ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

Bases de logique

Comprendre les Microcontrôleurs

Jean-Daniel NICOUD et Pierre-Yves ROCHAT

Bases de logique

Jean-Daniel Nicoud

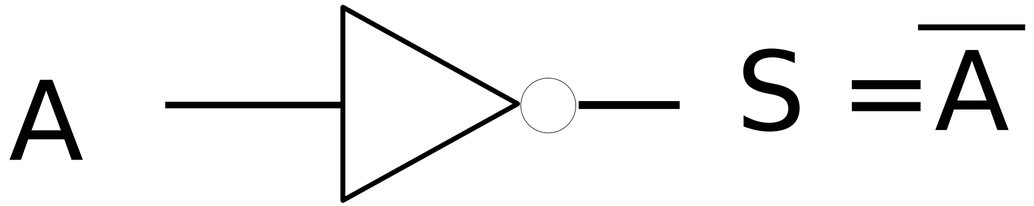
ÉCOLE POLYTECHNIQUE
FÉDÉRALE DE LAUSANNE

Bases de logique

ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE

- Les portes de base
- Exemple - le multiplexeur
- Bascule bistable
- Bascule D et diviseur par 2

Bases de logique



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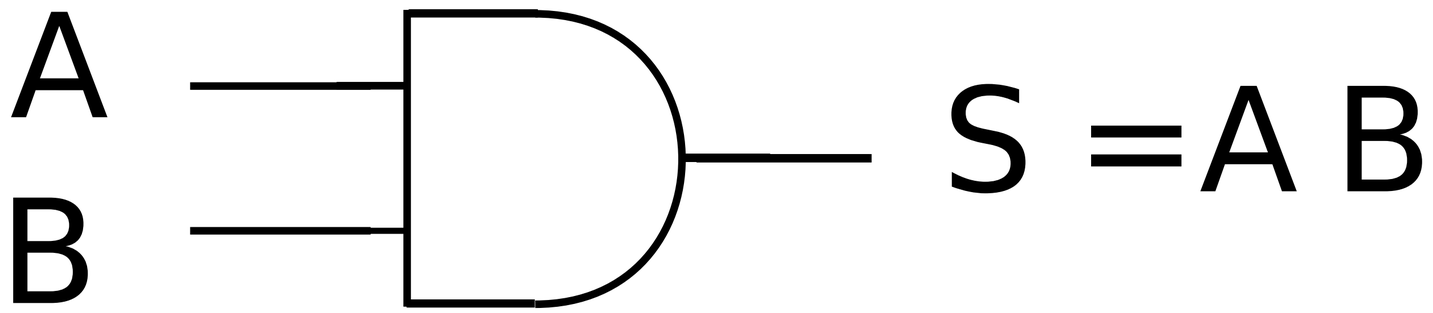
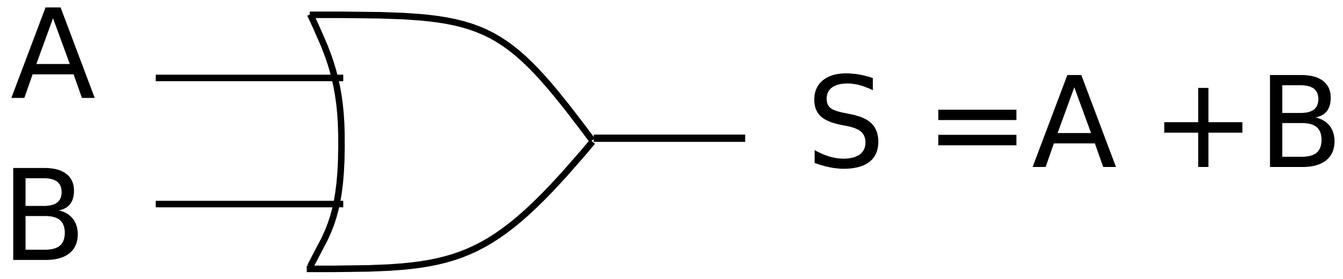


