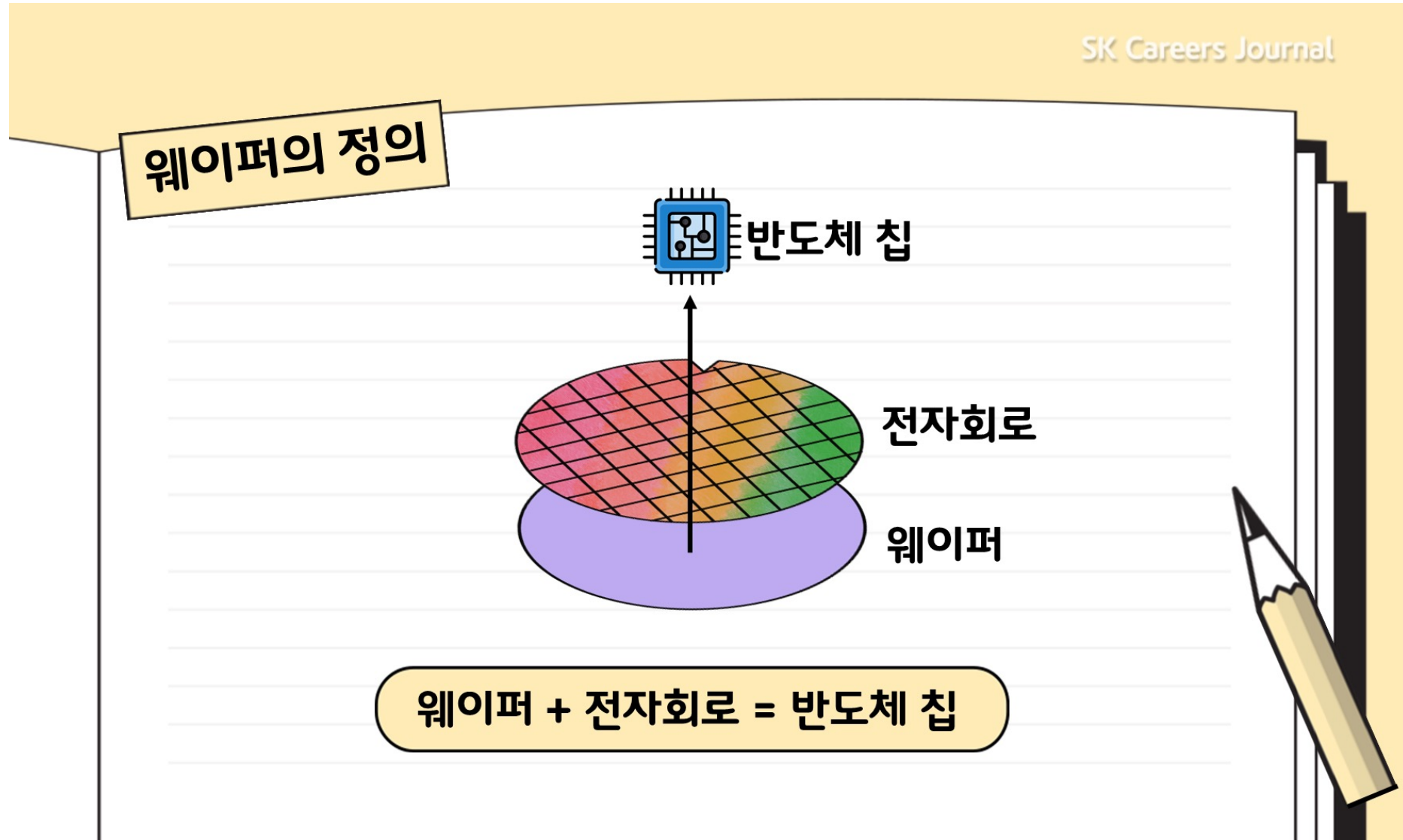


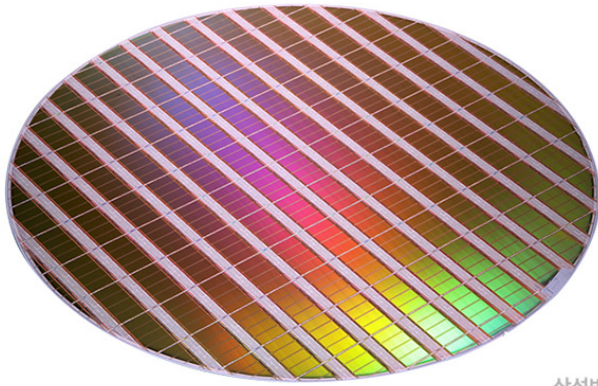
# 반도체 및 Verilog

<https://youtu.be/xPV1cF95xIY>

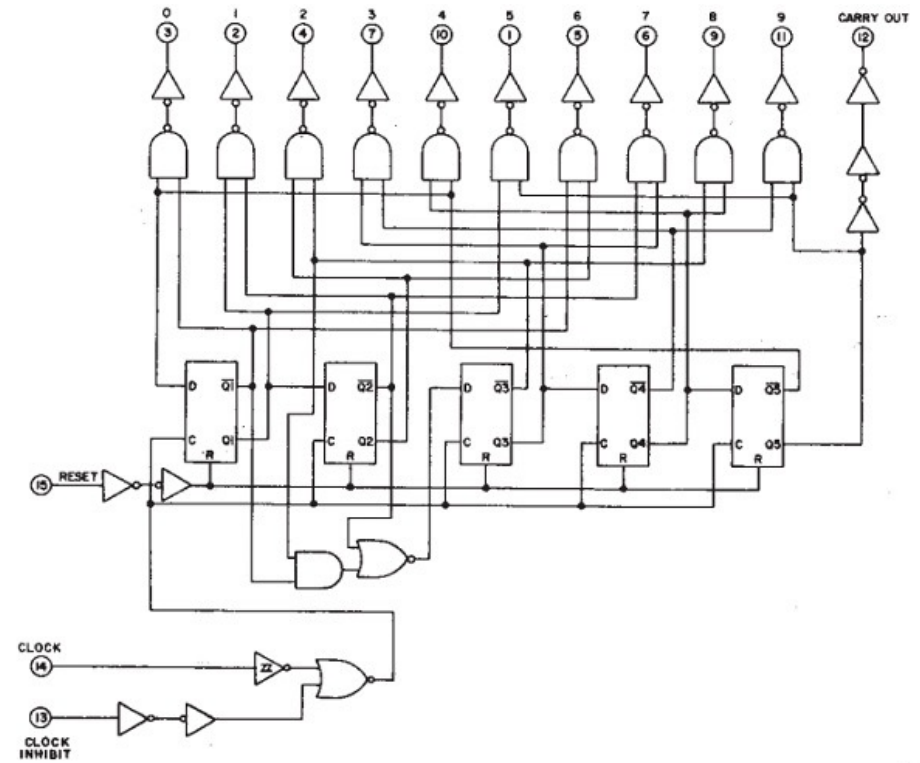
