

**King Fahd University of Petroleum and Minerals**  
College of Computer Sciences & Engineering  
Computer Engineering Department



Principles of VLSI – COE 360

**Serial to Parallel Data Converter**  
***Phase III***

**Prepared for:**

Dr. Muhammad E. S. Elrabaa

**By:**

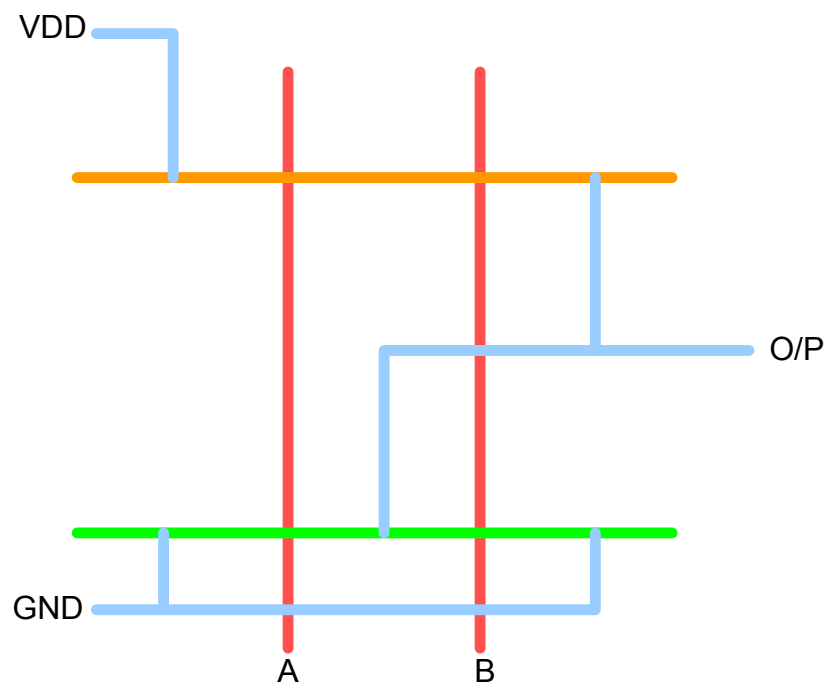
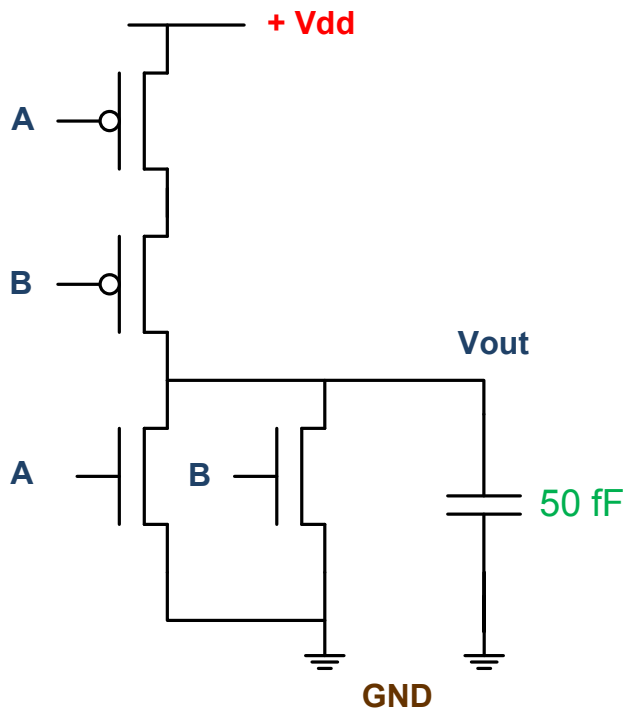
Ahmad Zeyad M. Al-Masri	215769
Mohammed Khaled Hadhrawi	212313

