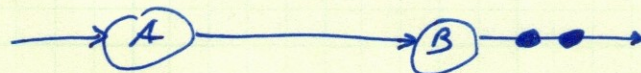
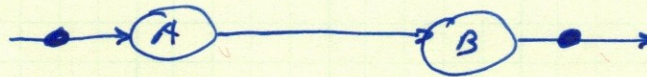
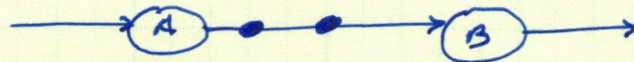
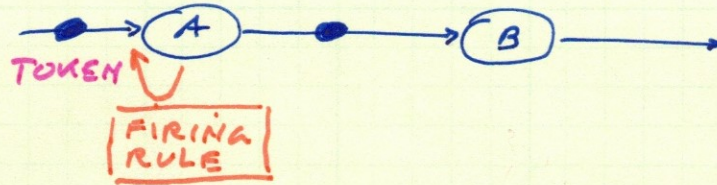
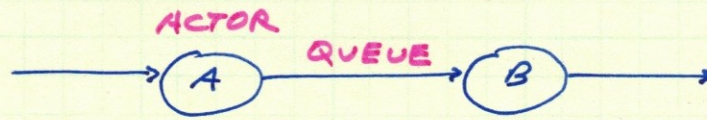


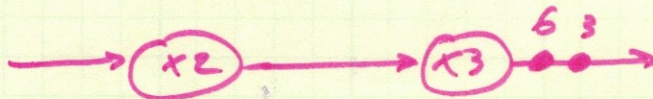
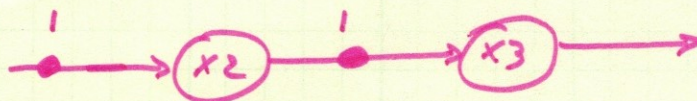
SYNCHRONOUS DATAFLOW



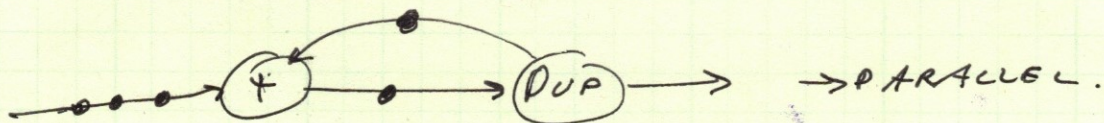
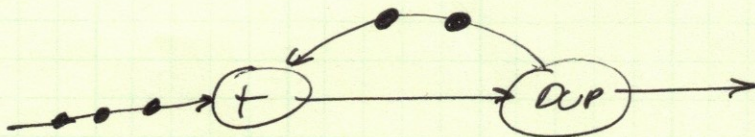
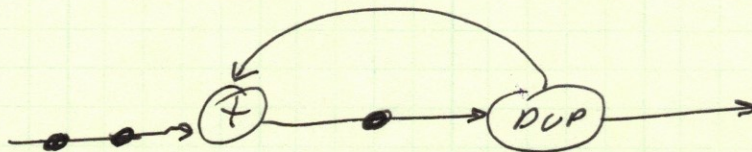
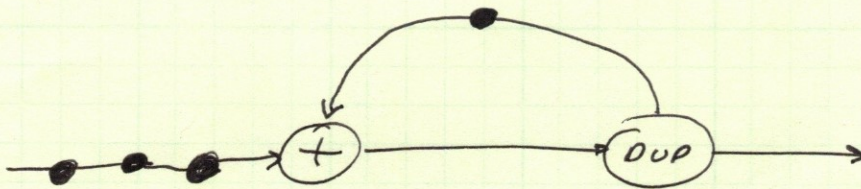
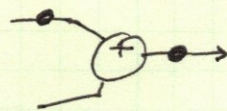
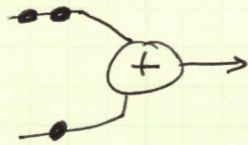
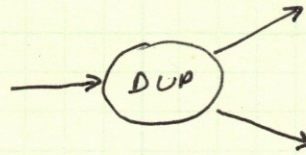
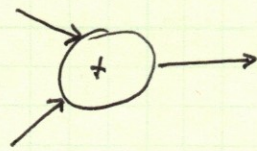
"MARKING"