Bases de logique



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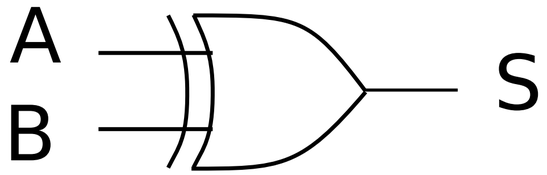
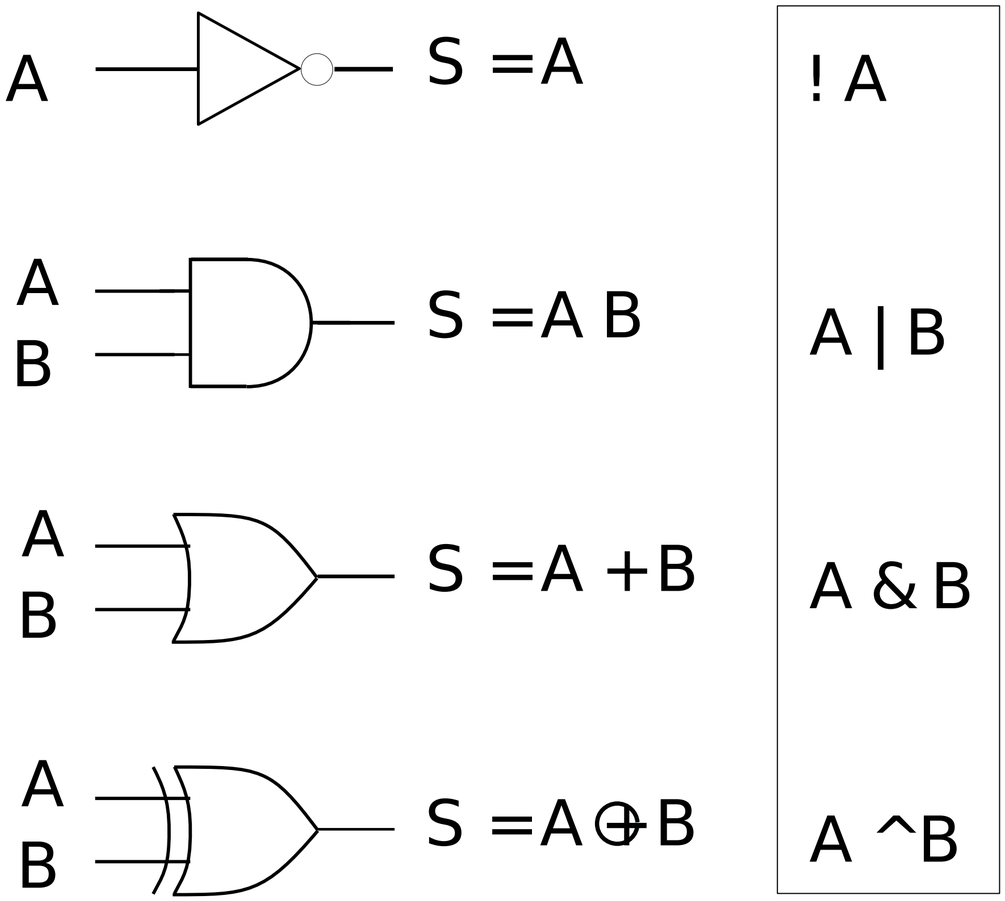
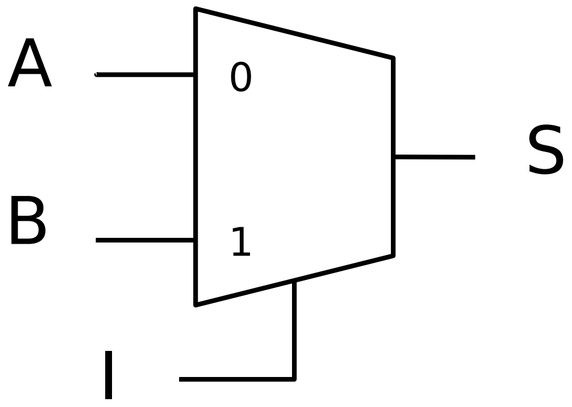