3 June 2006

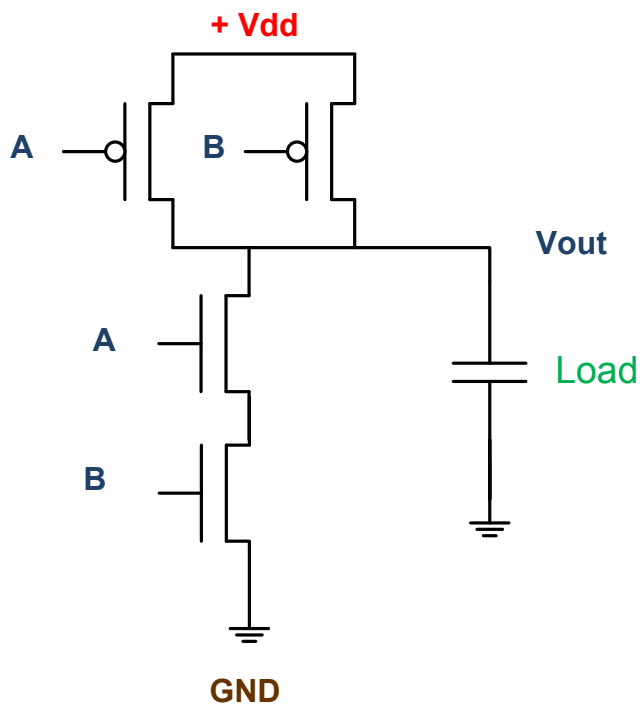
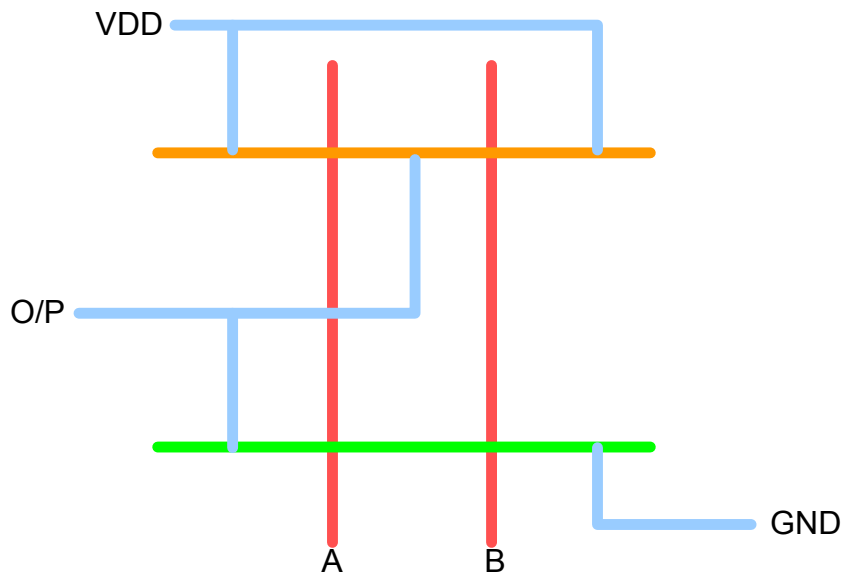
# TABLE OF CONTENTS

TABLE OF CONTENTS.....	1
NOR .....	2
NAND.....	3
MULTIPLEXER.....	4
INVERTER .....	5
XOR.....	5
XNOR .....	6
TRANSMISSION GATE.....	6
D-FLIP-FLOP.....	7
CONTROL UNIT "A" .....	8
CONTROL UNIT "B" .....	9
CLEAR .....	10
COUNT .....	11
LOAD .....	12