# Hardware description language (HDL)



# Hardware description language (HDL)

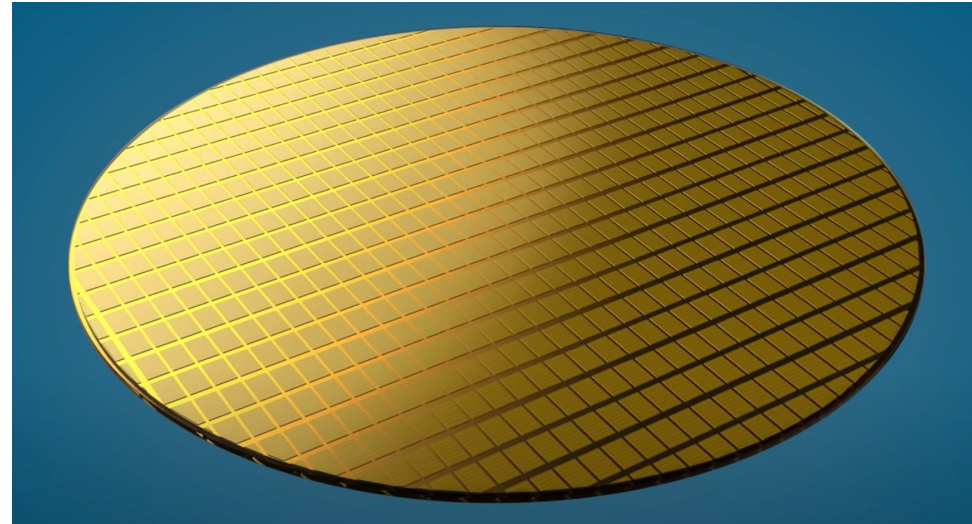
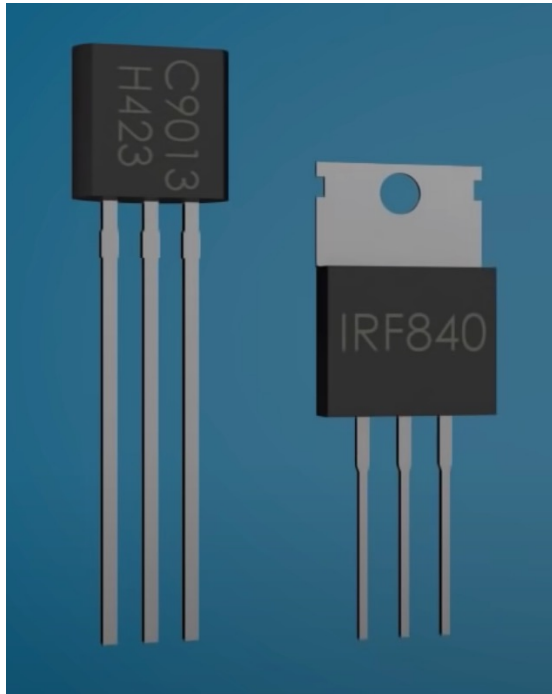