$$S = \{A, B, B\} \quad \text{SEQUENTIAL SCHEDULE}$$

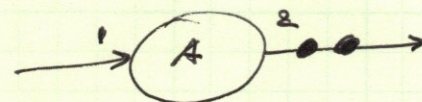
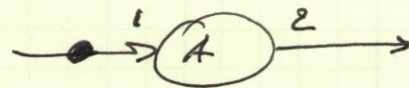
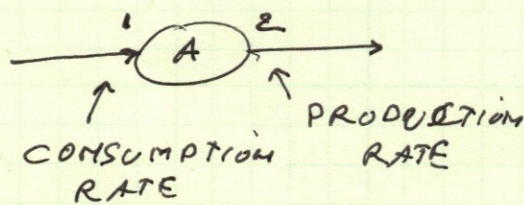
$$S = \{(A, B), B\} \quad \text{PARALLEL SCHEDULE}$$

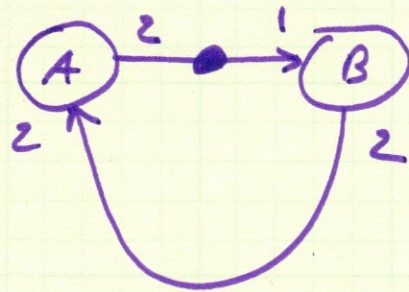
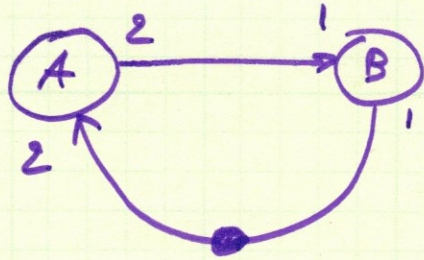


MULTI INPUT / OUTPUT ACTORS



MULTIRATE DATA FLOW.

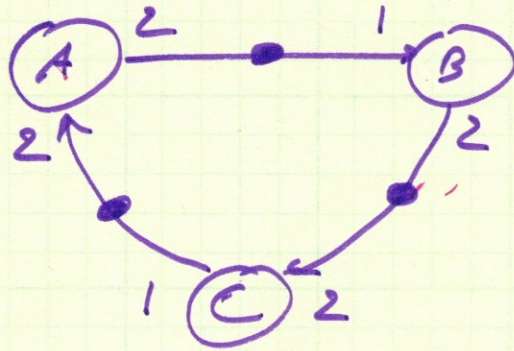




→ PERIODIC ADMISSABLE SCHEDULE

4 STEPS.

- 1) TOPOLOGY MATRIX, G
- 2) RANK $G = \# \text{ACTORS} - 1$
- 3) FIND FIRING VECTOR q S.T.
 $G \cdot q = 0$
- 4) DERIVE PASSES



1) TOPOLOGY MATRIX

$$G = \begin{bmatrix} +2 & -1 & 0 \\ 0 & +2 & -2 \\ -2 & 0 & +1 \end{bmatrix} \begin{array}{l} AB \\ BC \\ CA \end{array}$$

2) RANK $(G) = \# \text{ACTORS} - 1$

$$-2 \times (CA + AB) = BC$$

$$\rightarrow \text{RANK}(G) = 2$$

3) FIRING VECTOR.

$$q = \begin{bmatrix} q_A \\ q_B \\ q_C \end{bmatrix}$$

NON ZERO

$$G \cdot q = 0$$

EXAMPLE

$$\begin{bmatrix} +2 & -1 & 0 \\ 0 & +2 & -2 \\ -2 & 0 & 1 \end{bmatrix} \begin{bmatrix} q_A = 1 \\ q_B = 1 \\ q_C = 2 \end{bmatrix} = \begin{bmatrix} 1 \\ 0 \\ -1 \end{bmatrix} \begin{array}{l} AB \\ BC \\ CA \end{array}$$

$$C \cdot q = 0$$

$$\begin{bmatrix} +2 & -1 & 0 \\ 0 & +2 & -2 \\ -2 & 0 & 1 \end{bmatrix} \begin{bmatrix} 1 \\ 2 \\ 2 \end{bmatrix} = \begin{bmatrix} 0 \\ 0 \\ 0 \end{bmatrix} \quad \checkmark$$

$$4) \quad S = \{B, C, A, B, C\}$$