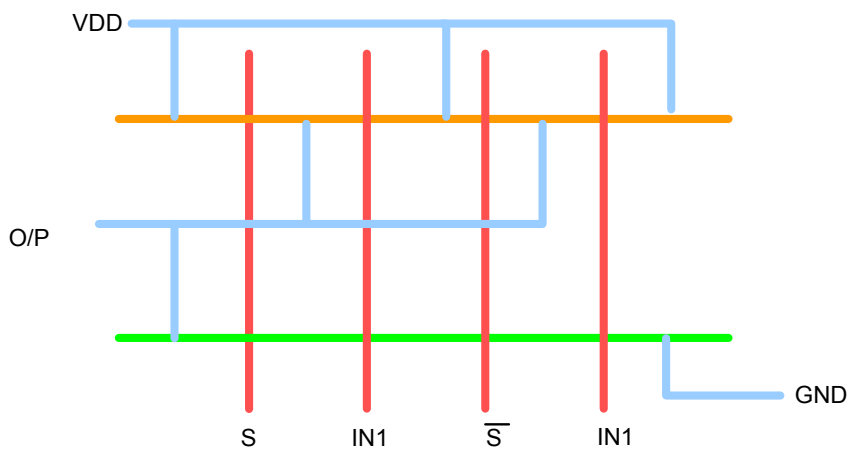
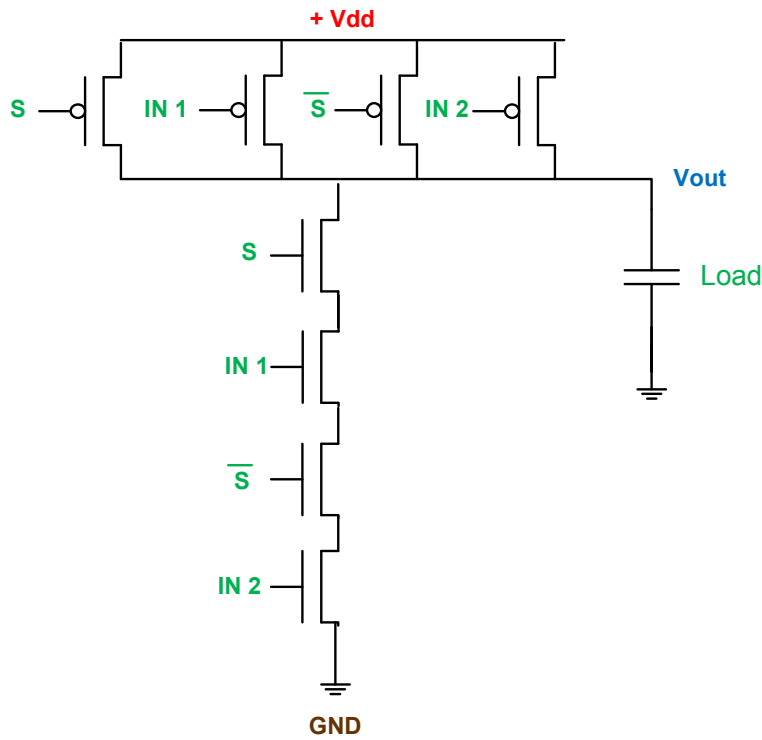
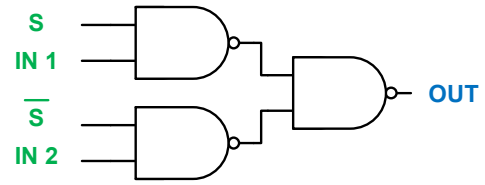
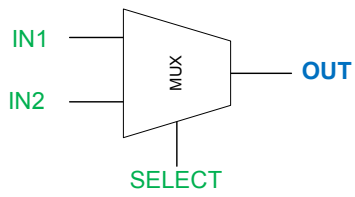
# NOR



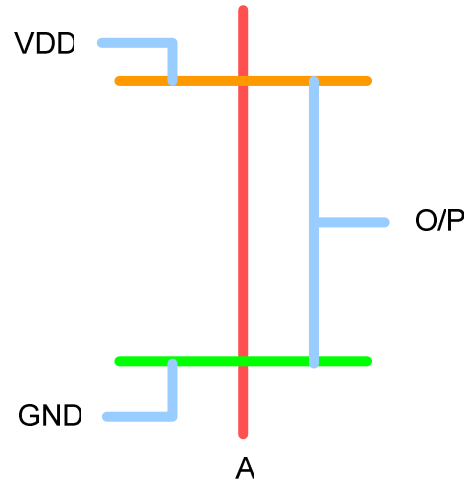
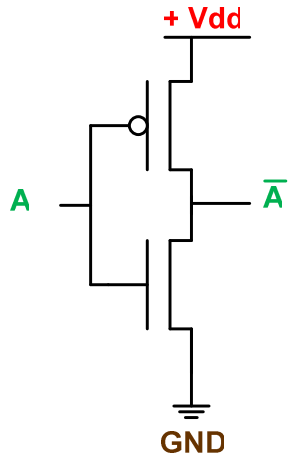
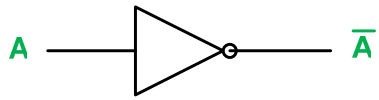
## Nand



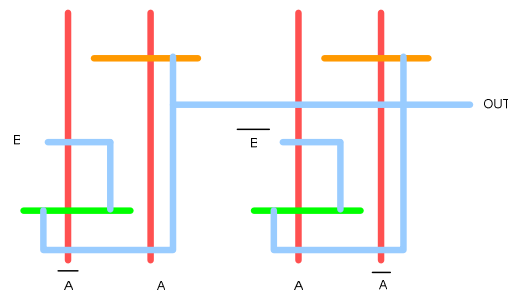
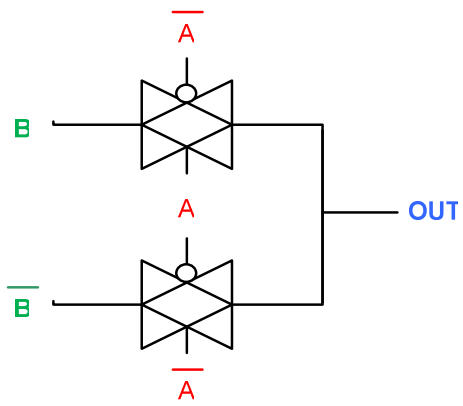
# Multiplexer



