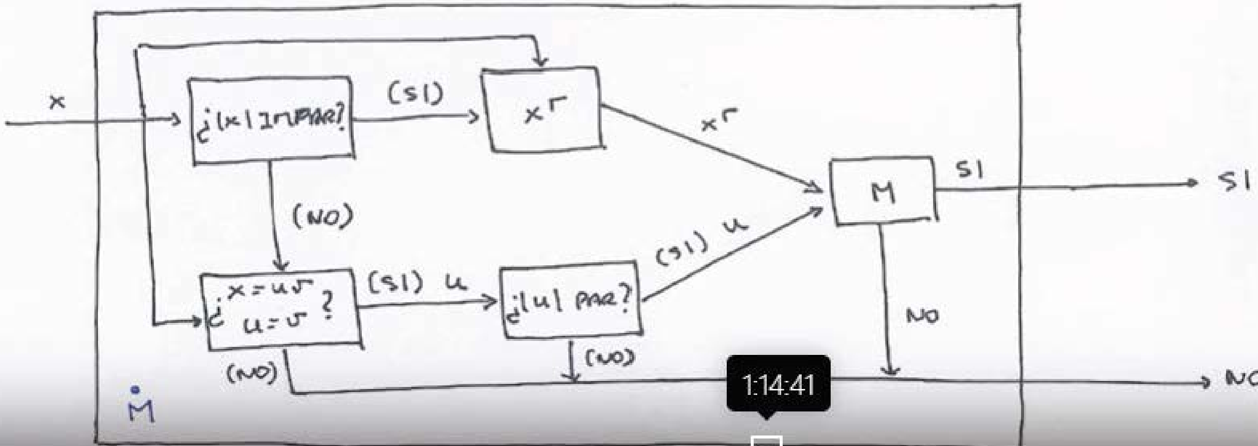
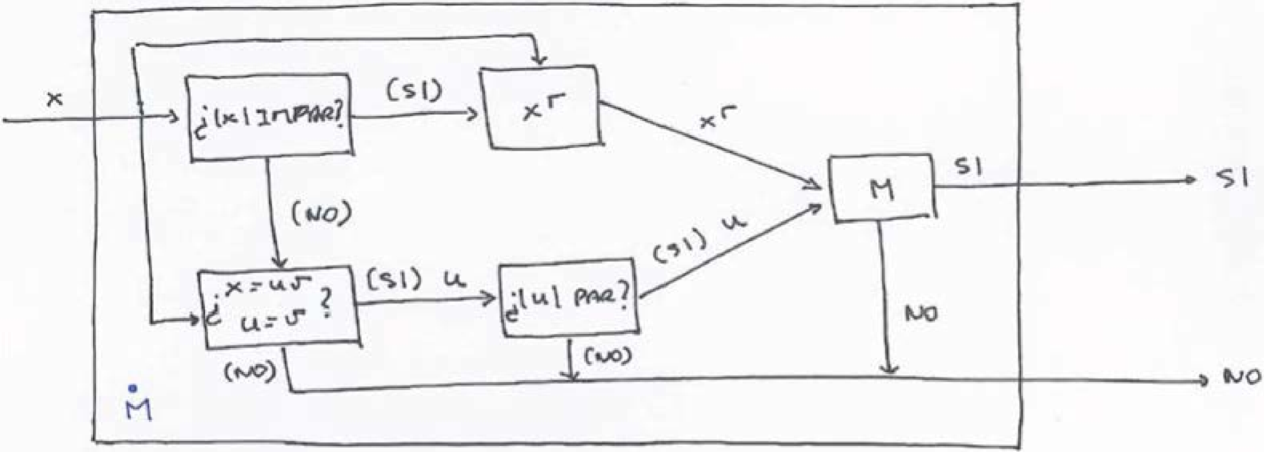
$P(L) = \{ x \in \Sigma^* / (\exists z \in L)(x = P(z)) \}$, $L \subseteq \Sigma^*$

