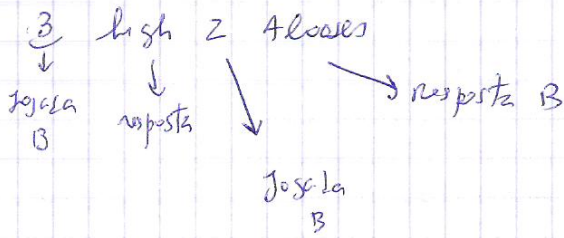
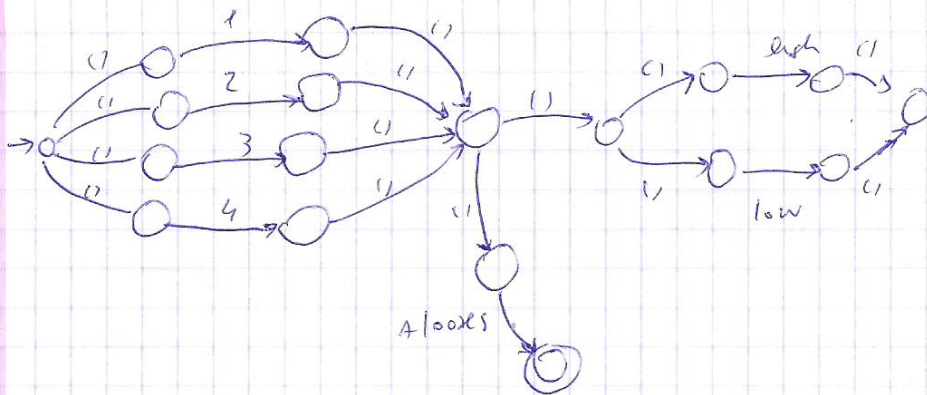
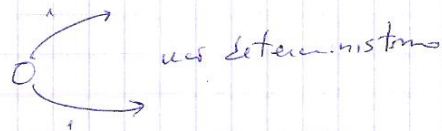
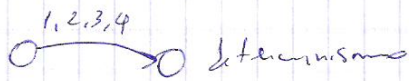


3.

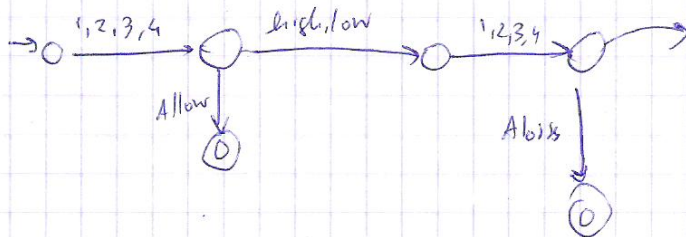
$\Sigma = \{high, low, 1, 2, 3, 4, Alooses, Awin\}$



$$(1+2+3+4) (Alooses + (high+low)(1+2+3+4)(Alooses + (high+low)(1+2+3+4) (Alooses + Awin)))$$

