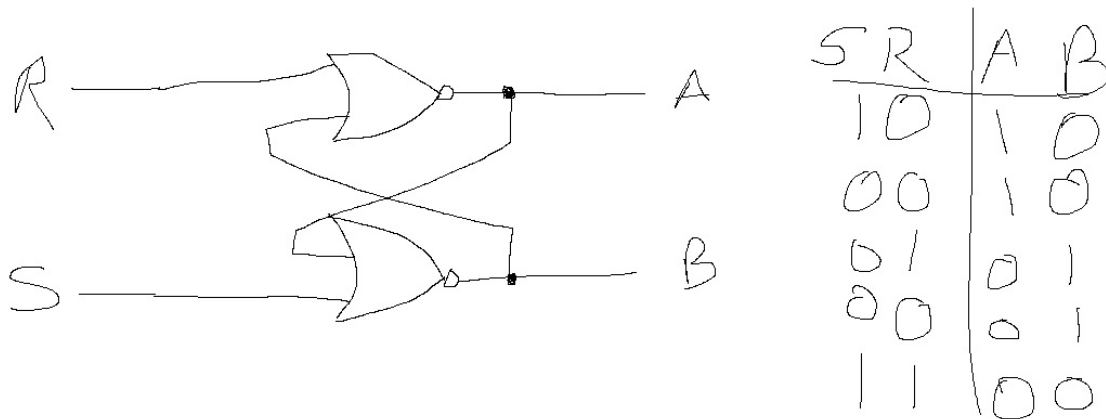
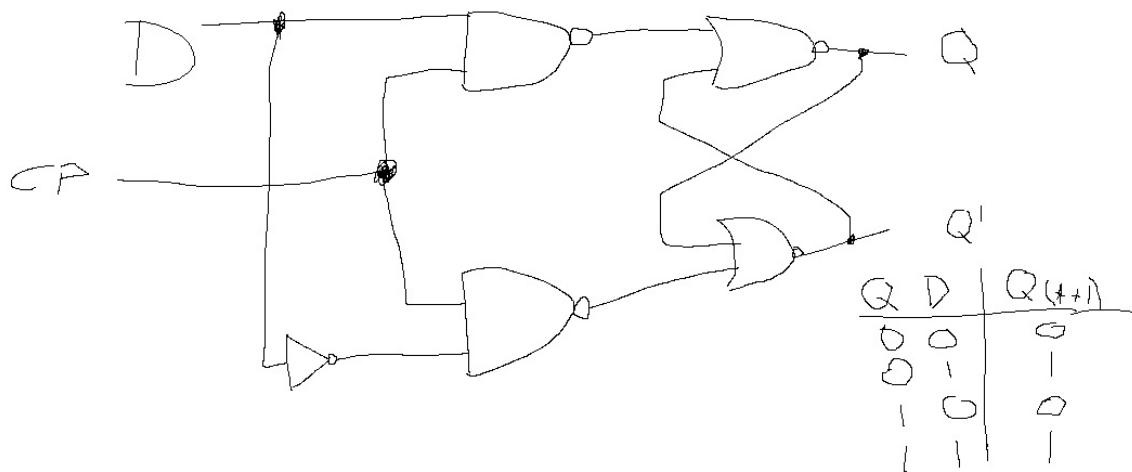


1. List the four basic types of flip-flops, draw their circuits and their truth table by hand.

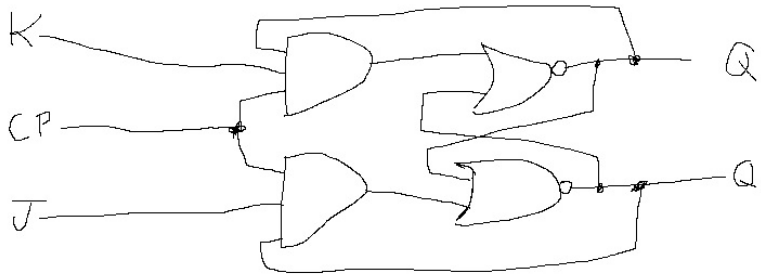
S-R flip-flop



D flip flop

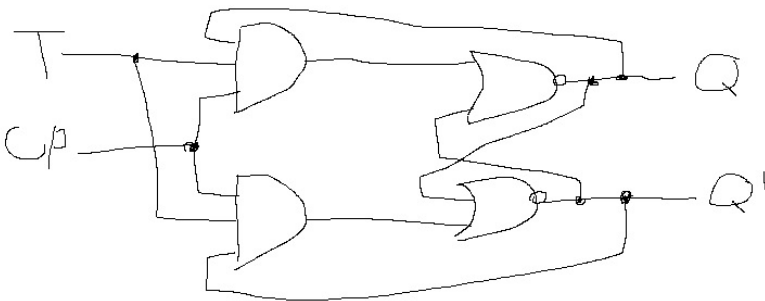


J-K flip flop



Q	J	K	Q(t+1)
0	0	0	0
0	0	1	0
0	1	0	1
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	1
1	1	1	0

T flip flop



Q	T	Q(t+1)
0	0	0
0	1	1
1	0	1
1	1	0

2. Find out the cost per megabyte of memory of

a) SRAM

- ~\$5 per megabyte

b) DRAM

- ~\$0.02 per megabyte

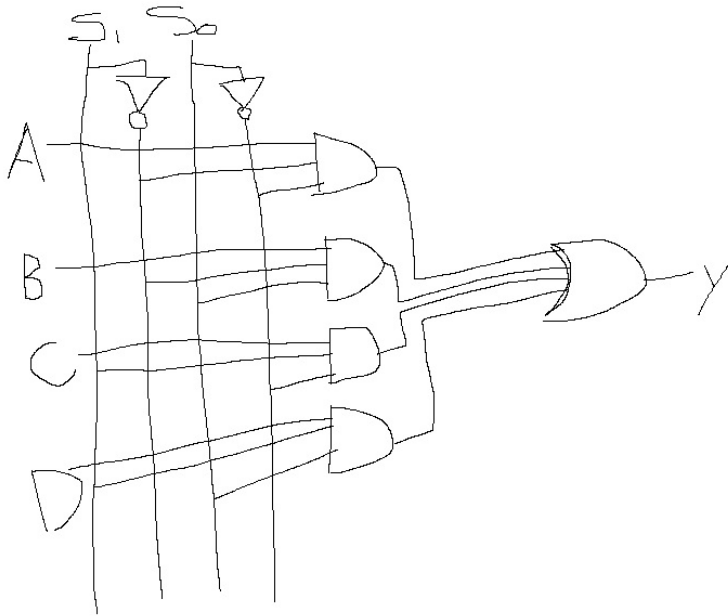
c) Flash memory

- ~\$0.004 per megabyte

d) Hard drive

- ~\$0.00002 per megabyte

3. Draw a 4x1 MUX circuit and its truth table.



S_1	S_0	Y
0	0	A
0	1	B
1	0	C
1	1	D