

Basic Concept of digital electronics



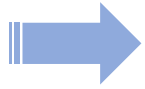
DAFFODIL INSTITUTE OF IT, CHATTOGRAM



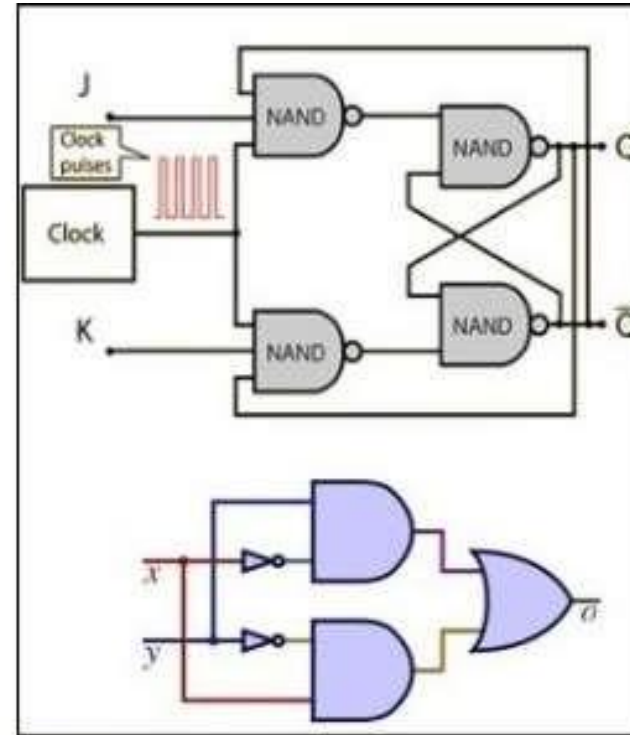
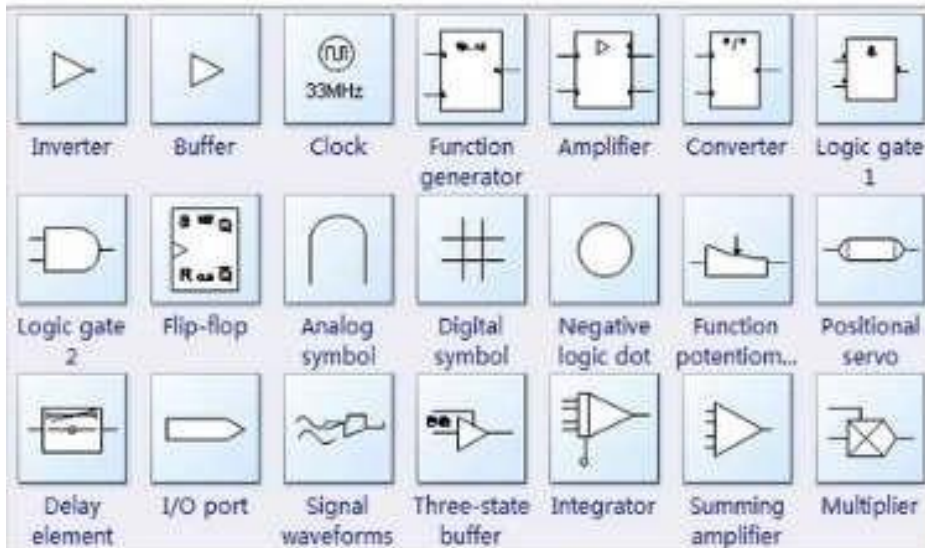
Presented By:

Md. Forhad Hossain

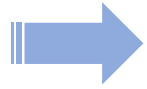
Jr. Instructor



What are Digital Electronics?