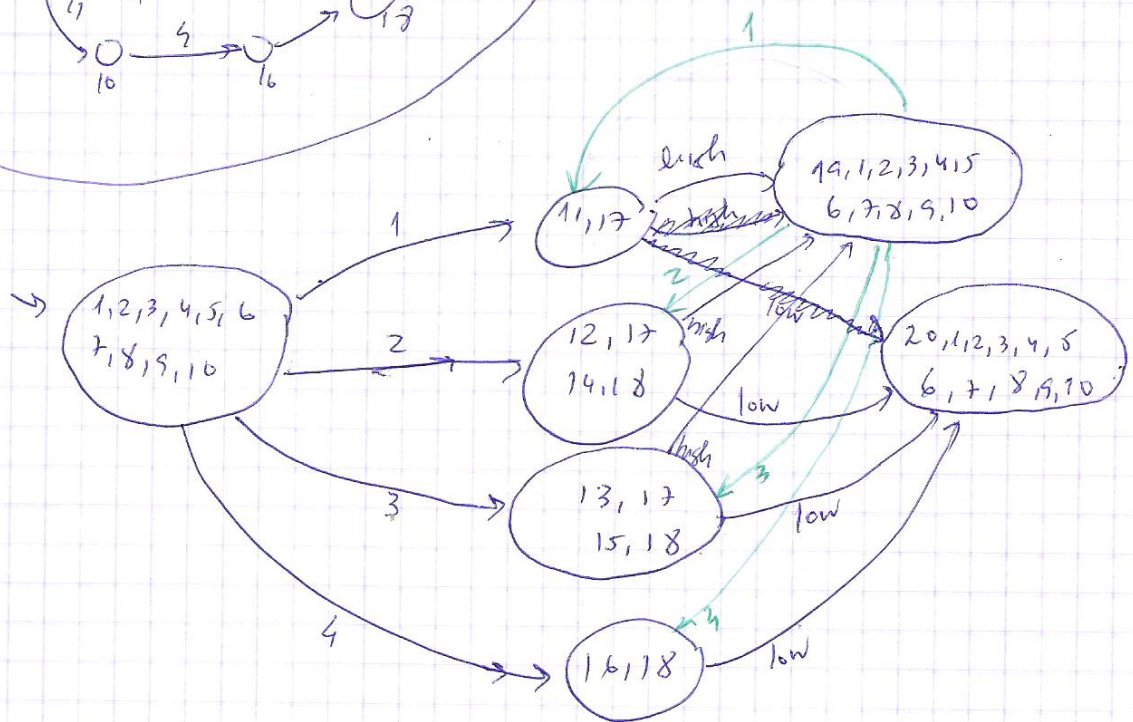
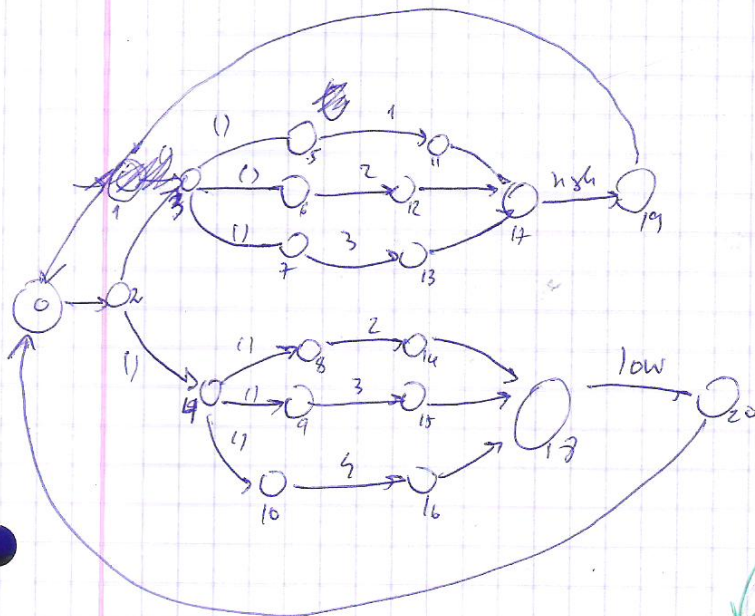


on



4.

$$((1+2+3) \cdot \text{high}) + ((2+3+4) \cdot \text{low})^*$$



o conjunto de baixo
faz o mesmo para

5.

5.

$$\Sigma = \{x, (,)\}$$

$$G = \langle V, \Sigma, \bar{E}, R \rangle, V = \{E, T\}$$

R tem as seguintes regras:

1. $S \rightarrow E \$$
2. $E \rightarrow x$
3. $E \rightarrow (E) T$
4. $T \rightarrow E$
5. $T \rightarrow x E$

a) $((x) x (x))$

$$E \xRightarrow{2} (E) T$$

$$\xRightarrow{3} (E)$$

$$\xRightarrow{3} ((E) T)$$

$$\xRightarrow{1} ((x) T)$$

$$\xRightarrow{2} ((x) x E)$$

$$\xRightarrow{3} ((x) x (E) T)$$

$$\xRightarrow{1} ((x) x (x) T)$$

$$\xRightarrow{3} ((x) x (x))$$

b)

Para cada regra $X \in R$, tal que $X \rightarrow Y$, calcula $\text{First}(Y)$

$$\text{First}(x) = \{x\}$$

$$\text{First}((E) T) = \{($$

$$\text{First}(xE) = \{x\}$$

Para calcular cada regra, $x \in \Sigma$, tal que $X \rightarrow Y$, calcula $\text{Follow}(X)$

$$\text{Follow}(E) = \{ \$,) \} \cup \text{Follow}(T)$$

Logo, se não há nada à frente de E

$$\text{Follow}(T) = \text{Follow}(E) = \{ \$,) \} \cup \text{Follow}(T)$$

Recurse

	x	(	)	\$
E	$E \rightarrow x$	$E \rightarrow ($	$E \rightarrow)$	-
T	$T \rightarrow x$	$T \rightarrow ($	$T \rightarrow)$	-

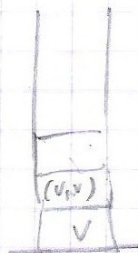
6.