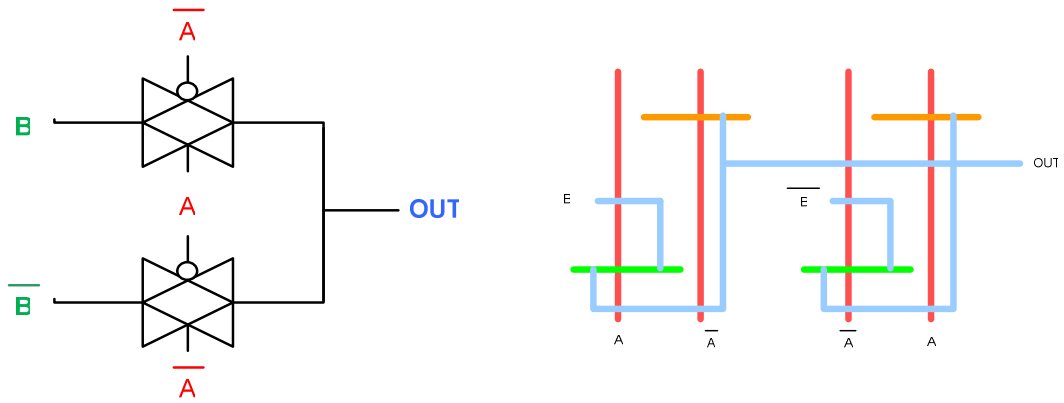
## Inverter



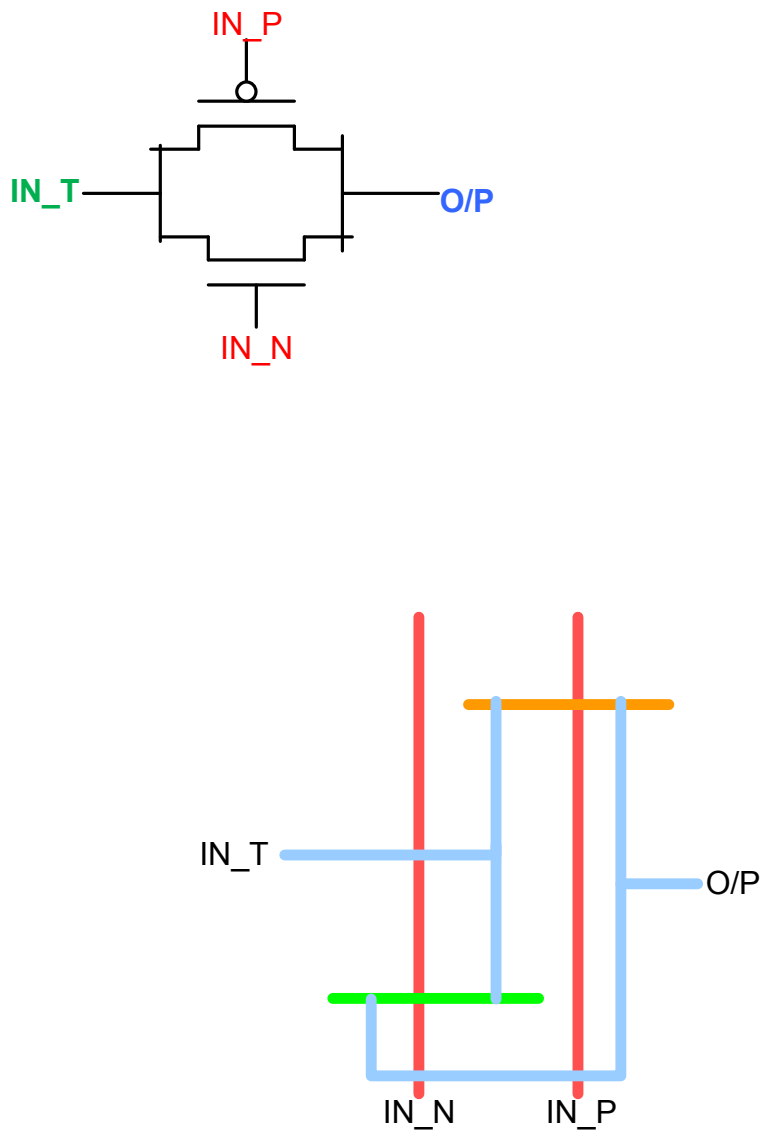
## XOR



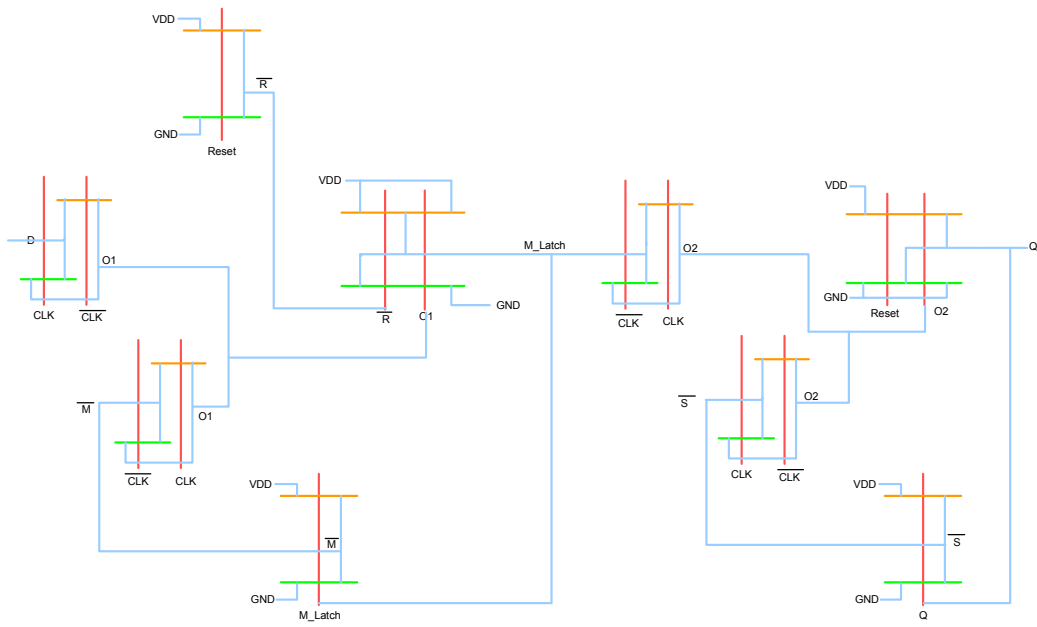
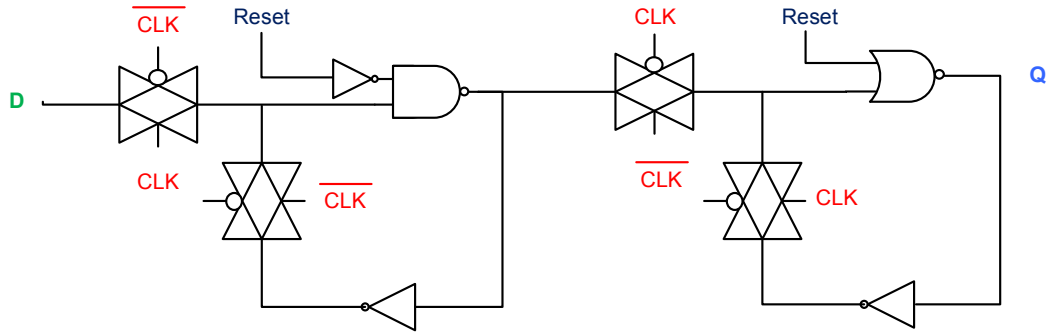
## XNOR