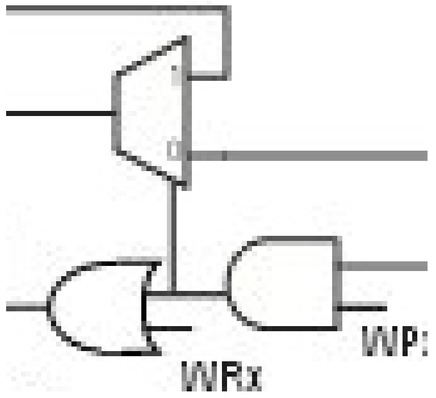
B	A	S
0	0	0
0	1	1
1	0	1
1	1	0

Bases de logique



Bases de logique





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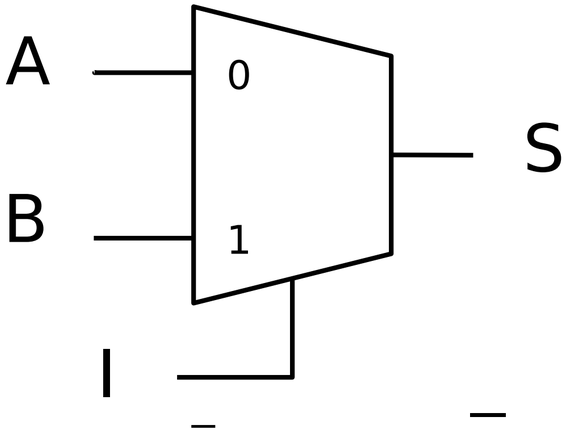
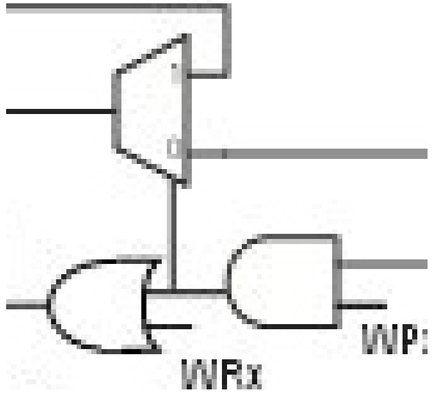
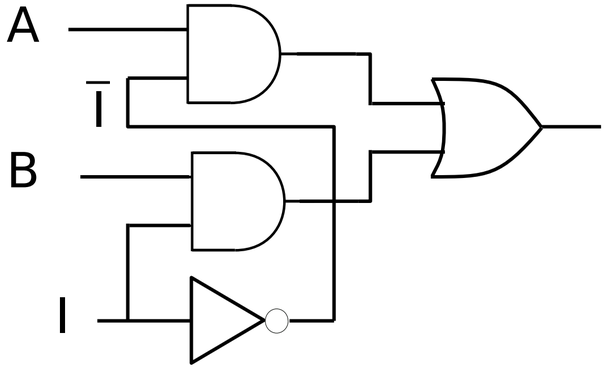




$$S = \overline{I} \cdot A + I \cdot B$$



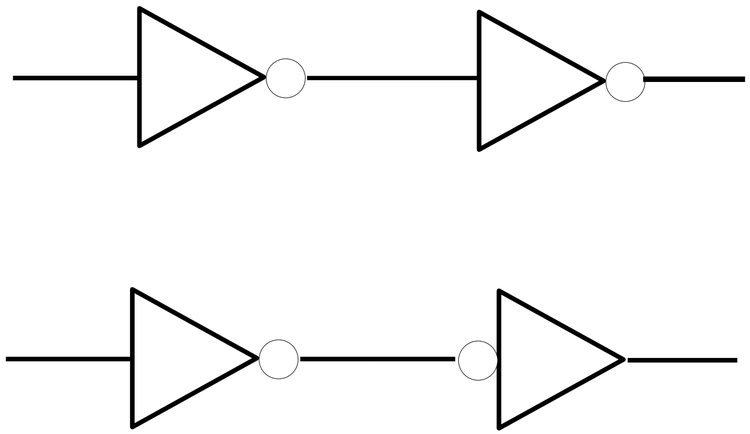
Bases de logique

ÉCOLE POLYTECHNIQUE FÉDÉRALE DE LAUSANNE

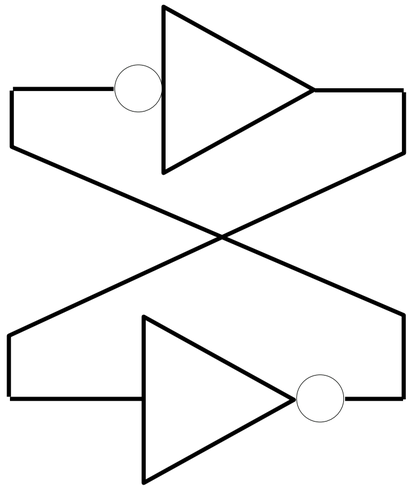
Multiplexeurs
Démultiplexeurs
Décodeurs
- Systèmes combinatoires

