

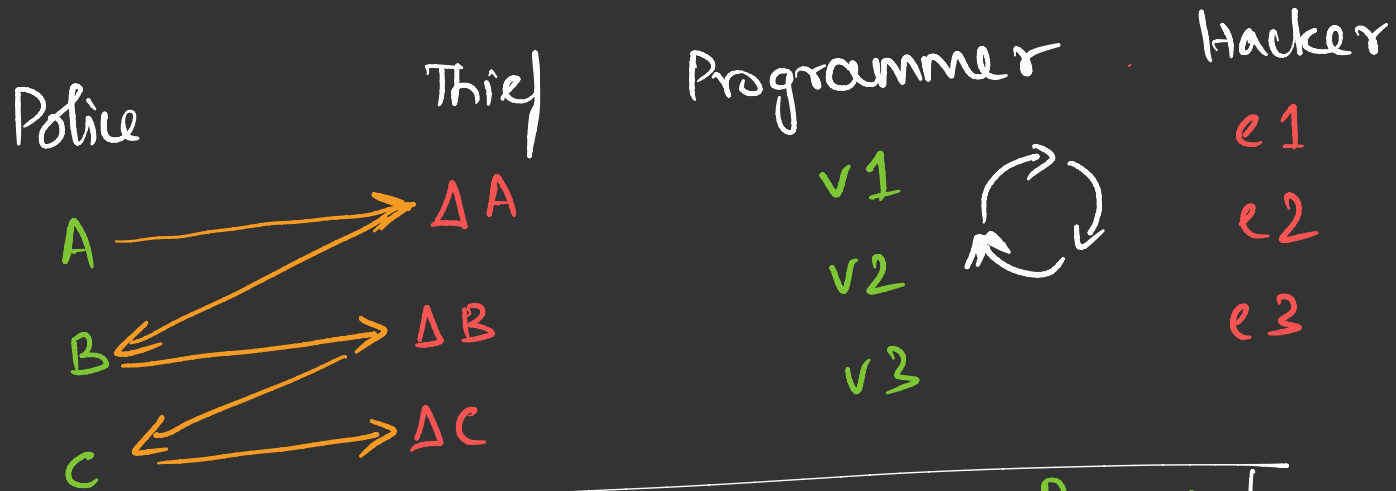




# Class 3

The world of  
Cyber Security

# The world of Cyber Security:



## Examples:

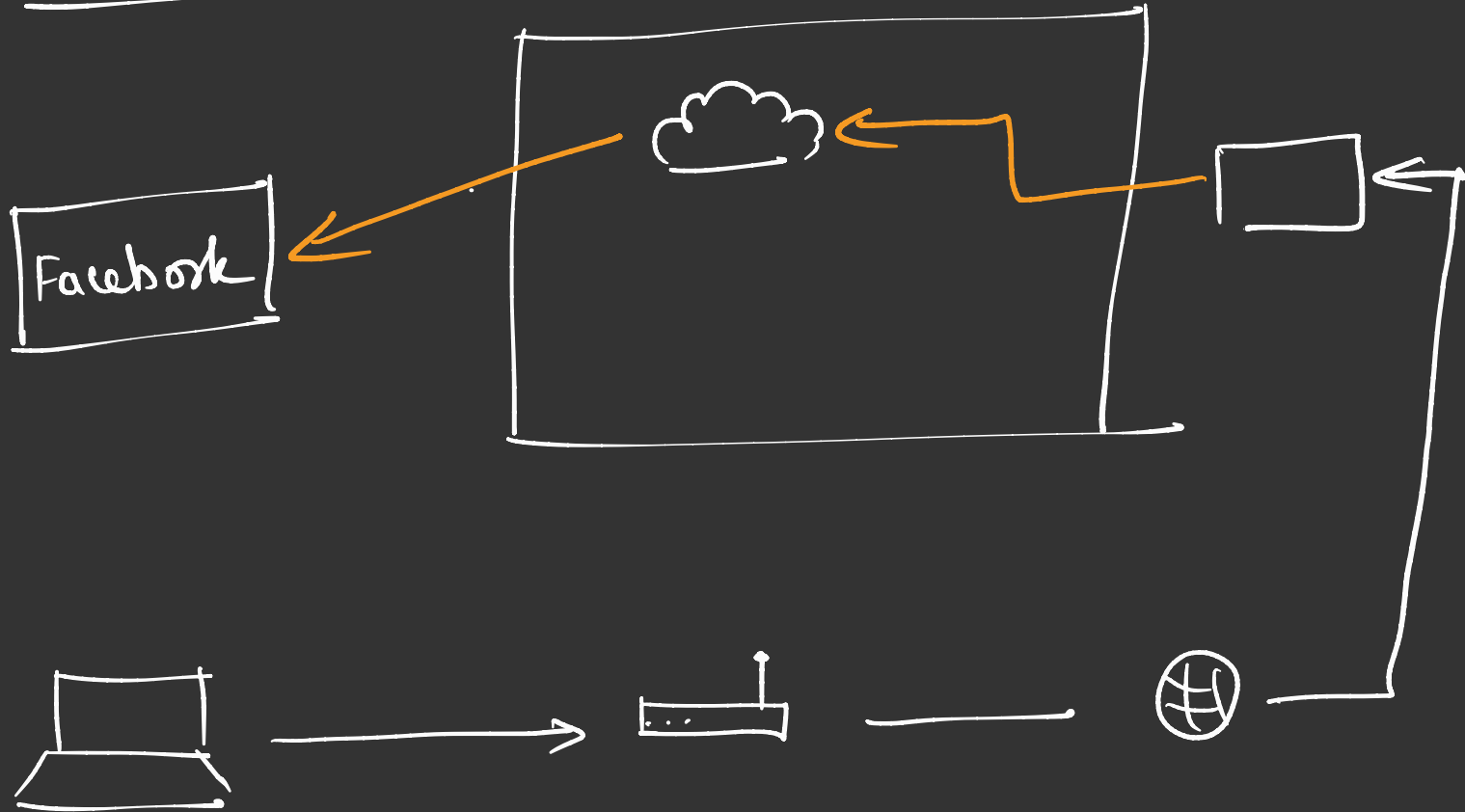
- Antivirus
- IDS
- Firewalls

Co-Evolutionary Process

Zero-Day Exploits

Movie to watch: Zero Days

# How VPN Works:



Programming :

Follow Rules

Hacker  $\begin{cases} \rightarrow \text{Writing Code} \\ \rightarrow \text{Exploiting Code} \end{cases} \left. \vphantom{\begin{matrix} \rightarrow \text{Writing Code} \\ \rightarrow \text{Exploiting Code} \end{matrix}} \right\} \begin{matrix} \text{End} \\ \text{Goal} \end{matrix}$

$\rightarrow$  Teach the computer in a language it can understand. - Giving Instructions

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The ability to give instructions  
is called Programming.

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Hacking = Problem Solving = Programming.

Illusion of Separation

# Solutions to a Problem:

O	O(1)	O(n)
Example	$\text{del}(10 \text{ GB}) \Rightarrow 1\text{s}$ $\text{del}(100 \text{ GB}) \Rightarrow 1\text{s}$	$\text{copy}(10 \text{ GB}) \Rightarrow 10\text{s}$ $\text{copy}(100 \text{ GB}) \Rightarrow 100\text{s}$

1) Best solution

2) solution that's not best (n x)

When it comes to business:

→ Quick solutions: →

$O(n)$  → Inefficient &  
Buggy.

100 × \$1000

→ website

→ Sell online

Buggy Solution

Exploitation Possible

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EXPLOITATION 😞

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Resume with

Exploitation//