# Welcome to
# "Little Bits to Big Ideas"

## Lab 2: Digital forensics and Digital Logic

TAs: Ashish & Shivani

CAs: Abhinav, Harry, Pillai, & Sherry

**ILLINOIS**
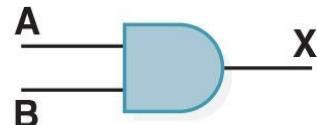
# Logic Gates Recap

**Overview:**

- Fundamental building blocks of digital circuits
- Types of gates: AND, OR, NOT, XOR, etc
- How gates process binary inputs
- Truth tables and their role in logic circuit design

## AND Gate

**Logic diagram symbol**

A
B
X
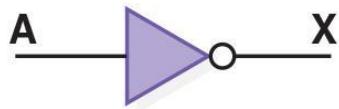
**Truth table**

| A | B | X |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 1 | 0 |
| 1 | 0 | 0 |
| 1 | 1 | 1 |

**Logic diagram symbol**

A
X
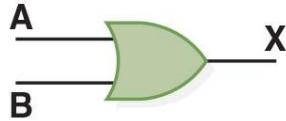
**Truth table**

| A | X |
|---|---|
| 0 | 1 |
| 1 | 0 |

## NOT Gate

**Logic diagram symbol**
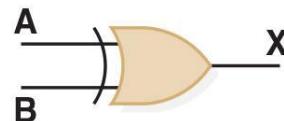
**Truth table**

| A | B | X |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 1 |

OR Gate

A

B

X

XOR Gate

**Logic diagram symbol**

**Truth table**

A

B

X

| A | B | X |
|---|---|---|
| 0 | 0 | 0 |
| 0 | 1 | 1 |
| 1 | 0 | 1 |
| 1 | 1 | 0 |

# Prefixes Recap

| Decimal Prefix (SI) | Value | Value (1000) |
|---|---|---|
| **kilo (K)** | 10^3 - **thousand** | 1000 |
| **mega (M)** | 10^6 - **million** | 1000^2 |
| **giga (G)** | 10^9 - **billion** | 1000^3 |
| **tera (T)** | 10^12 - **trillion** | 1000^4 |
| **peta (P)** | 10^15 - **quadrillion** | 1000^5 |
| **exa (E)** | 10^18 - **quintillion** | 1000^6 |

# Worksheet!



Articles

**Who is John McAfee: Bold, Bizarre, and Bullish on Bitcoin**

By **Alex Moskov** / Mar 20, 2020

Prime suspect in the murder of his neighbor in Belize. Was on the run from the government until….

# Worksheet!

## Oops! Did Vice Just Give Away John McAfee's Location With Photo Metadata?

After some Quiz practice problems, you'll explore a little bit of digital forensics.