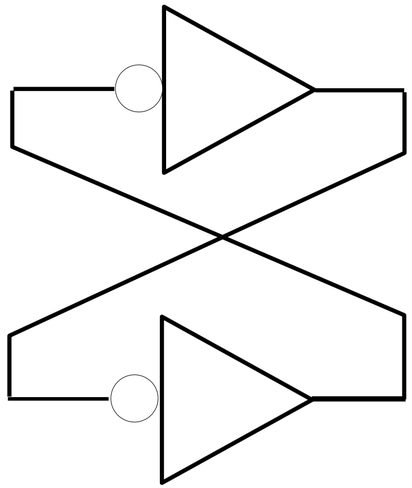
Systèmes séquentiels

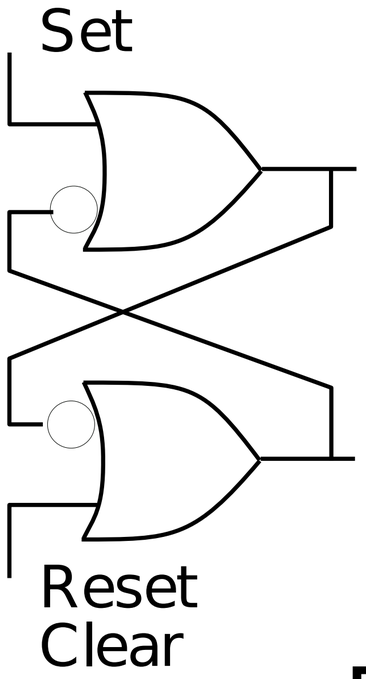
Bases de logique

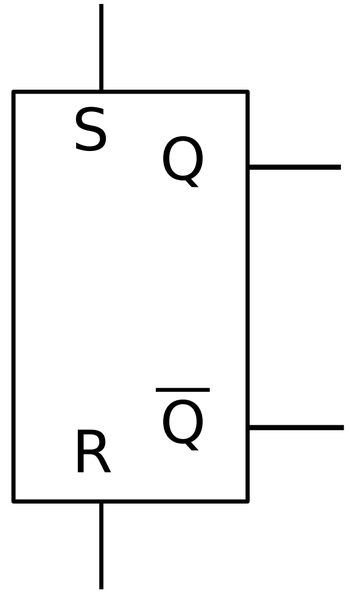


Bases de logique



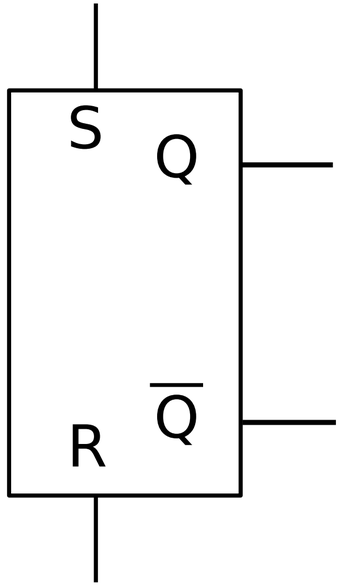


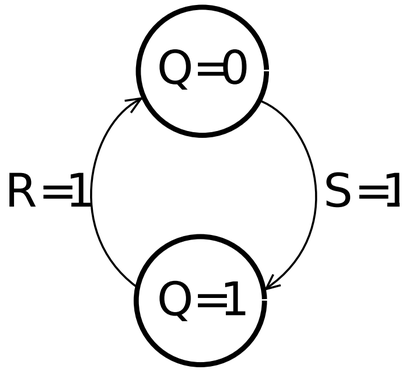


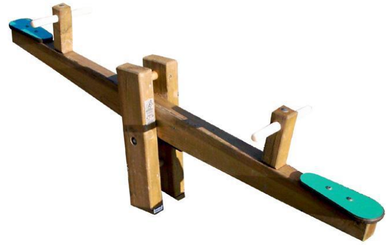


Bascule RS

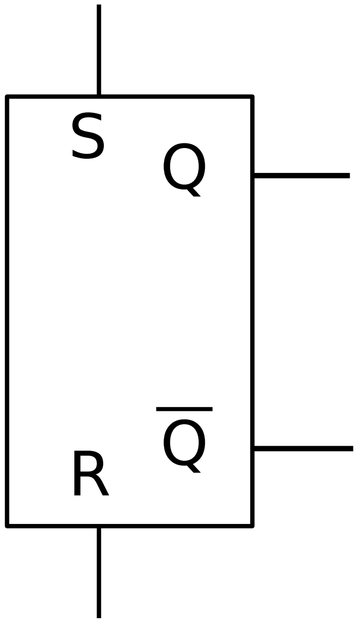