## Transmission Gate

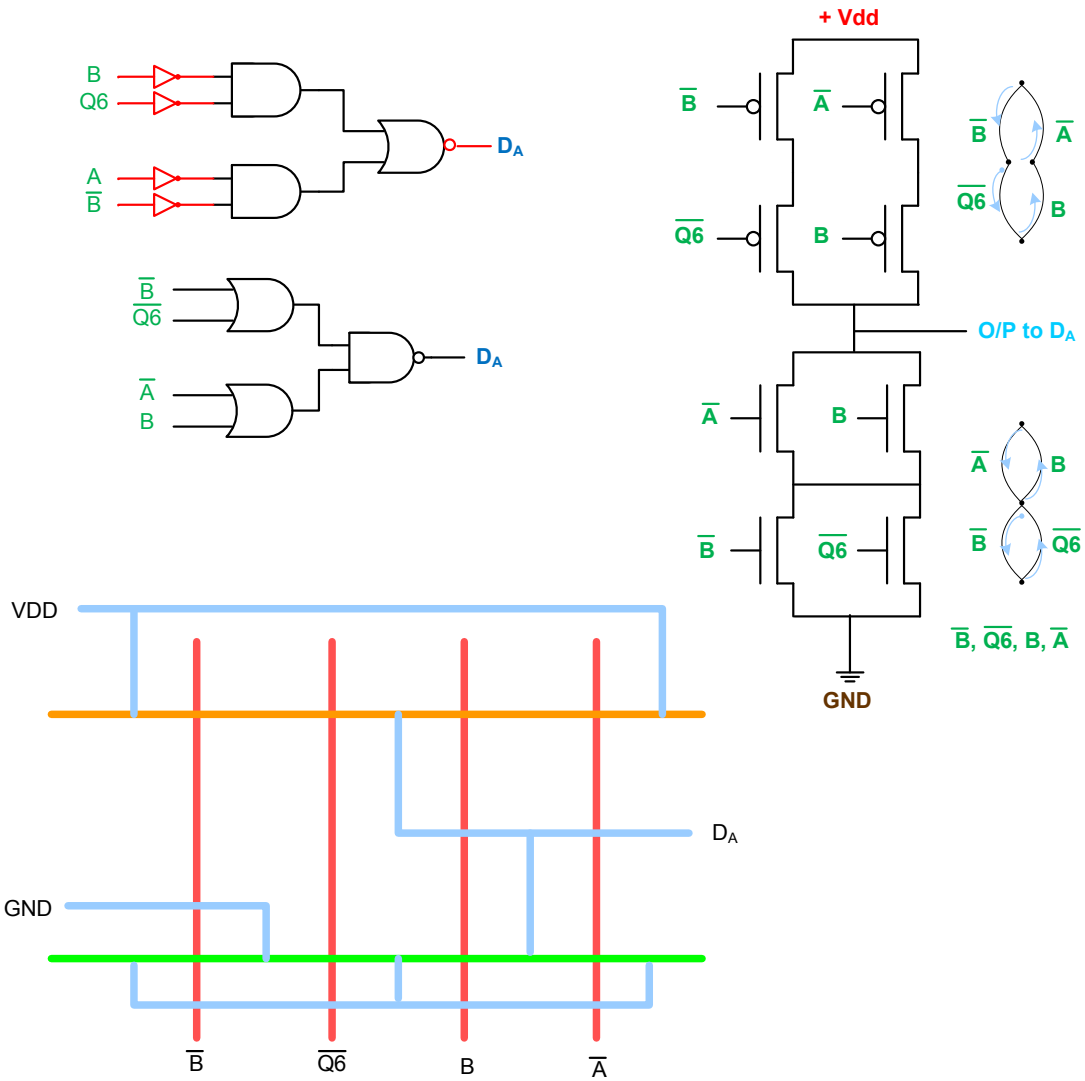


# D-Flip-Flop

