

# A Brief History of Digital Electronics

by Mr. F

# Transistors

- "Greatest invention of the 20th century"
- Modify electrical signals
- Used to build Logic Gates



# Logic Gates

- Voltages: Hi versus Low
- Logic Gates take input voltage and produce and output voltage

And Gate

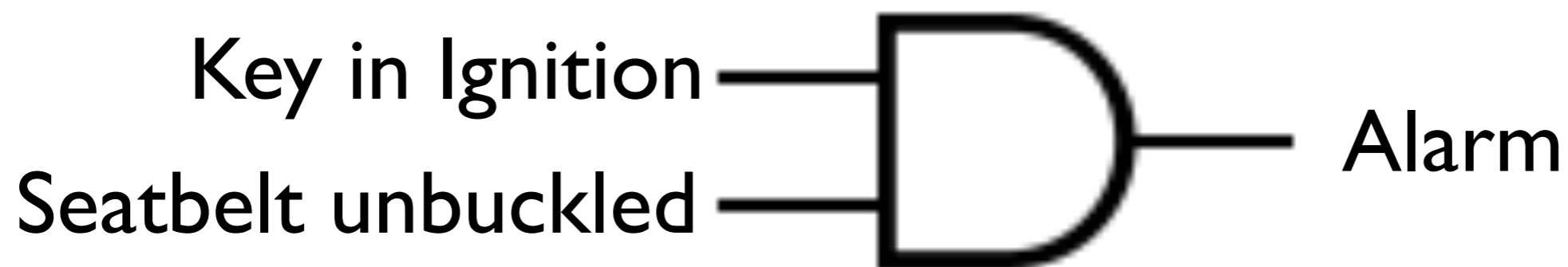


Input 1	Input 2	Output
Low	Low	Low
Low	Hi	Low
Hi	Low	Low
Hi	Hi	Hi

# Interpreting

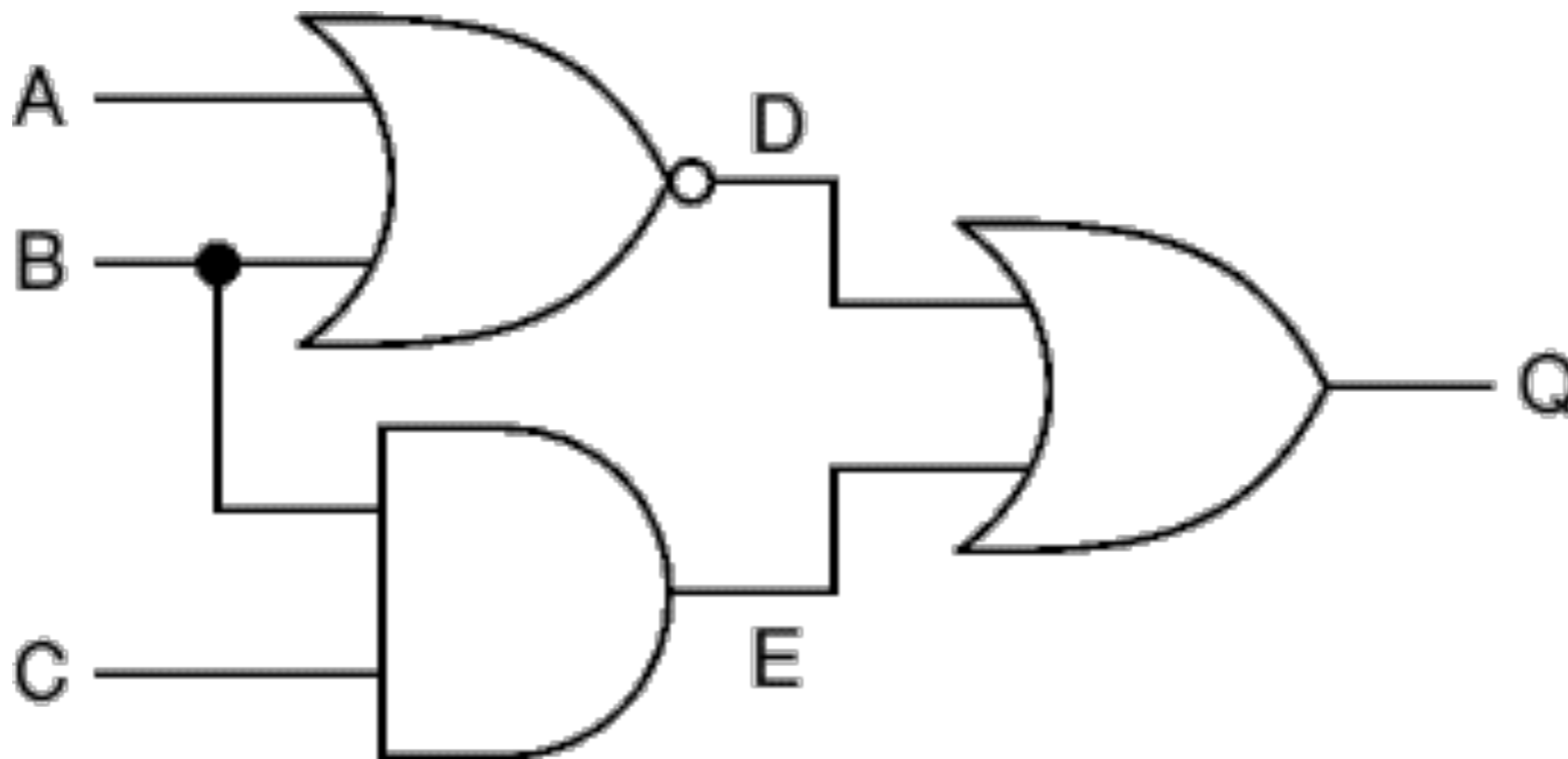
- Hi Voltage = On (True)
- Low Voltage = Off (False)