삼성반도체이야기  
samsungsemiconstory.com

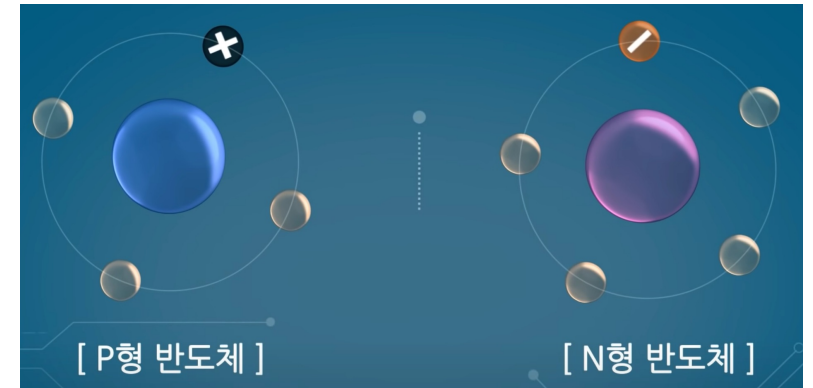
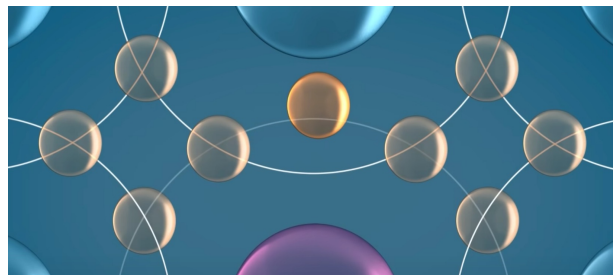
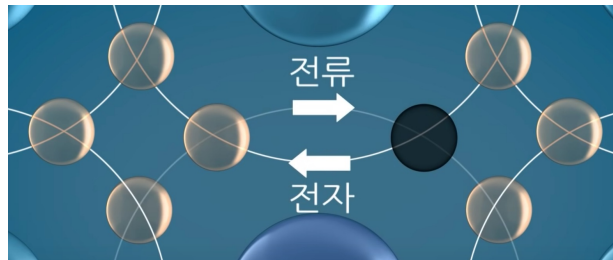
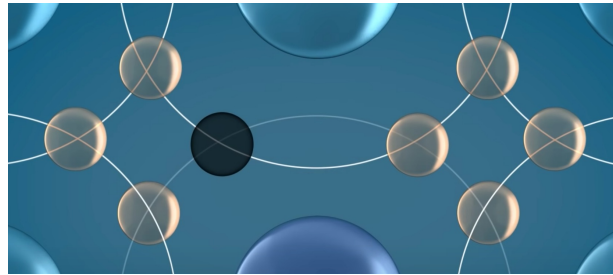
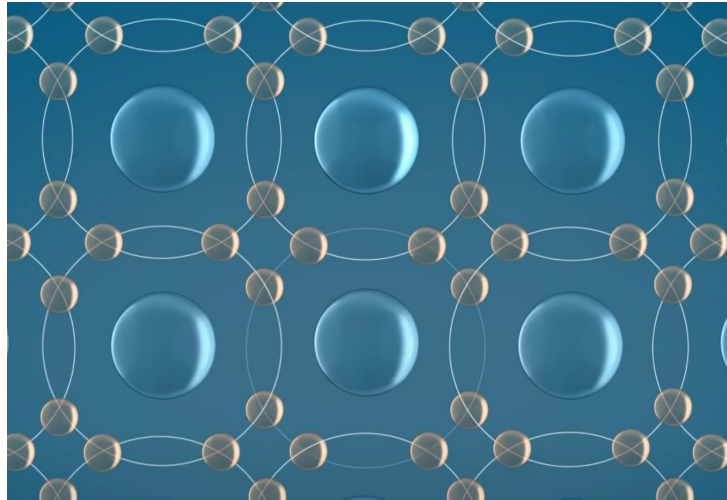