Bases de logique

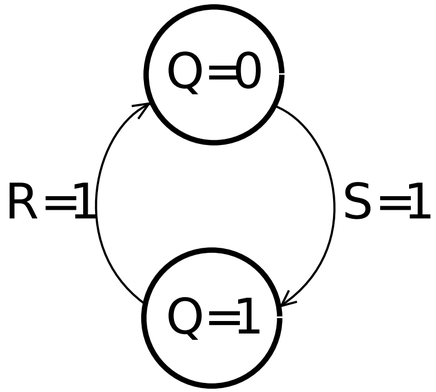


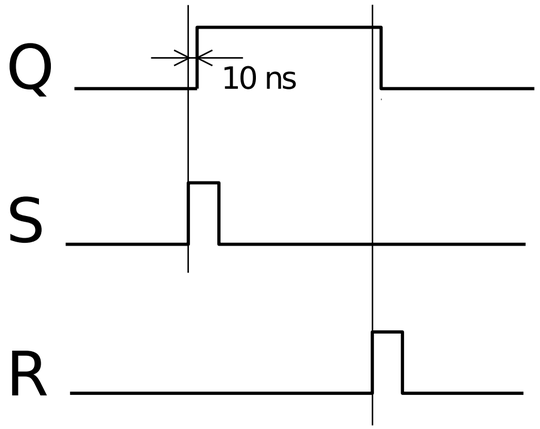


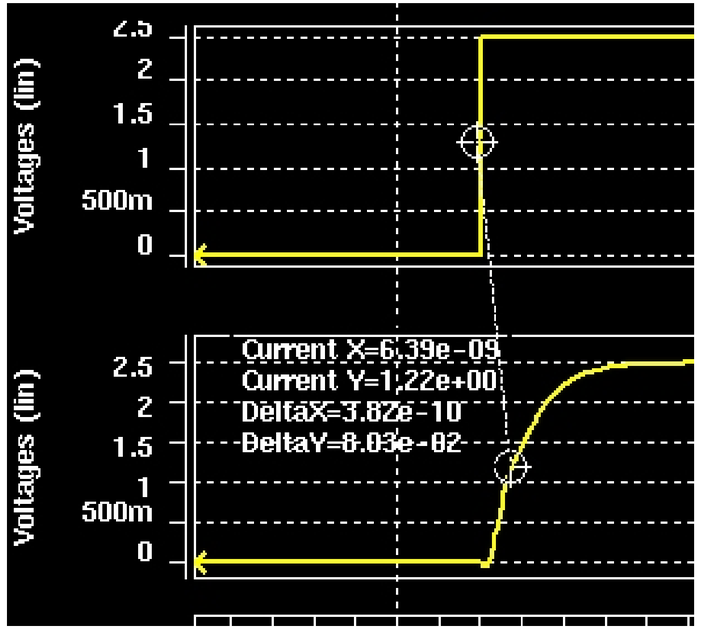


Bases de logique





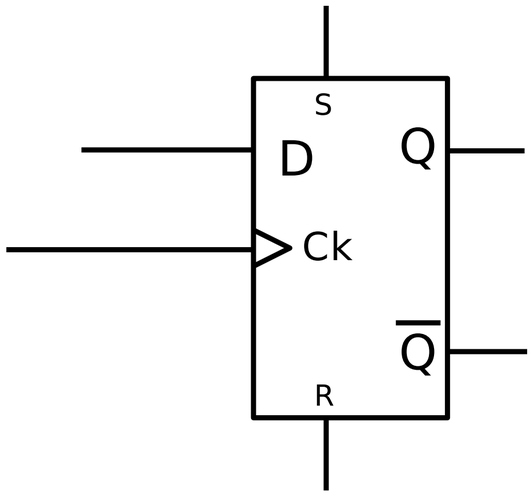


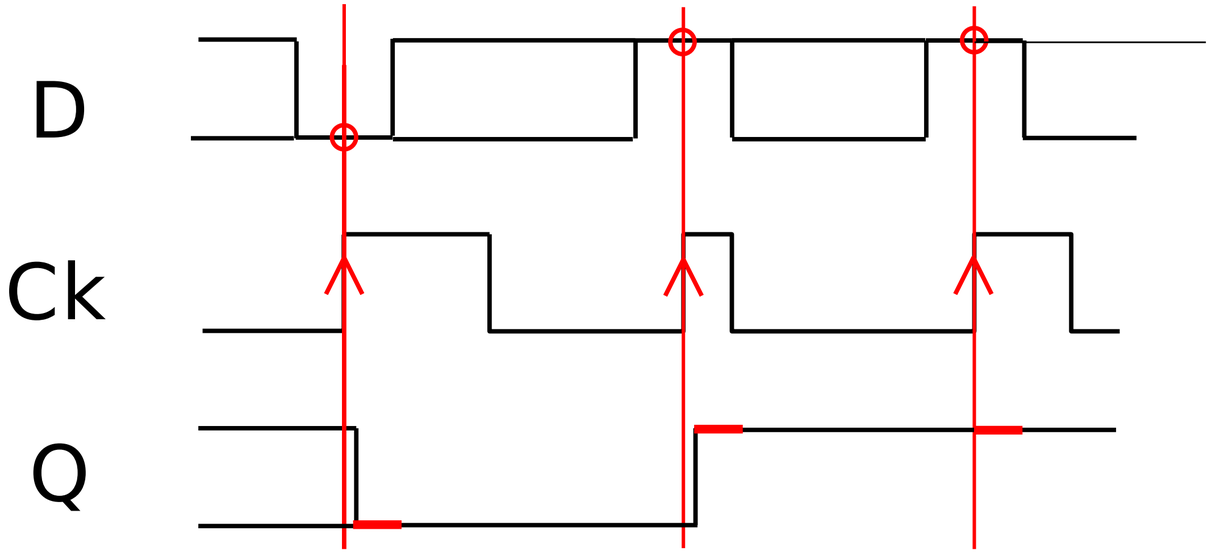


Bascules , registres et compteurs

- La Bascule D
- Registre parallèle
- Registre série
- Diviseur par 2
- Compteurs

