

3A RV \rightarrow KA

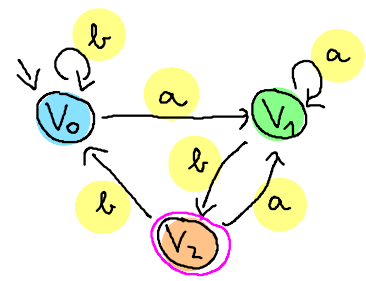
$(a+b)^* \cdot a \cdot b = V_0$ ✗

$\frac{dV_0}{da} = (a+b)^* \cdot a \cdot b + b = V_1$ ✗

$\frac{dV_0}{db} = (a+b)^* \cdot a \cdot b = V_0$

$\frac{dV_1}{da} = (a+b)^* \cdot a \cdot b + b = V_1$

$\frac{dV_1}{db} = (a+b)^* \cdot a \cdot b + \epsilon = V_2$ ✓
 $\epsilon \in L(V_2)$

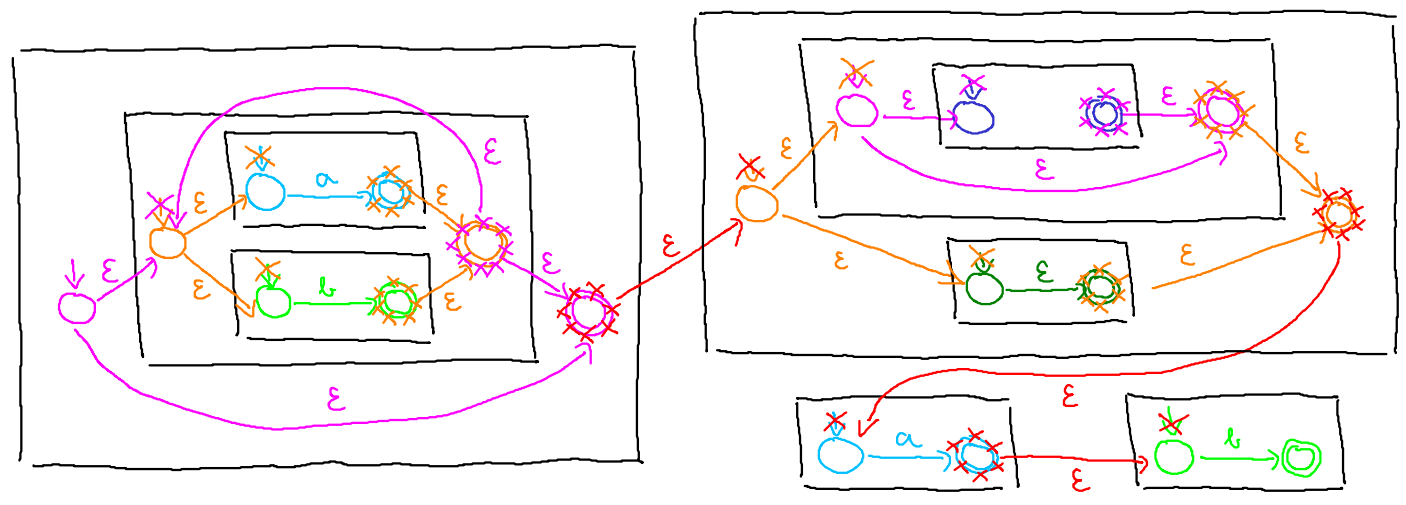


$\frac{dV_2}{da} = (a+b)^* \cdot a \cdot b + b = V_1$

$\frac{dV_2}{db} = (a+b)^* \cdot a \cdot b = V_0$

3C RV \rightarrow KA

$(a + b)^* \cdot (\phi^* + \epsilon) \cdot a \cdot b$



4A KA → RV PRR

	0	1	2
A	{Aε}	{Bε}	{Bε}
B	{Bε}		

$$A = 0A + 1B + 2B + \epsilon$$

$$B = 0B + \epsilon$$