M_1, V

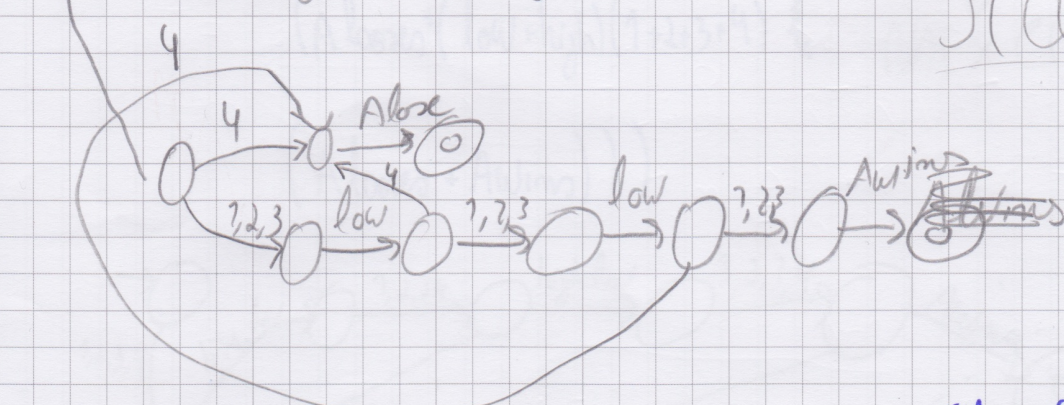
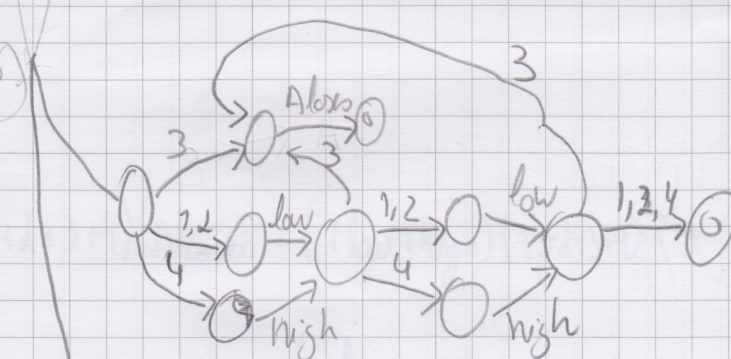
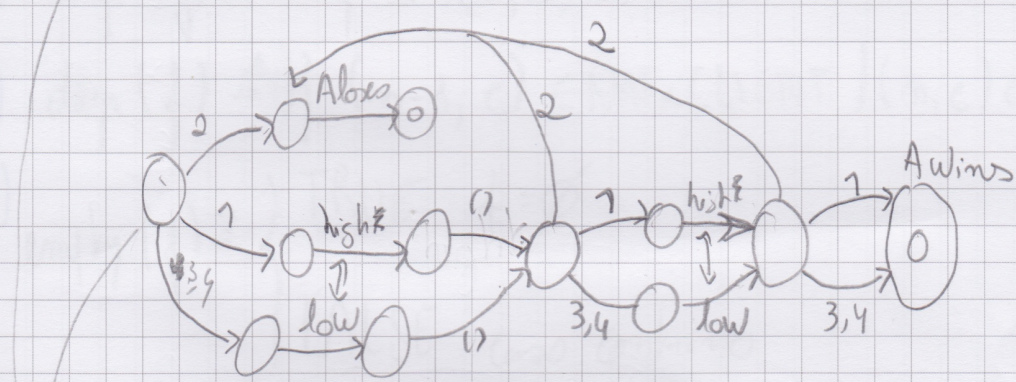
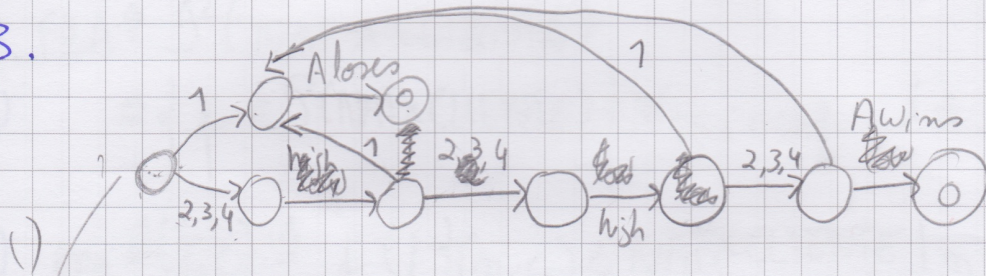
$M_2 (v, v)$

$M_3 (v, v, v, v)$

S_0 load 1 S_1
 S_1 load 1 S_2
 S_2 load 1 S_3
 S_3 cons S_4
 S_4 store 2 S_5
 S_5 load 2 S_6
 S_6 cons S_7
 store 3



3.



$S(NAT)$
(3, 4, 2, 1)

$S(Chin) \propto NAT$

~~NAT~~

$$E \rightarrow xET \mid Q$$

$$T \rightarrow E$$

$$T \rightarrow \frac{1}{2}xx$$

$$Q \rightarrow q$$

$$Q \rightarrow E$$

$$follow(E) = \{x, \frac{1}{2}\}$$

$$f = f \mid \pi_l$$