# 반도체

- CPU는 트랜지스터라고 하는 반도체로 만들어 짐.
- 반도체는 주로 실리콘으로 만들어짐.

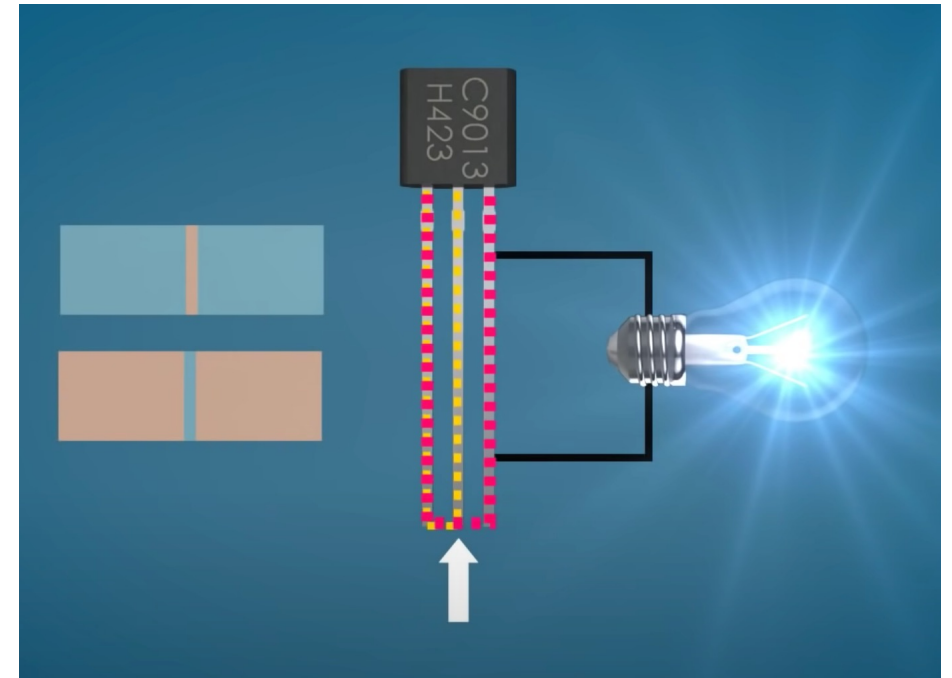
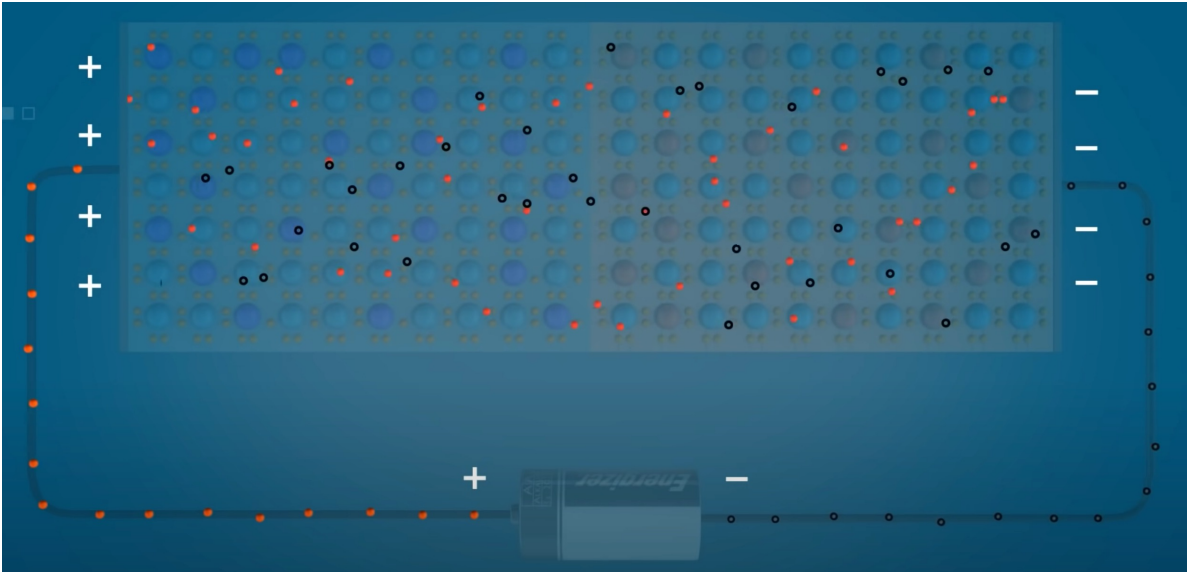