$$B = 0^* \cdot \epsilon = \underline{\underline{0^*}}$$

$$A = 0A + (1+2)0^* + \epsilon$$

$$A = \underline{\underline{0^* [(1+2)0^* + \epsilon]}}$$

4B KA → RV LRR

	0	1	2
A	{Aε}	{Bε}	{Bε}
B	{Bε}		

$$A = A0 + \epsilon$$

$$B = A1 + A2 + B0$$

$$A = \epsilon \cdot 0^* = \underline{\underline{0^*}}$$

$$B = 0^*(1+2) + B0$$

$$B = 0^*(1+2) \underline{\underline{0^*}}$$

$$A+B = 0^* + 0^*(1+2)0^* = \underline{\underline{0^* [\epsilon + (1+2)0^*]}}$$

6 RG → RV PRR

$$S \rightarrow 0S \mid 1A \mid 1$$

$$A \rightarrow 2A \mid 0$$

$$S = 0S + 1A + 1$$

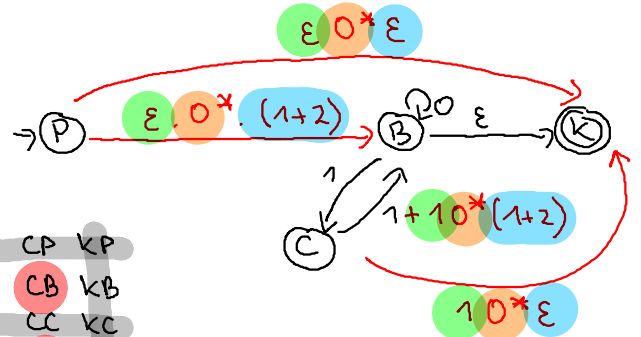
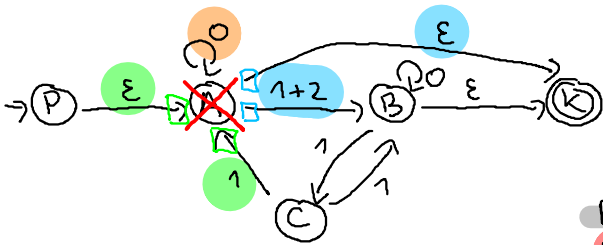
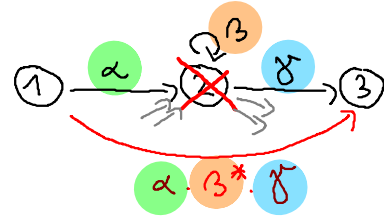
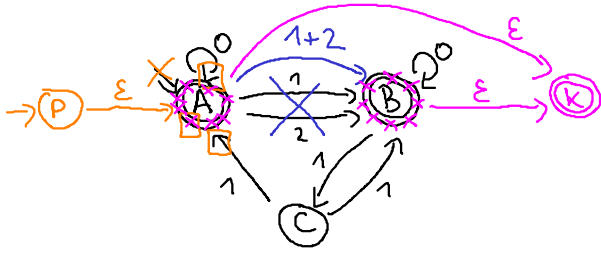
$$A = 2A + 0$$