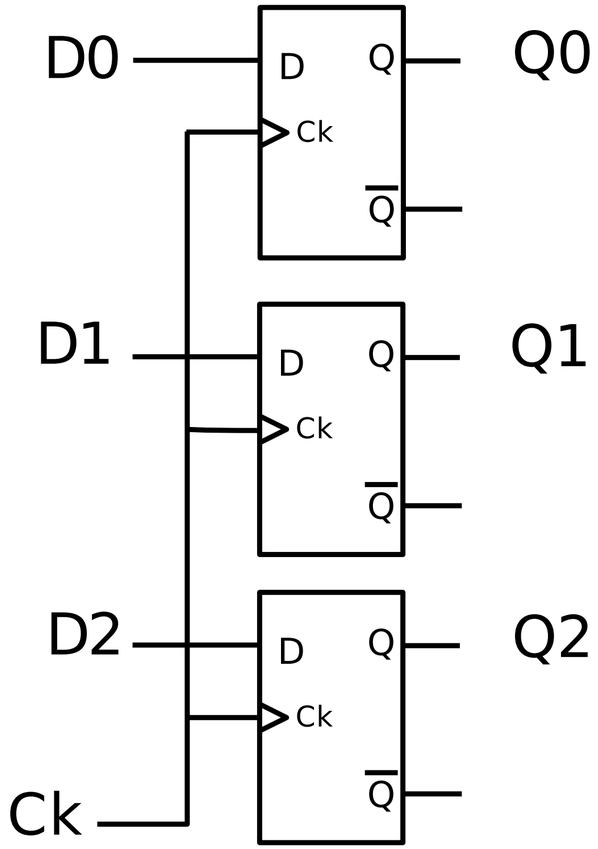
Bascules , registres et compteurs

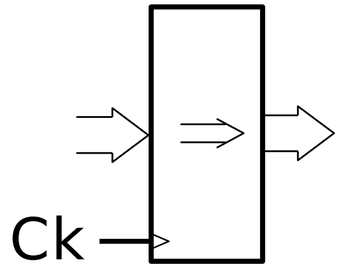




S R statiques Ck dynamique D échantillonné

Bascules , registres et compteurs