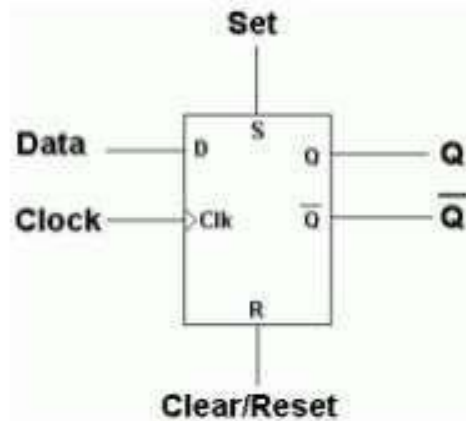
Electrical 4 U



Latches & Flip Flops

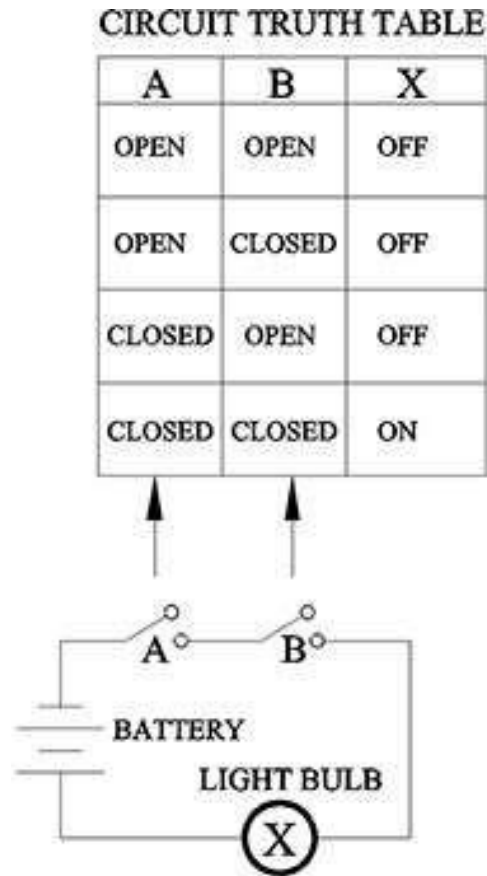
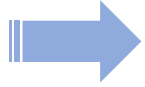
- Latches & Flip flops are built using basic gates and can store data.
- They can be level triggered or edge triggered.
- They are an intrinsic part of storage, counters etc.

The D flip flop



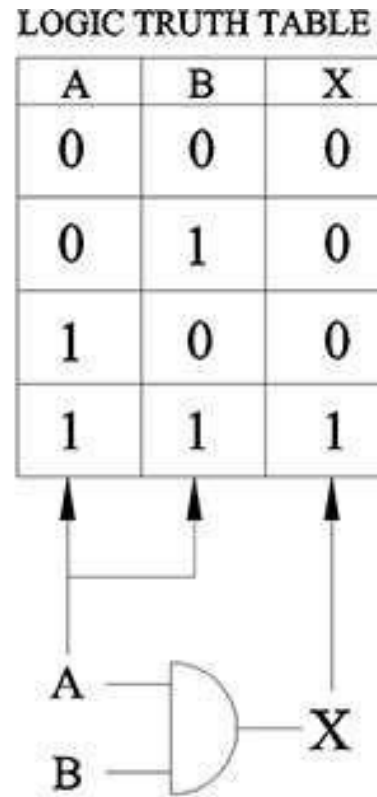
S	R	CLK	D	Q	\bar{Q}
0	1	X	X	1	0
1	0	X	X	0	1
0	0	X	X	Unstable	
1	1	↑	1	1	0
1	1	↑	0	0	1
1	1	↓	X	No change	
1	1	—	X	No change	

16



(a)

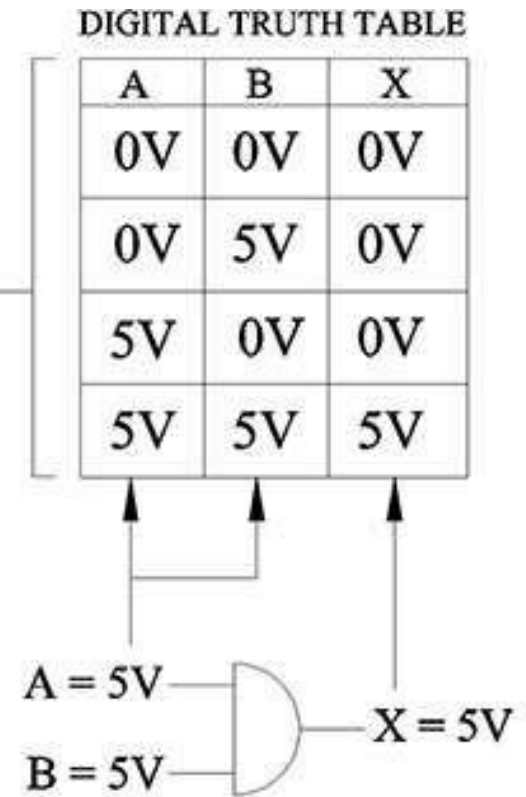
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"AND" GATE

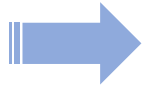
(b)

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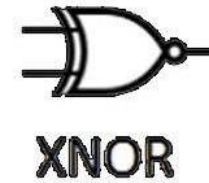
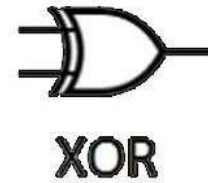
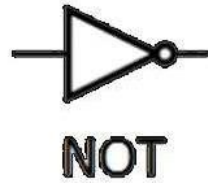
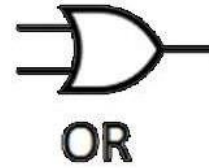
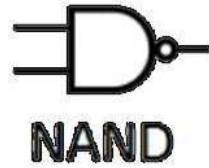
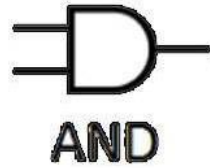
"AND" GATE IC

(c)

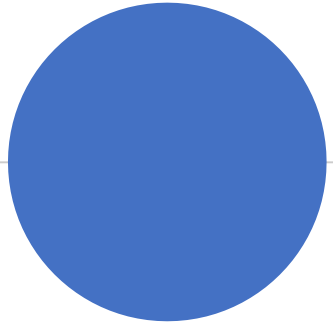


Basic Digital Logic Gates

INPUT		OUTPUT
A	B	
0	0	0
1	0	0
0	1	0
1	1	1



A AND B	$A \cdot B$
A OR B	$A + B$
NOT A	\overline{A}
A XOR B	$A \oplus B$



END