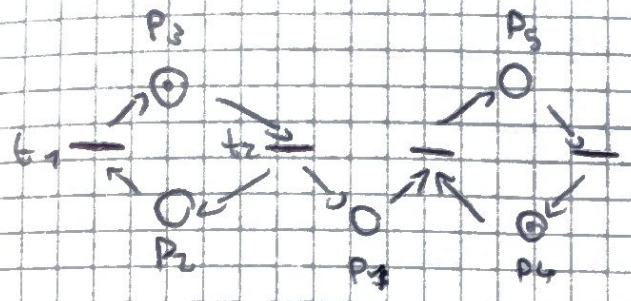
ESAME 17/1/20



$$C_S = \begin{pmatrix} 0 & 1 & -1 & 0 \\ -1 & 1 & 0 & 0 \\ 1 & -1 & 0 & 0 \\ 0 & 0 & -1 & 1 \\ 0 & 0 & 1 & -1 \\ 0 & -1 & 1 & 0 \end{pmatrix} \qquad x_0 = \begin{pmatrix} 0 \\ 0 \\ 1 \\ 1 \\ 0 \\ 1 \end{pmatrix}$$

ALBERO

$x_0 = 00110$

t_2 → $x_1 = 11010$

t_3 → (01001) CONTENUTO IN

t_1 → RICOPRE (10110)

$x_2 = W0110$

t_2 → Ric. x_1 (W1010)

t_3 → W0101

t_4 → (W1010) GIÀ VISTO

t_2 → W1001

t_4 → (W1010) GIÀ VISTO

t_1 → (W0101) GIÀ VISTO

$$\Rightarrow R(PN) = \left\{ \begin{pmatrix} W \\ C \\ 1 \\ 1 \\ 0 \end{pmatrix}, \begin{pmatrix} W \\ 1 \\ C \\ 1 \\ 0 \end{pmatrix}, \begin{pmatrix} W \\ 0 \\ 1 \\ 0 \\ 1 \end{pmatrix}, \begin{pmatrix} W \\ 1 \\ 0 \\ C \\ 1 \end{pmatrix} \right\}$$

VINCOLO $x(p_1) \leq 1 \rightarrow f^T x = (1\ 0\ 0\ 0\ 0)x \leq 1 = k \qquad \forall x \in R(PN)$

$C^m = -f^T C = (0\ 1\ -1\ 0) \rightarrow (0\ -1\ 1\ 0)$ con $x_0(p_m) = k - f^T x_0 = 1$

P-INV.

$$y^T C_{S=0}^T \begin{cases} y_3 - y_2 = 0 \\ y_1 + y_2 - y_3 - y_m = 0 \\ y_5 + y_m - y_1 - y_4 = 0 \\ y_4 - y_5 = 0 \end{cases} \Rightarrow \begin{cases} y_2 = y_3 \\ y_1 = y_m \\ y_4 = y_5 \end{cases} \rightarrow y = (A\ B\ B\ C\ C\ A)^T$$