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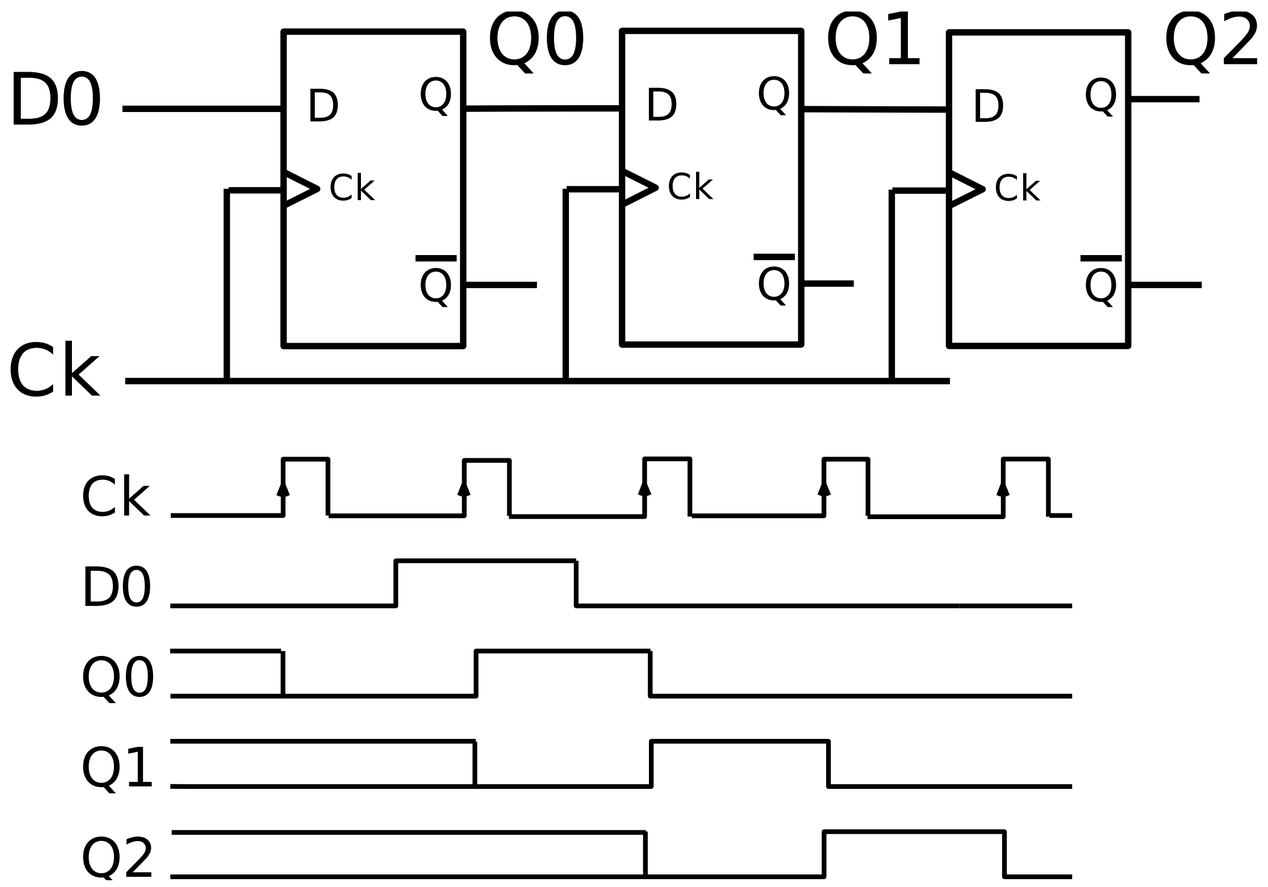

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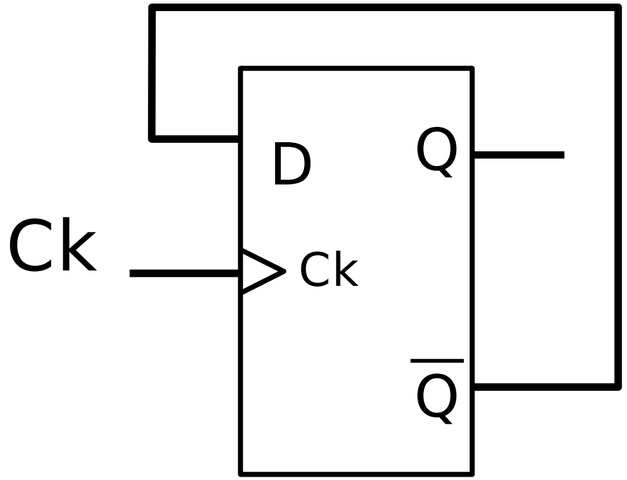