# 반도체



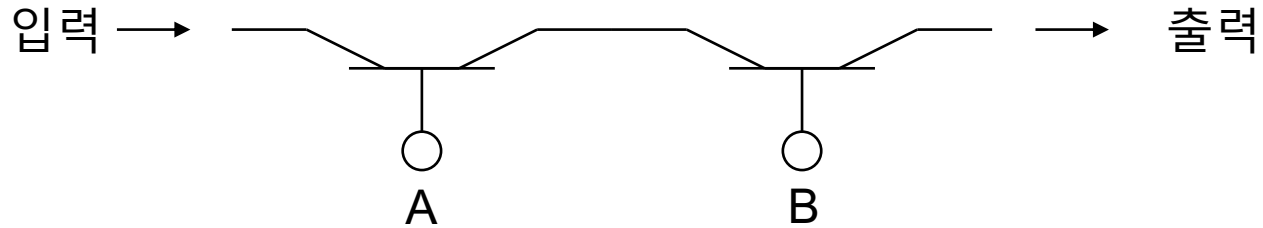
# 반도체

- P와 N을 결합하고 전압을 주면 전류가 흐르게 됨.
- PNP / NPN 반도체



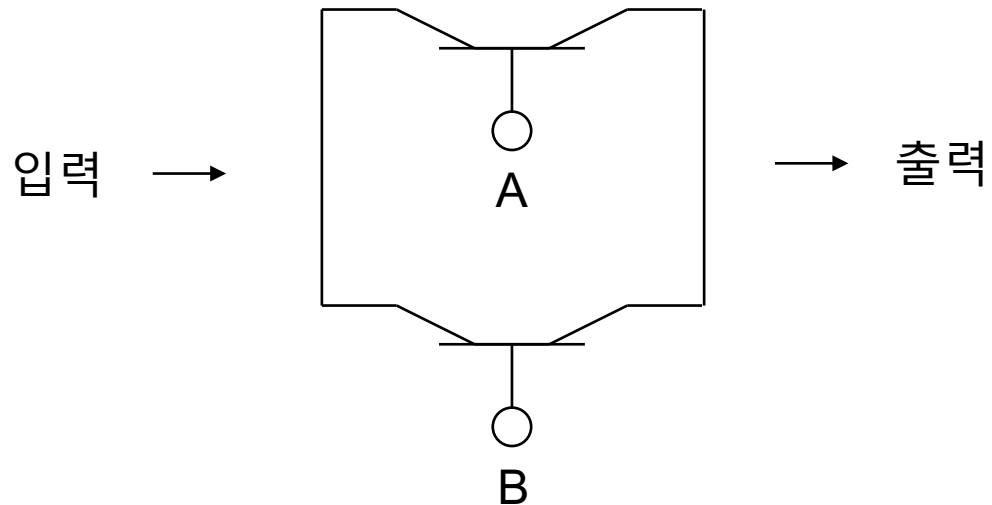
# logic gate 논리 회로

AND gate



| A | B | 출력 |
|---|---|----|
| 0 | 0 | 0  |
| 1 | 0 | 0  |
| 0 | 1 | 0  |
| 1 | 1 | 1  |