SI $L \in \mathcal{L}_R$ ENTONCES $P(L) \in \mathcal{L}_R$

$L \in \mathcal{L}_R \to \exists M : L = L(M)$ Y M SE DETIENE PARA CADA ENTRADA





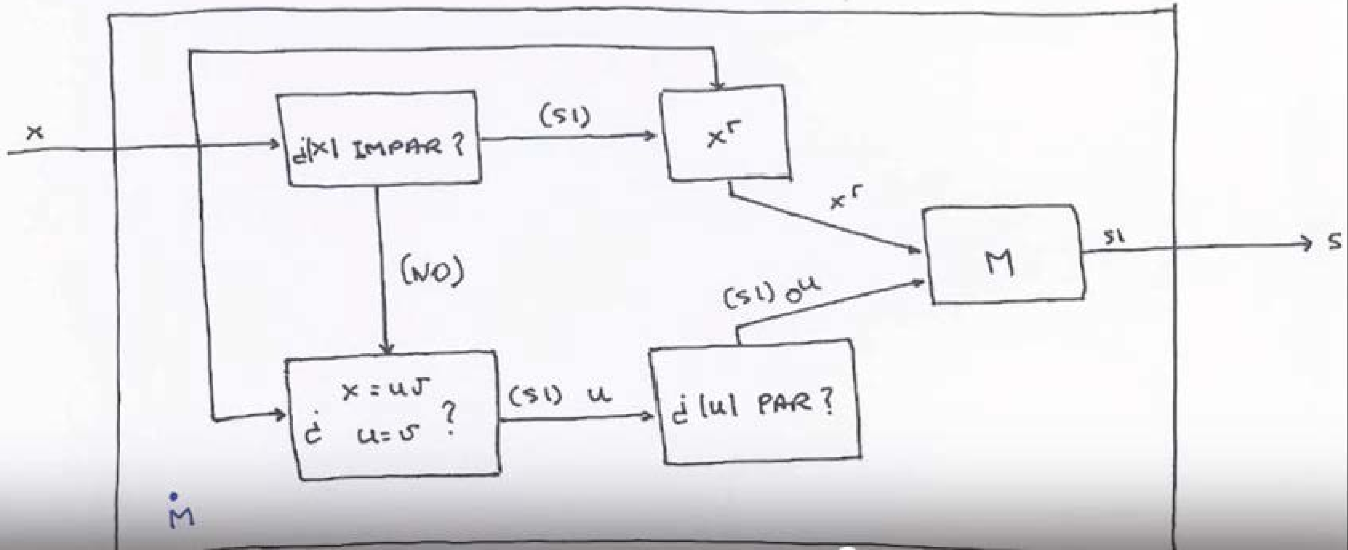
$\dot{M}$ SE DETIENE PARA CADA ENTRADA

$L(\dot{M}) = P(L)$

$\Big\}\; P(L) \in \mathcal{L}_R$

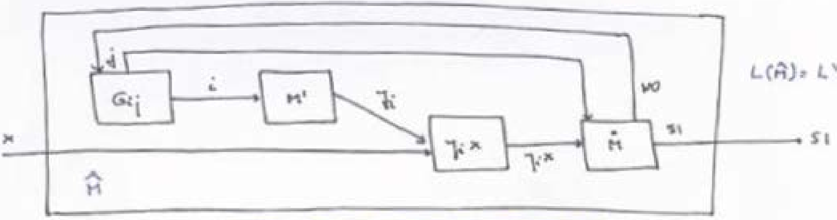
SI $L \in \mathcal{L}_{REN}$ ENTONCES $P(L) \in \mathcal{L}_{REN}$

$L \in \mathcal{L}_{REN} \longrightarrow \exists M : L = L(M)$



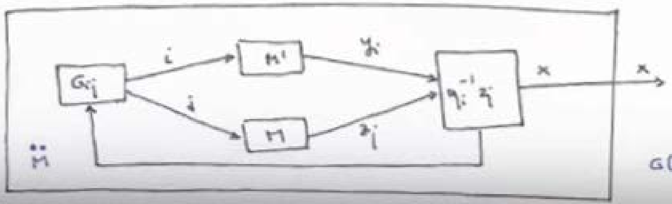
2) SEA M' UNA MT QUE GENERA A L' Y CADA PALABRA DE L' SE ENUMERA UN NÚMERO NO ACOTADO DE VECES.