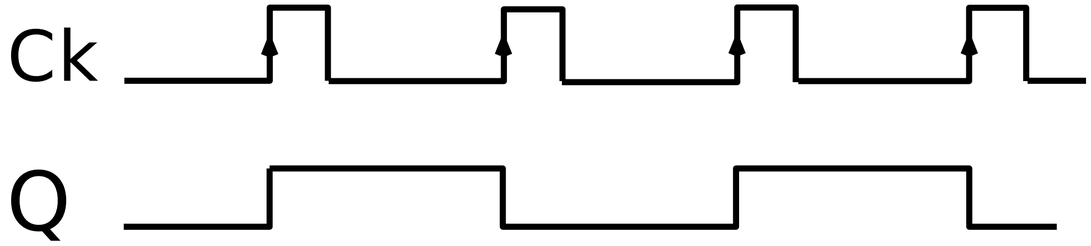

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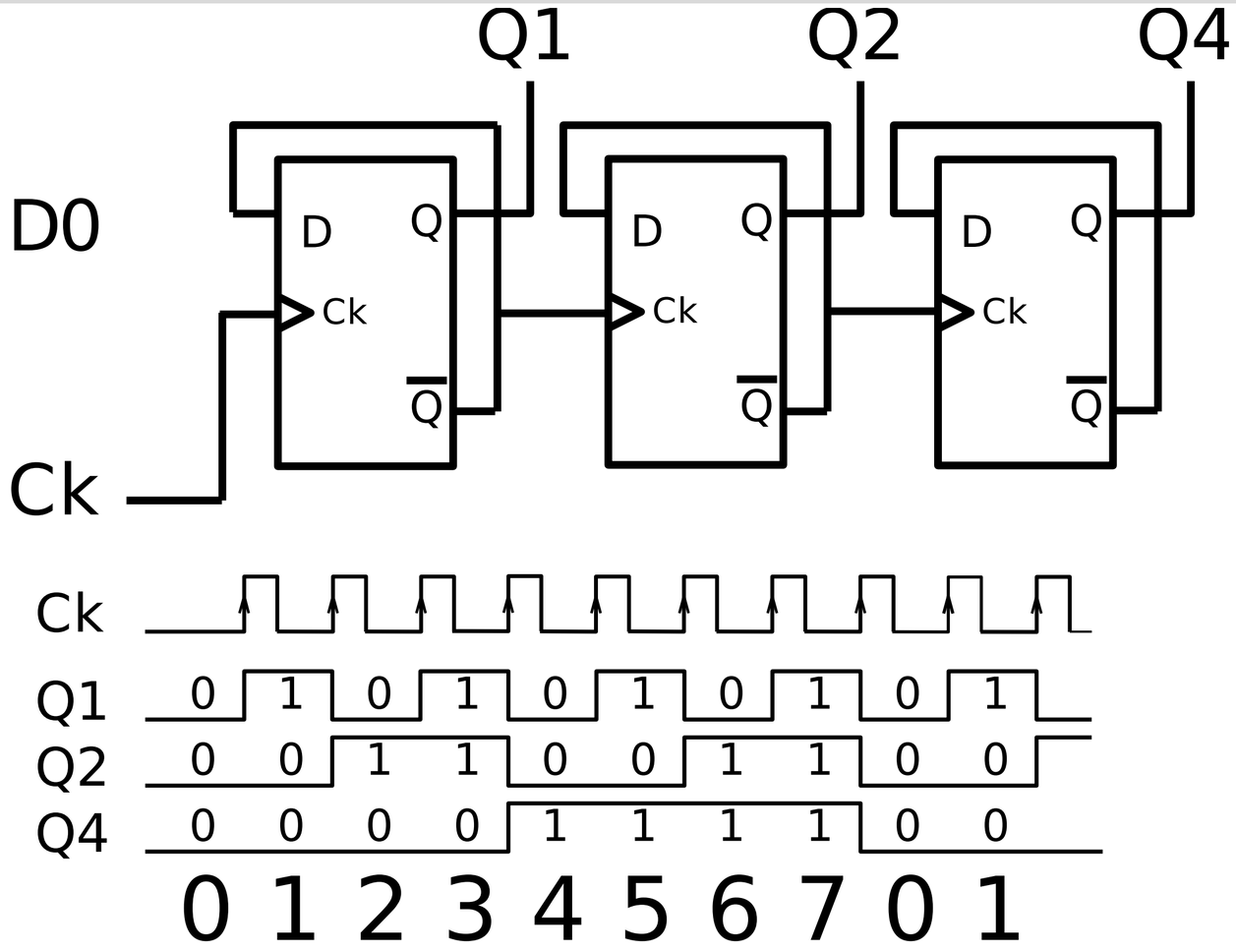
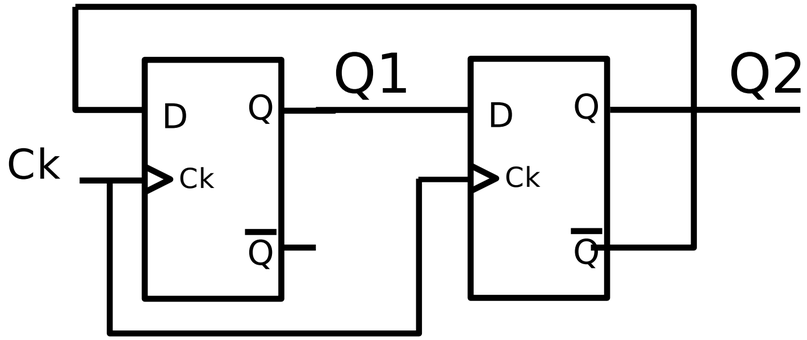


Bascules , registres et compteurs

Quizz

Avec les liaisons ci-contre, quel est la séquence des états ?

- a)
- b)



a)

Q1	Q2
0	0
1	1
1	0

b)

Q1	Q2
0	0
1	0
1	1
0	1

Résumé

- Bascule D
- Registre parallèle et série
- Compteurs