$y_1 = (1\ 0\ 0\ 0\ 0\ 1)$

$y_2 = (0\ 1\ 1\ 0\ 0\ 0)$

$y_3 = (0\ 0\ 0\ 1\ 1\ 0)$

↓

RICOPRONO RETE → CONSERVATIVA, LIMITATA

T-INV

$C_S \eta = 0$

$\eta_2 - \eta_3 = 0$

$\eta_2 - \eta_1 = 0$

~~$\eta_1 - \eta_2 = 0$~~

$\eta_4 - \eta_3 = 0$

~~$\eta_3 - \eta_4 = 0$~~

$\eta_3 - \eta_2 = 0$

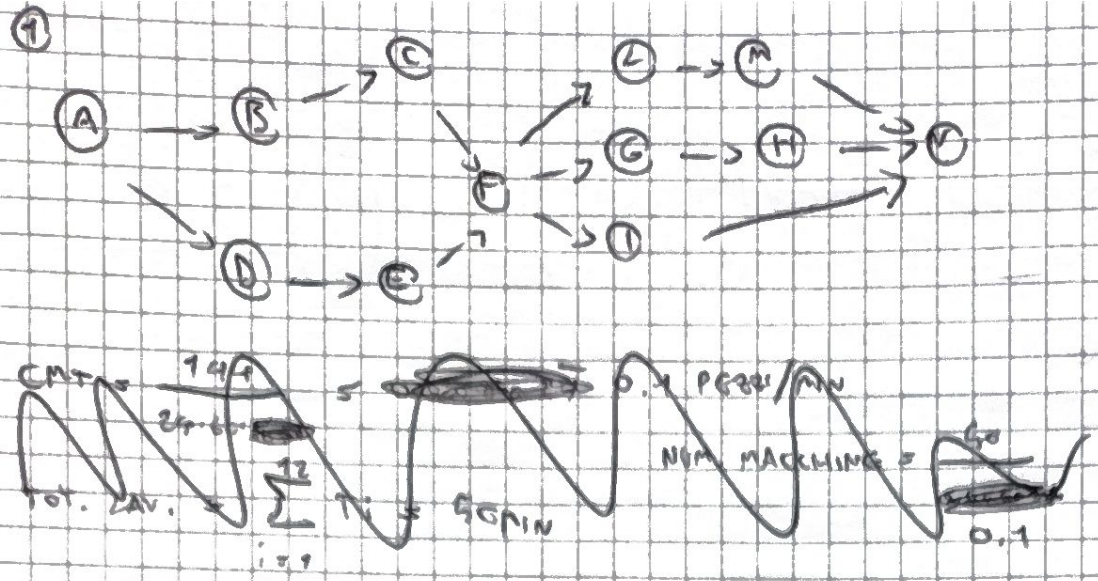
$\eta_2 = \eta_3$

$\eta_1 = \eta_2$

$\eta_4 = \eta_3$

~~$\eta_2 = \eta_3$~~

$\rightarrow \eta = (1\ 1\ 1\ 1)^T$



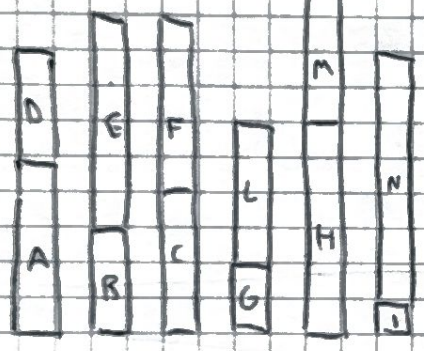
TASSO PROD. = 144/24 = 0.1 UNITÀ/MINUTO

T MAX = $\sum_{i=1}^{11}$ Ti = 50 MIN

CMT = 1/0.1 = 10 MIN → N = 50/10 = 5 MACCHINE

RIORDINO TABELLA

	A	D	B	E	C	F	G	L	H	M	I	N
DURATA	5	3	2	6	4	5	2	4	6	4	1	7
P_{Wi}	50	38	36	35	33	29	15	15	12	11	8	7
MACCHINA	1	1	2	2	3	3	4	4	5	5	6	6



→ $T_i + \sum$ TEMPO LAVORAZIONI SUCCESSIVE DA i

SBILANCIAMENTO = 24 − 9 − 1 − 1 − 2 = $\frac{10}{6}$ = 100 %

SENZA BUFFER INTERMEDI IL PIÙ RAPIDO AVANZAMENTO SINCRONO DELLA LINEA SARÀ DI (5 × 10 MINUTI) CON TEMPO DI PERMANENZA DI UN'UNITÀ DI 1 H

(3)

PORTA {OPEN, CLOSE}, SENSORE CHIUSURA

PIANO (1 ... N) CORRENTE

SU, GIÙ

PULSANTE (1 ... N) → SWITCH; PER CAMBIARE PIANO → SELECTED_FLOOR (SF)

QUANDO ARRIVA A PIANO SF FO, APRI PORTE (3S), ASPETTA (5S), CHIUDI PORTE

STAZIONE

PORTA {APERTA, CHIUSA} CON SENSORE

PULSANTE CON LED

1 PRENOT. ALLA VOLTA, NO IN MOVIMENTO, NO CAMBIO TRA ARRIVO E CHIUSURA PORTE SOLO DA DENTRO

DIVIDO:

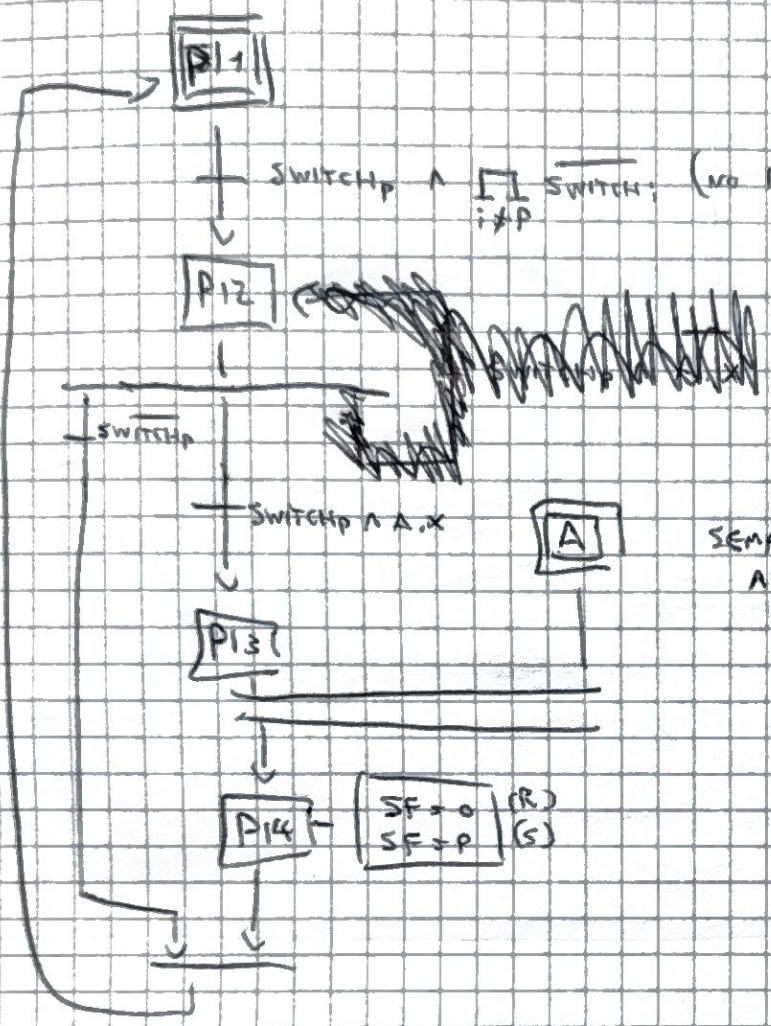
① DA DENTRO

② PRENOT. DA STAZIONE

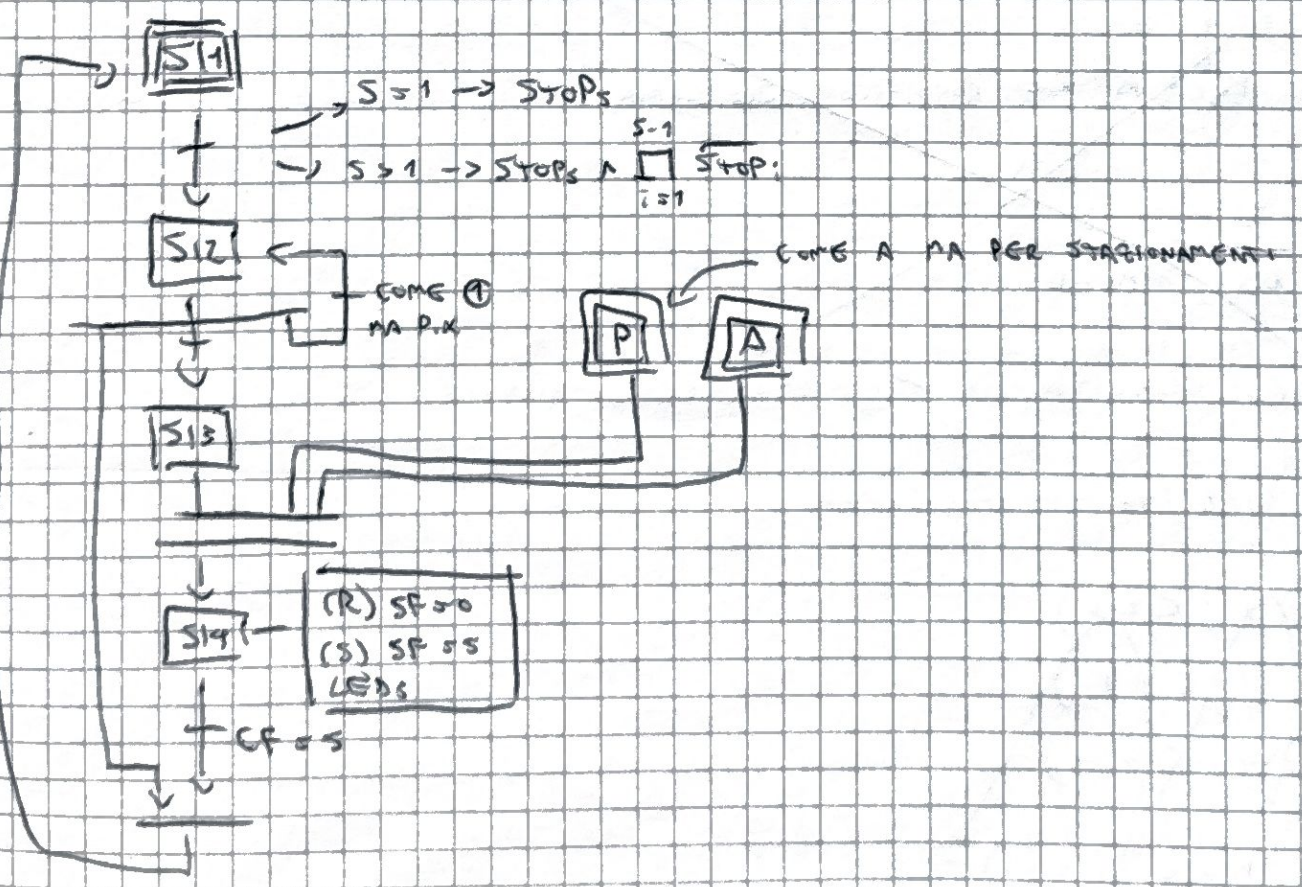
③ APERTURA/CHIUSURA PORTE