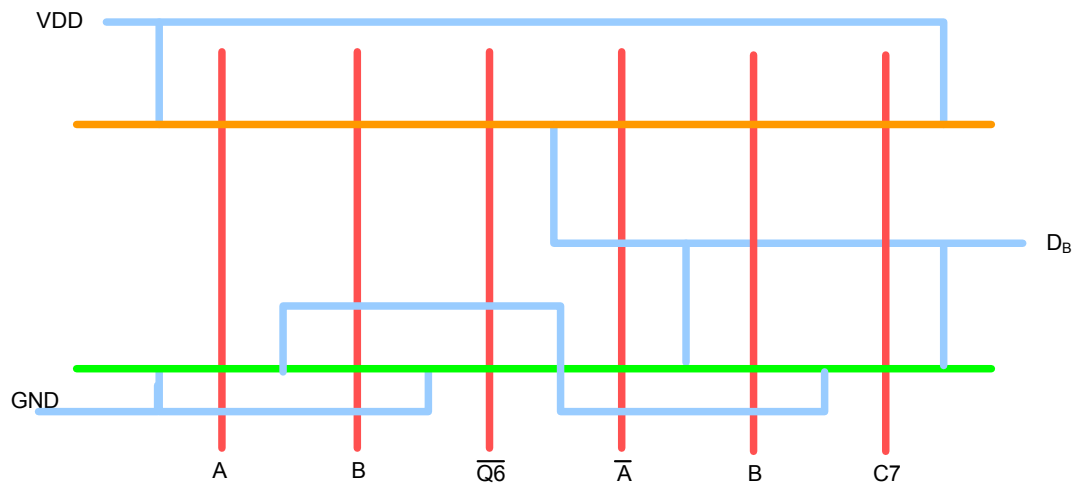
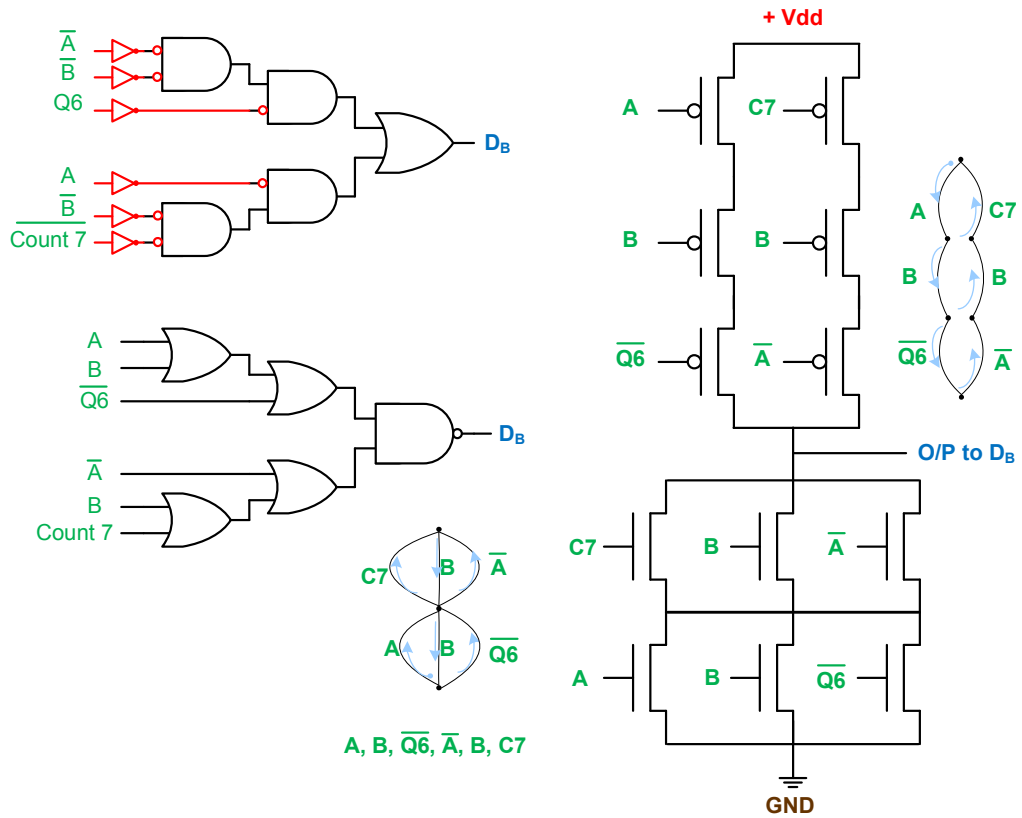