$L = L(M) \longrightarrow \dot{M}$



$L(\hat{M}) = L \setminus L'$

SEAN M' Y M GENERADORES EN LAS CONDICIONES ANTERIORES. $G(M) = L$, $G(M') = L'$



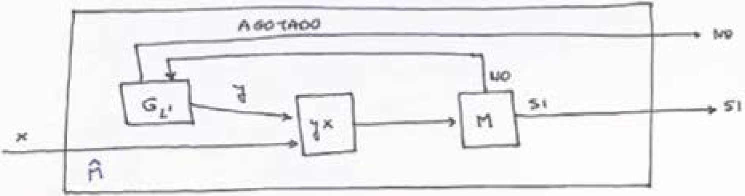
$G(\ddot{M}) = L \setminus L'$

$L \setminus L'$

$L \in \mathcal{L}_R \rightarrow L = L(M)$, M SE DETIENE PARA CADA ENTRADA

L' FINITO

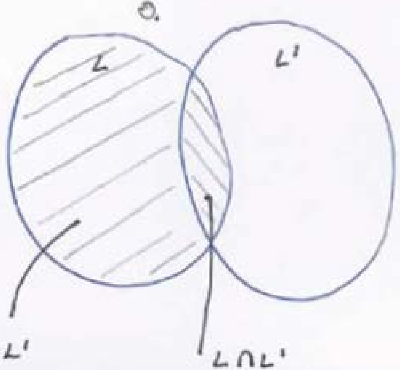
SEA $G_{L'}$ UN GENERADOR DE L' CON LA SALIDA "AGOTADO".



$$\left.\begin{array}{l}\hat{M} \text{ SE DETIENE PARA CADA ENTRADA} \\ L(\hat{M}) = L \setminus L'\end{array}\right\} L \setminus L' \in \mathcal{L}_R$$

3)

$$\left.\begin{array}{l} L \cup L' \in \mathcal{L}_{REN} \\ L' \in \mathcal{L}_{R} \\ L \cap L' \text{ FINITO} \end{array}\right\} ¿L \in \mathcal{L}_{REN}?$$



$$L = (L - L') \cup (L \cap L')$$

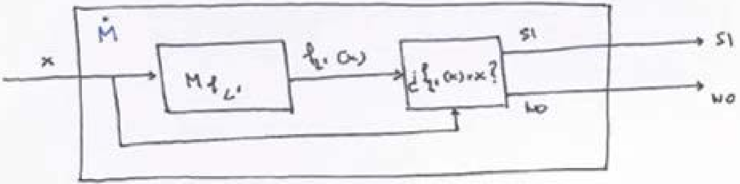
$$L = ((L \cup L') - L') \cup (L \cap L')$$

$$= \underbrace{\underbrace{((L \cup L') \cap \overline{L'})}_{REN} \cup \underbrace{(L \cap L')}_{REN}}_{REN}$$

4) $L \in \mathcal{L}_{REN} - \mathcal{L}_R$

$L - \{\lambda\} = L' \in \mathcal{L}_{REN} - \mathcal{L}_R$

SUPÓNGASE QUE $f_{L'}$ FUERA TURING-COMPUTABLE.



$$\left.\begin{array}{l}\dot{M} \text{ SE DETIENE PARA CADA ENTRADA} \\ L(\dot{M}) = L'\end{array}\right\} L' \in \mathcal{L}_R$$