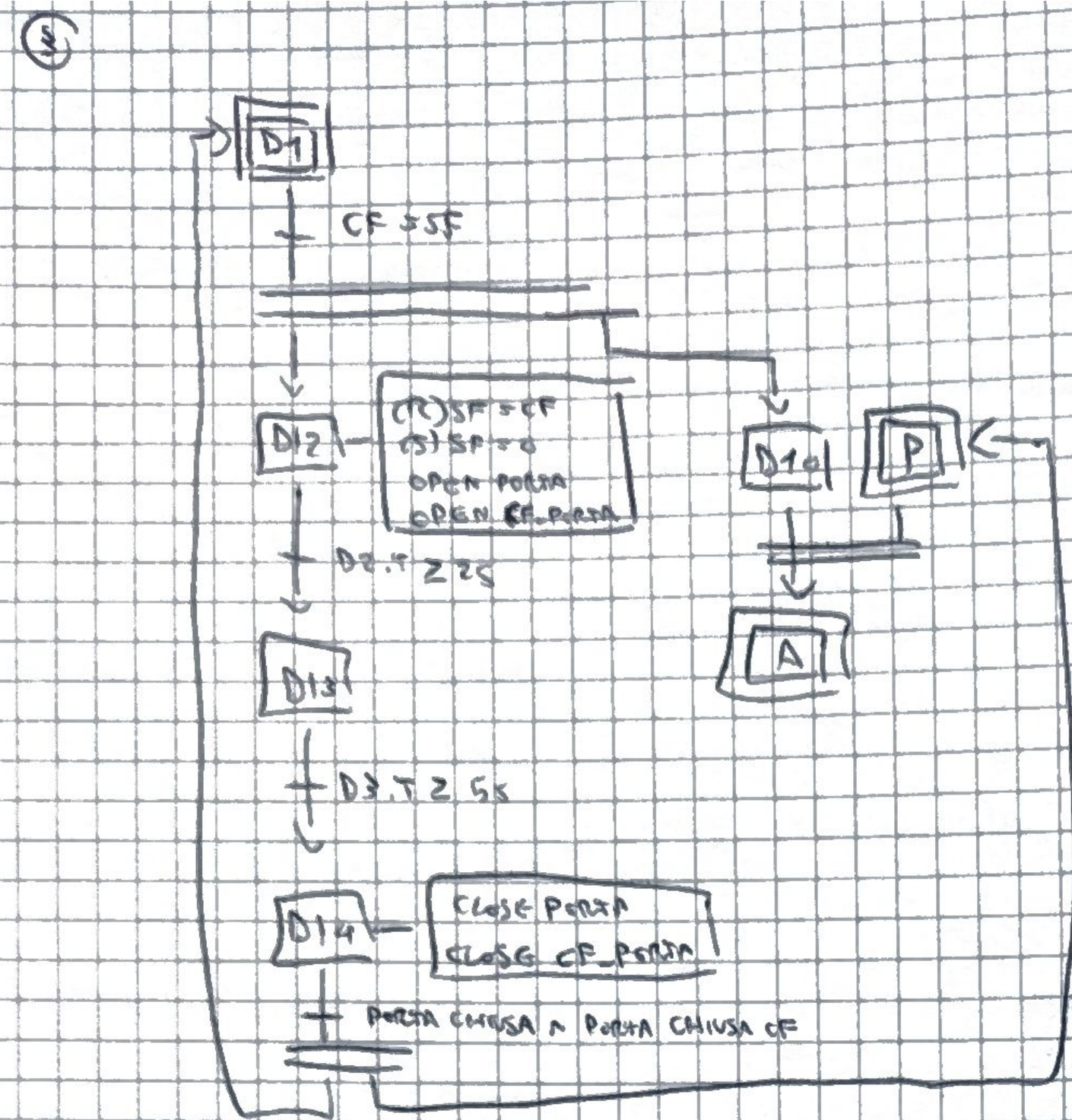
④ MOVIMENTO

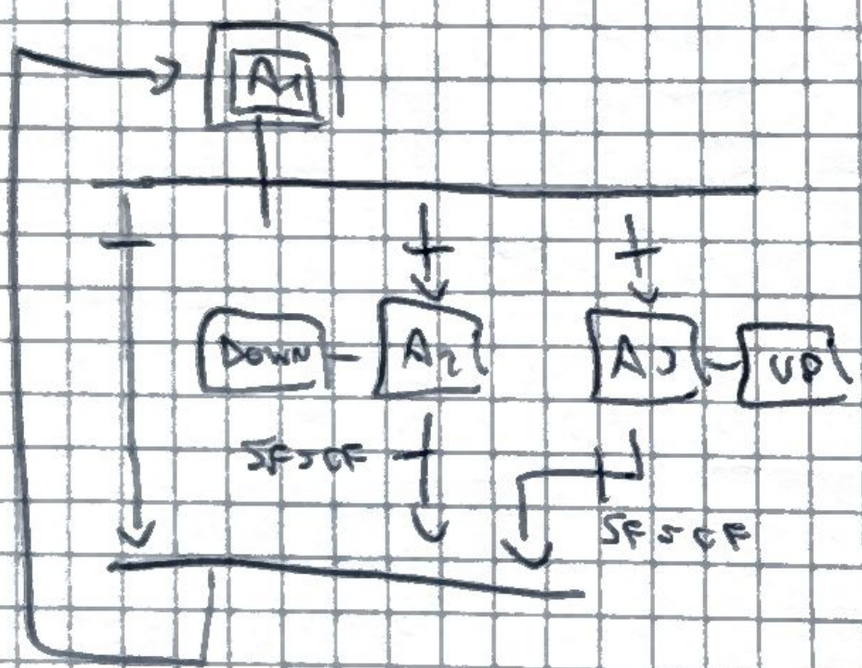
①



②




D1
CF = SF
D12
(*) SF = CF
(S) SP = 0
OPEN PORTA
OPEN CF_PORTA
D2.T ≥ 25
D13
D3.T ≥ 55
D14
CLOSE PORTA
CLOSE CF_PORTA
PORTA CHIUSA ∧ PORTA CHIUSA CF
D101
P
A


A1
DOWN
A2
A3
UP
SF = CF
SF = CF