$$A = \underline{\underline{2^*0}}$$

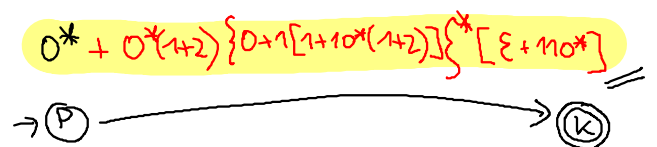
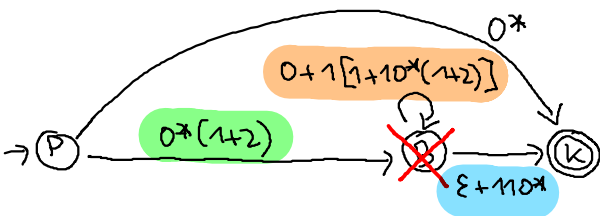
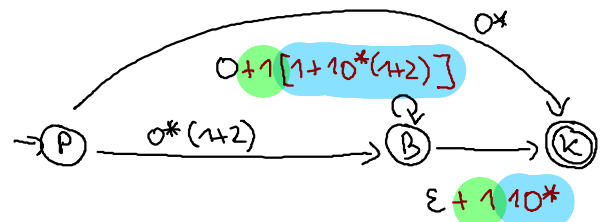
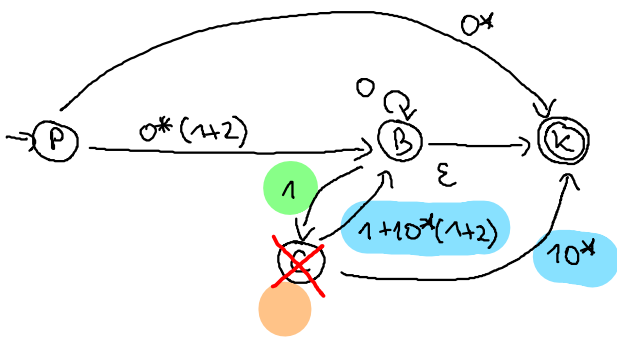
$$S = 0S + 12^*0 + 1$$

$$S = \underline{\underline{0^* (12^*0 + 1)}}$$

⑤ KA → RV



PP	BP	CP	KP
PB	BB	CB	KB
PC	BC	CC	KC
PK	BK	CK	KK



⑦ $RG \rightarrow RV$

$\rightarrow S \rightarrow \varepsilon A$

~~$\rightarrow A \rightarrow 0C \mid 0D \mid \varepsilon K$~~

$B \rightarrow 1B \mid 2B \quad (1+2)B$

$C \rightarrow 2B \mid 0C \mid 1K$

$D \rightarrow 0C$

$K \rightarrow \varepsilon$

$X \rightarrow aY$

$x \rightarrow aY$

$\rightarrow S \rightarrow a k$

$k \rightarrow \varepsilon$

a

$\rightarrow S \rightarrow \varepsilon A$

$A \rightarrow 0C \mid 0D \mid \varepsilon K$

$B \rightarrow (1+2)B$

~~$\rightarrow 2B \mid 0C \mid 1K$~~

$D \rightarrow 0C$

$K \rightarrow \varepsilon$

$\rightarrow S \rightarrow \varepsilon A$

$A \rightarrow 0D \mid \varepsilon K \mid 00^*2B \mid 00^*1K$

$B \rightarrow (1+2)B$

$D \rightarrow 00^*2B \mid 00^*1K$

$K \rightarrow \varepsilon$

$\rightarrow S \rightarrow \varepsilon A$

$A \rightarrow 0D \mid 00^*2B \mid (\varepsilon+00^*1)K$

~~$\rightarrow (1+2)B \mid \phi$~~

$D \rightarrow 00^*2B \mid 00^*1K$

$K \rightarrow \varepsilon$

$\rightarrow S \rightarrow \varepsilon A$

$A \rightarrow 0D \mid (\varepsilon+00^*1)K$

$D \rightarrow 00^*1K$

$K \rightarrow \varepsilon$

$\rightarrow S \rightarrow \varepsilon A$

$A \rightarrow 0D \mid (\varepsilon+00^*1)K$

~~$\rightarrow 00^*1K \mid \varepsilon D$~~

$K \rightarrow \varepsilon$

$\rightarrow S \rightarrow \varepsilon A$

$A \rightarrow (\varepsilon+00^*1)K \mid 000^*1K$

$K \rightarrow \varepsilon$

$\rightarrow S \rightarrow \varepsilon A$

~~$\rightarrow (\varepsilon+00^*1)K$~~

$K \rightarrow \varepsilon$

$\rightarrow S \rightarrow \varepsilon (\varepsilon+00^*1)K$

$K \rightarrow \varepsilon$

$\rightarrow S \rightarrow (\varepsilon+00^*1)K$

$K \rightarrow \varepsilon$

$\varepsilon+00^*1$