OR gate



| A | B | 출력 |
|---|---|----|
| 0 | 0 | 0  |
| 1 | 0 | 1  |
| 0 | 1 | 1  |
| 1 | 1 | 1  |



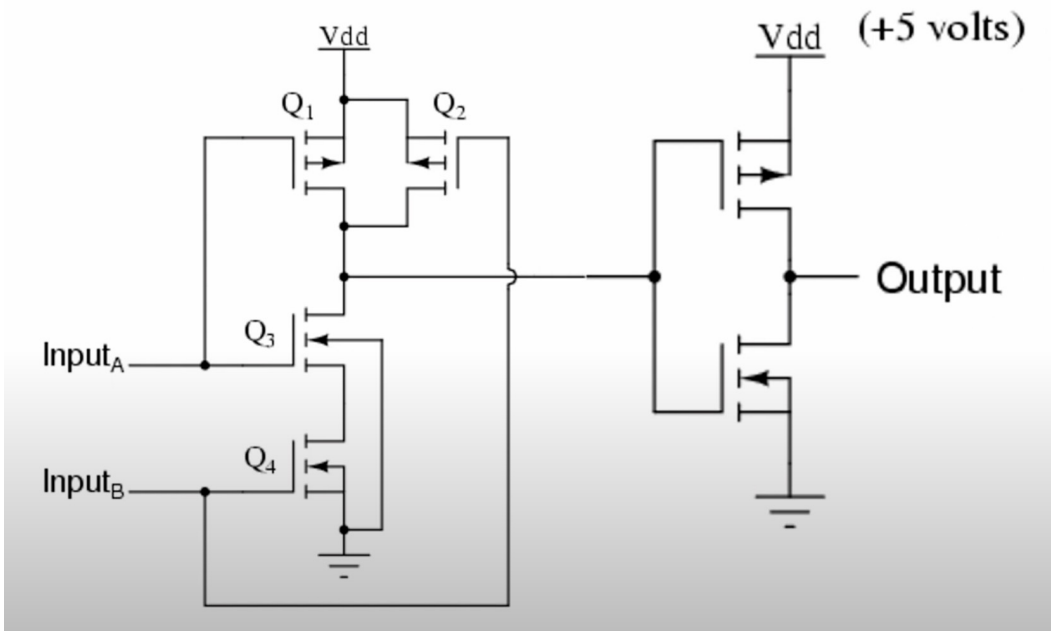
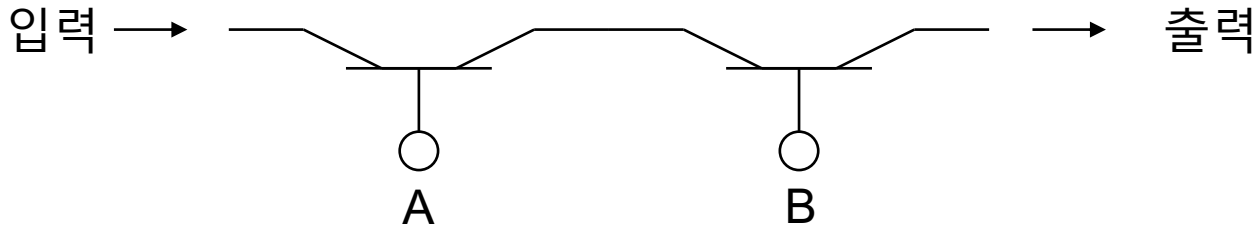
# Verilog

- Verilog 는 전자 회로 및 시스템에 사용되는 Hardware Description Language(HDL) 하드웨어 기술 언어 이다.
  - HDL에는 대표적으로 VHDL과 Verilog가 있는데, Verilog가 많이 사용된다고 함.
- C언어와 비슷한 문법을 가지고 있어서 사용자들이 접근하기 편함.
  - 블록의 시작과 끝을 중괄호가 아닌 Begin과 End를 사용하여 구분.
  - HDL의 특징인 시간에 대한 개념이 포함되어 있다는 차이점도 존재.
- Verilog 설계는 디지털 회로 설계.



# logic gate 논리 회로

AND gate



```
module GATE (  
    input A,  
    input B,  
    output out  
);  
wire A;  
wire B;  
wire out;  
  
    assign out = A & B;  
  
endmodule
```

Q & A