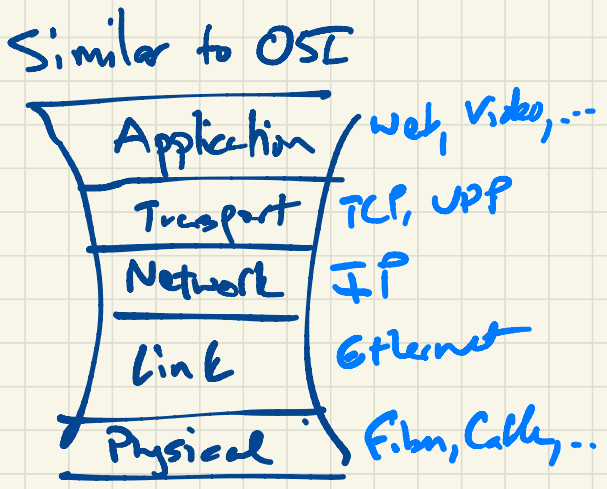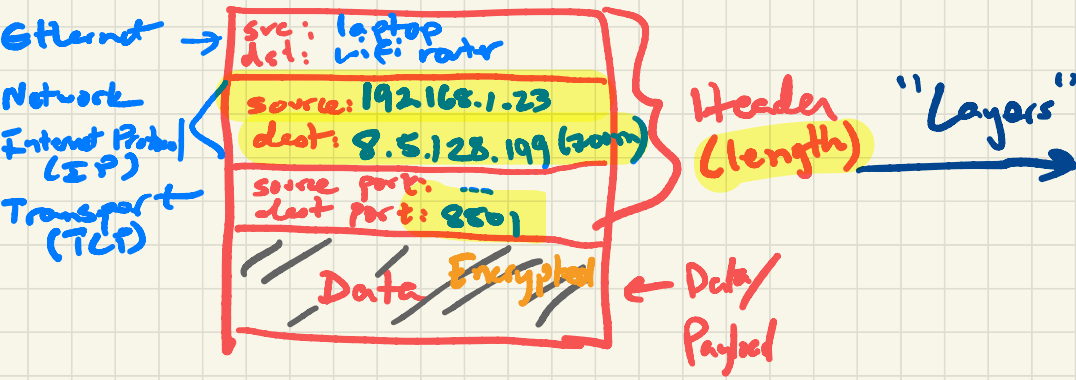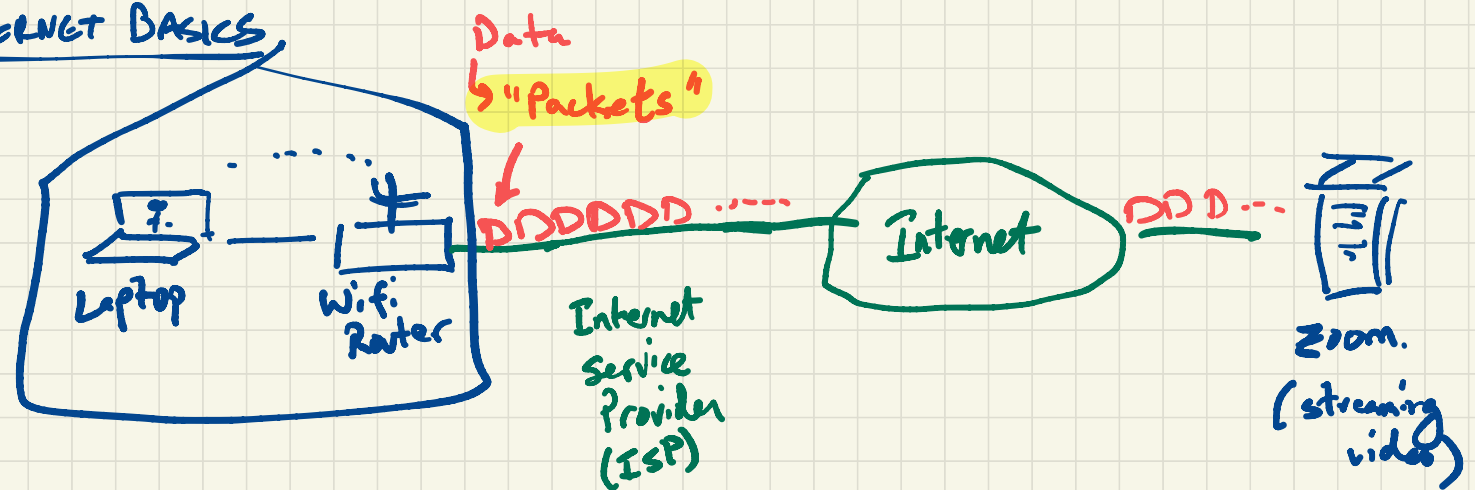# Computer Networking

✓ ① How computers communicate with each other on the Internet?

- IP addresses
- Packets (IP, TCP, Ethernet)
- Domain Name System (DNS)

② How to collect data about the Internet?
- Wireshark. (capturing packets on the network)

③ How to load network data into Python?

INTERNET BASICS

Data
↳ "Packets"

Laptop

Wifi Router

DDDDDD ......

Internet Service Provider (ISP)

Internet

DD D .---

Zoom.
(streaming video)

Ethernet →

Network
Internet Protocol
(IP)

Transport
(TCP)

src: laptop
dest: wifi router

source: 192.168.1.23
dest: 8.5.128.109 (zoom)

source port: ...
dest port: 8801

//// Data Encrypted

Header (length)   "Layers" →

← Data/Payload

Similar to OSI

Layer	Example
Application	Web, Video, ...
Transport	TCP, UDP
Network	IP
Link	Ethernet
Physical	Fiber, Cables, ...

Domain Name System (DNS)

Name: www.cs.uchicago.edu.

↓ look up

IP Address: 128.135.164.125

③ TCP Connection to 128.135.164.125.

www.cs.uchicago.edu.
128.135.164.125

① DNS Query
A? www.cs.uchicago.edu.

② DNS Response
128.135.164.125

DNS Resolver.