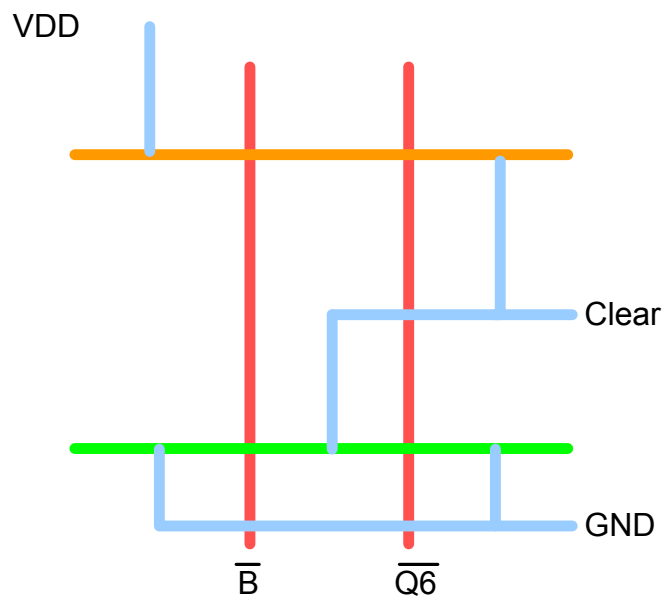
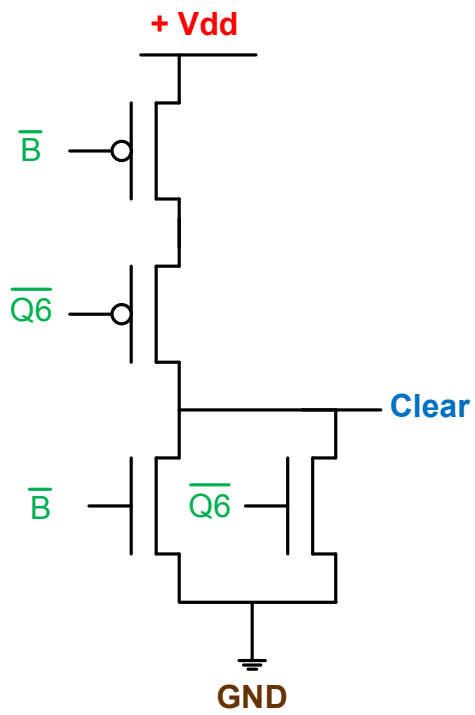
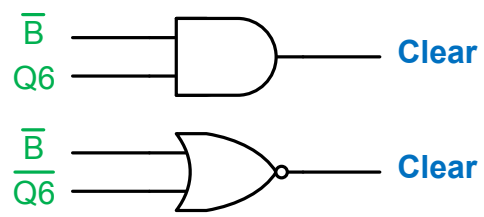
# Control Unit "A"



