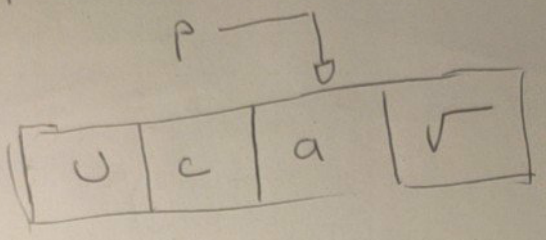
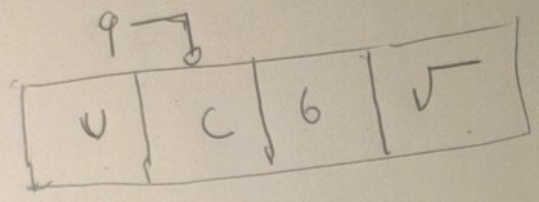
② $ucpav \Rightarrow ucqbv$ si $p, a \to q, b, L$

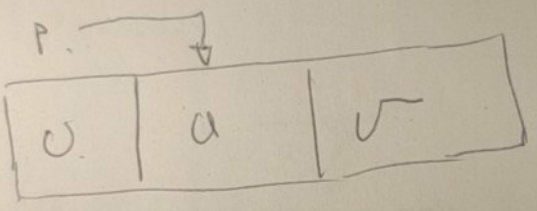
② $upav \Rightarrow ubqv$ si $p, a \to q, b, R$

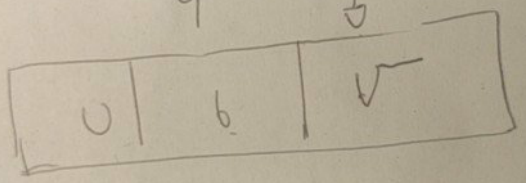
②





②





si $v = \#$

② $ucp \Rightarrow ucqb$

② $up \Rightarrow ubq$

si $uc = \emptyset$

② $pav \not\Rightarrow q!$

② $pav \Rightarrow bqv$

- $H = \{ \{0\}, \{a, b\}, \{a, b, \#\}, R, 0, \{0\}, \#\}$

- R:

$$0, a \to 0, \#, R$$
$$0, b \to 0, \#, R$$
$$0, \# \to 0, H, L.$$

- $w = aba$.

$C_0 = 0aba$.

$$\begin{cases} u = \emptyset \\ c = \emptyset \\ p = 0 \\ a = a \\ v = ba \end{cases} \Rightarrow \begin{cases} u = \emptyset \\ b = \# \\ q = 0 \\ v = ba \end{cases}$$

$C_1 = \#0ba$

$$\begin{cases} u = \# \\ p = 0 \\ a = b \\ v = a \end{cases} \Rightarrow \begin{cases} u = \# \\ b = \# \\ q = 0 \\ v = a \end{cases}$$

$C_2 = \#\#0a$

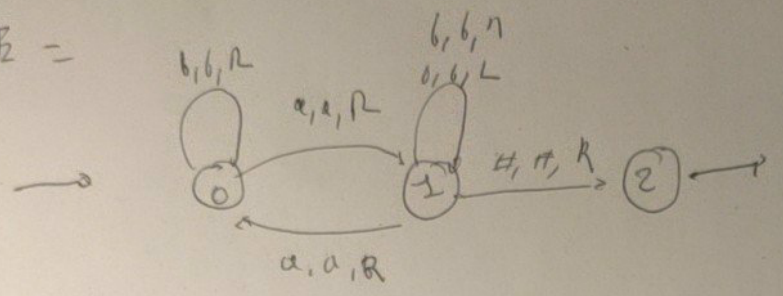
$$\begin{cases} u = \#\# \\ p = 0 \\ a = a \\ v = \# \end{cases} \Rightarrow \begin{cases} u = \#\# \\ b = \# \\ q = 0 \\ v = \# \end{cases}$$

$C_3 = \#\#\#0\#$ $\Rightarrow$ $C_4 = \#\#0$ $\Rightarrow$ $C_5 = \#0\#$

$\Rightarrow C_6 = 0\# = 0$ $\Rightarrow$ accepted.

. $M = \{\{0, 1, 2\}, \{a, b\}, \{a, b, \#\}, \delta, 0, \{2\}, \#\}$

. $\delta =$



. $w = abba$

$C_0 = 0abba$: $\begin{cases} u = \phi \\ p = 0 \\ x = a \\ v = bba \end{cases} \Rightarrow \begin{cases} u = \phi \\ y = a \\ q = 1 \\ v = bba \end{cases}$

$C_2 = azbba$

1er cas : b, b, R

$C_2 = abzba$

1er cas : b, b, R

$C_3 = abbza$

$C_4 = abba0$

cette configuration bloque la machine. La machine n'accepte pas w.

2ème cas : b, b, L

$C_3 = azbba$

La machine boucle. Elle n'accepte pas w.

2ème cas : b, b, L

$C_2 = 1abba$

$C_3 = a0bba$

$C_4 = ab0ba$

$C_5 = abb0a$

$C_6 = abbaz\#$

$C_7 = abba\#2$

État finale 2.

La machine accepte w.