## Simple Car



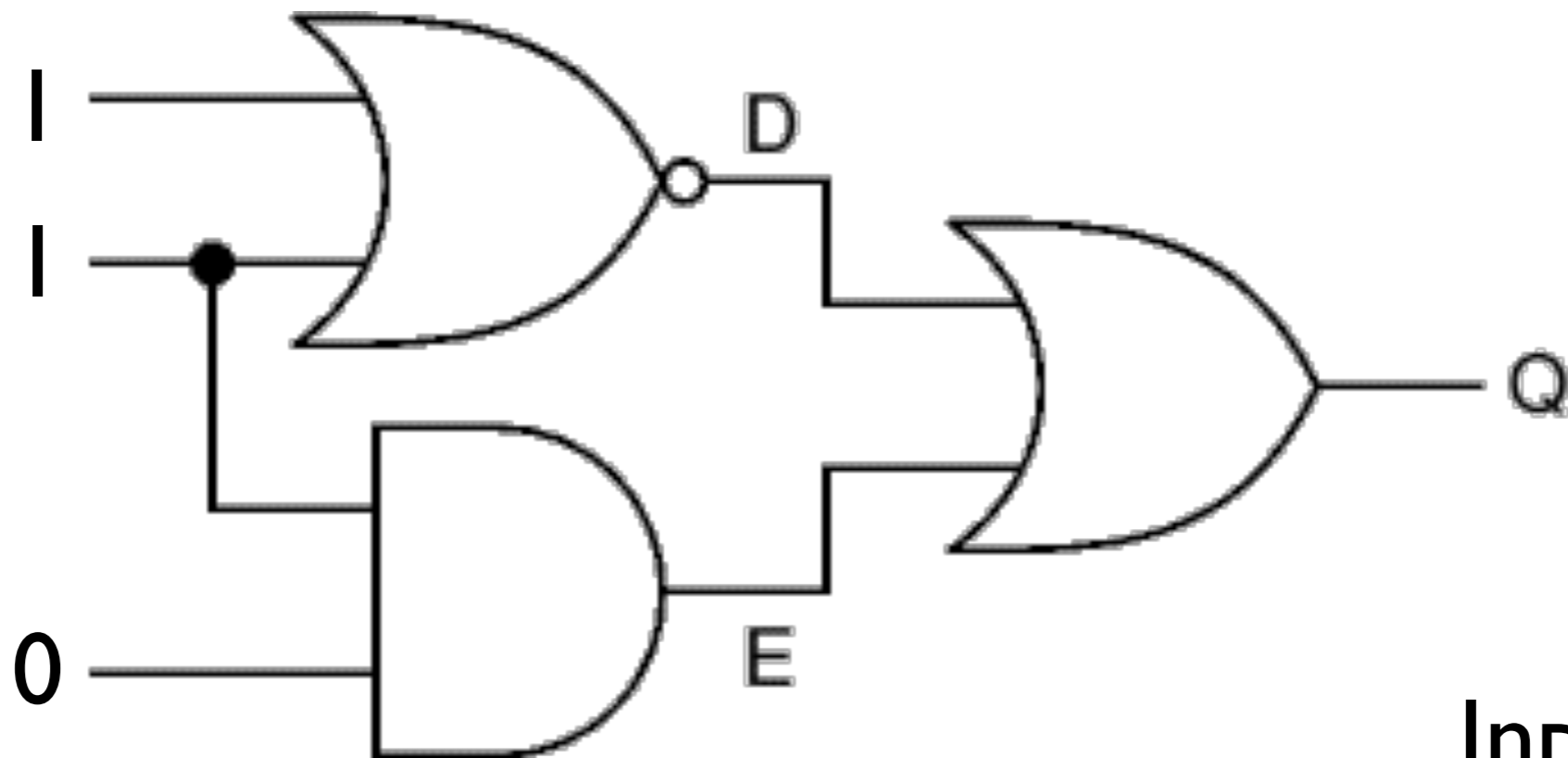
# Combination

- Using other logic gates, any logical decision can be modeled electronically



# Mathematical Connection

- Hi Voltage = 1
- Low Voltage = 0



Input: 1 1 0

# 1's and 0's

- Computers are all just electrical signals
- To represent data inside a computer, it has to be done so using only electrical signals
- How to represent:
  - color?
  - numbers?
  - music?

# Demo Time!

- Activity: Number Cards
- I need:
  - 5 volunteers
  - The rest of you to pay attention!