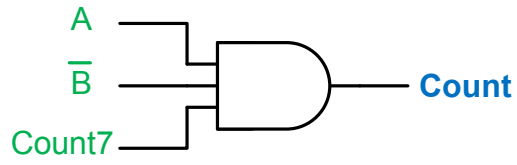
## Control Unit "B"



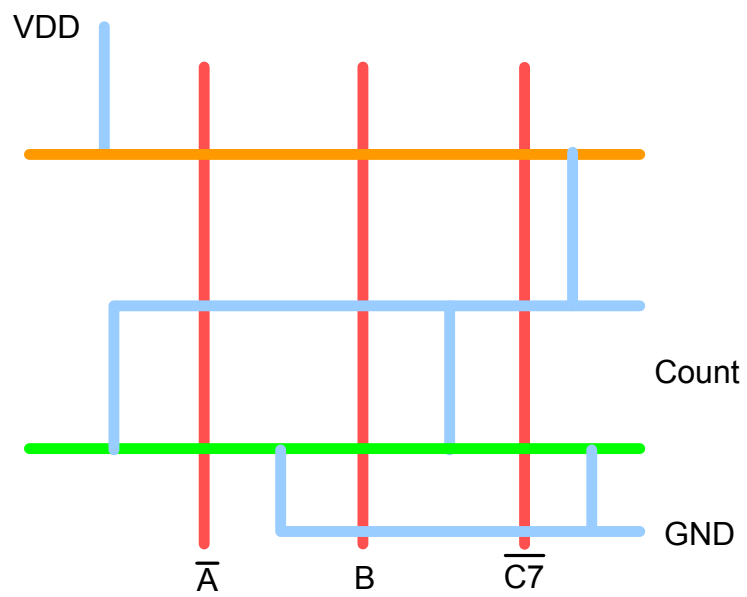
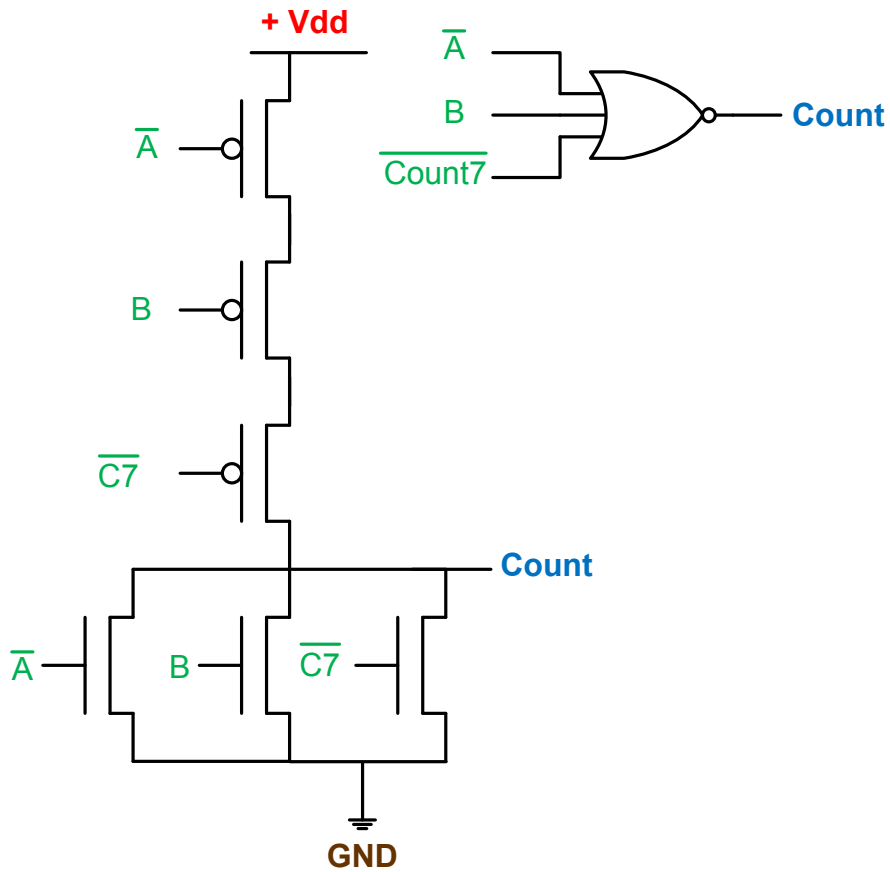
## Clear



# Count



Note: this  $Count7$  is already inverted from the counter.



# Load

