OSI/TCP IP Model

> Open System Interconnection - 7 layer (OSI)

- Largely historical model of the web
- `Application` (7)
- `Session` (6)
- `Presentation` (5)
- `Transport` (4) (TCP) (UDP)
- `Network` (3)
- `Data link` (2) (Ethernet) (802.11)
- `Physical` (1)

> Transmission Control Protocol/Internet Protocal - 5 layer (TCP/IP)

- Modern conceptual model of the web
- `Application:` (Includes presentation + session) Where our applications live majority of protocols exist here.
- `Transport:` Ensures that data gets delivered to the correct application.
- `Network:` Incarge of chaining together multiple data link layer operations. Included is routing.
- `Data Link:` Incharge of encoding (writing) + decoding (reading) data to/from transmission mediums to pc.
- `Physical:` Incharge of representing information as a signal on some transmission medium, eg. electric cables (point to point), pulses of light, wireless radio waves (Twisted pairs of cables)

`Communications Protocol:` A set of agreed upon rules that allow two or more parties to communicate. These rules include `syntax`, `semantics`, `syncronization`, `Error detection and recovery`.

`Channel types:`

- Simplex (undirectionality)
- Duplex (bidirectional)
    - half duplex (One sender at a time)