Course revision

☐ Layered Internet architecture

application
transport
network
link
physical

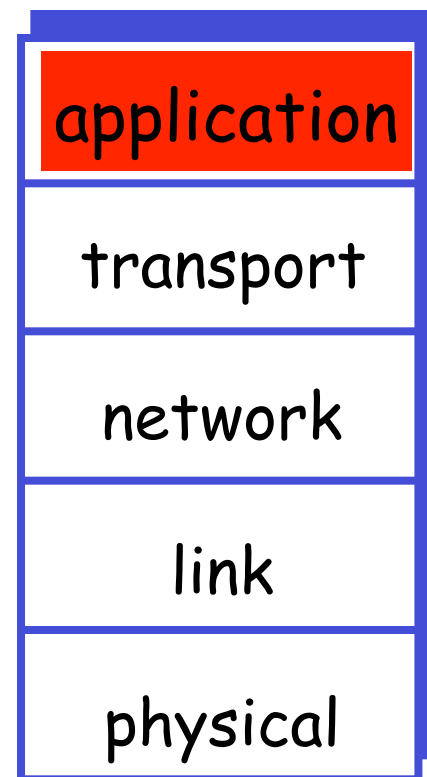Host   Switch   Router   Host
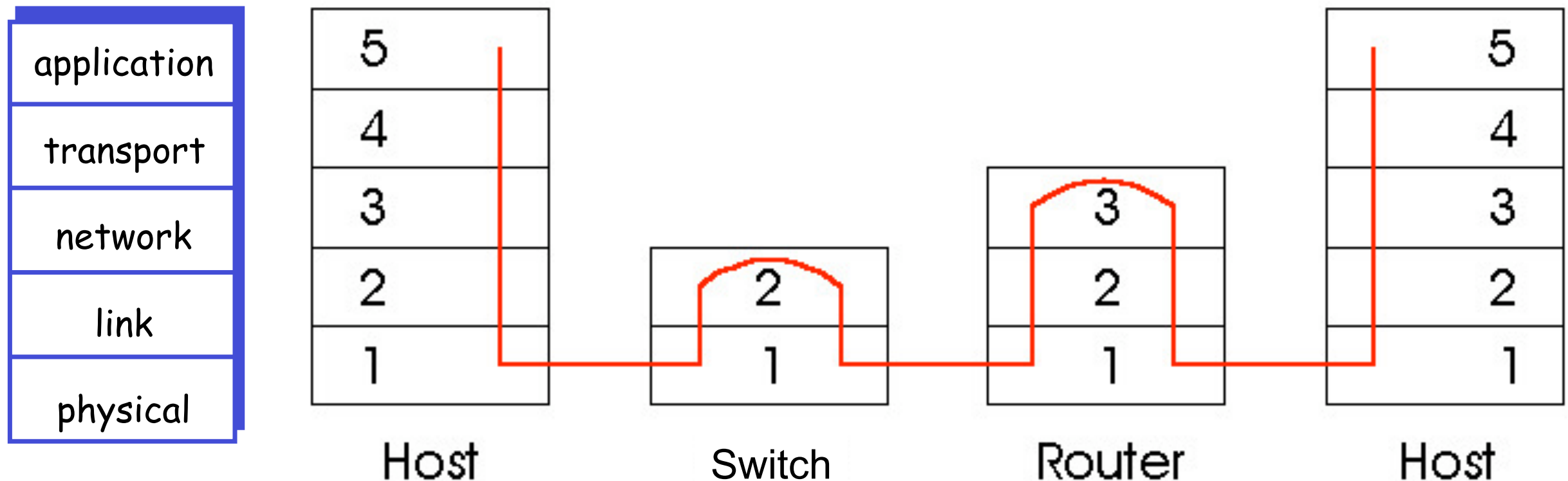
☐ Network edge, access network, network core

☐ Circuit switching, packet switching

Delay, throughput calculation

Course revision

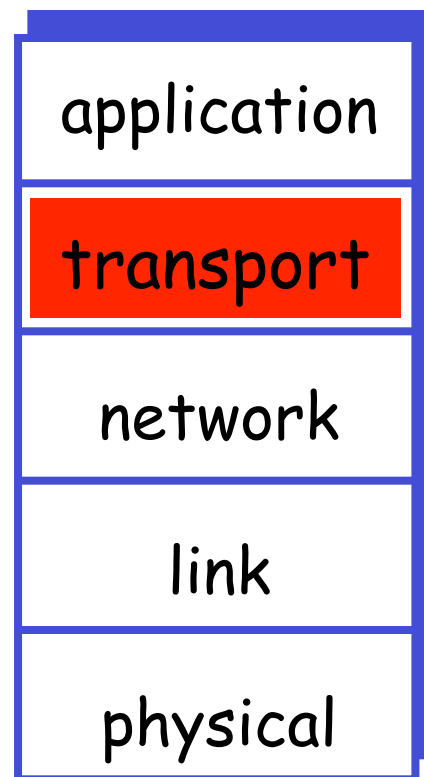| |
|---|
| application |
| transport |
| network |
| link |
| physical |

◻ Application layer

- ◼ service
- ◼ process, message
- ◼ different application protocols

  HTTP, SMTP, IMAP, POP3, DNS

- ◼ socket programming

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- ❑ Transport layer
  - ◼ segments
  - ◼ multiplexing
  - ◼ reliable data transfer

    Stop and wait: rdt 1.0 — 3.0
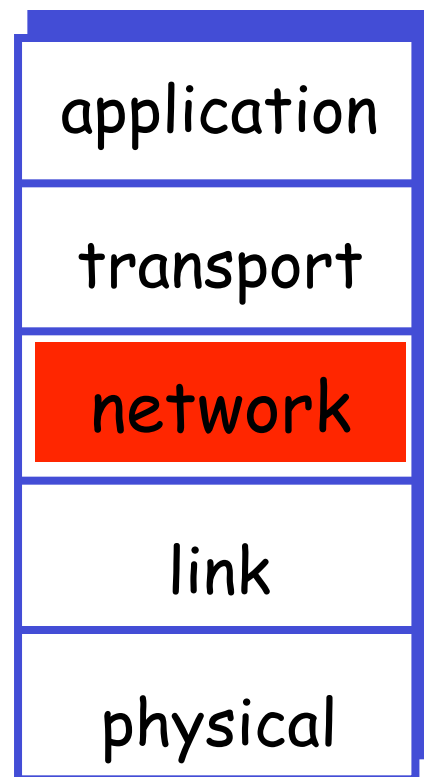
    Pipelining: GBN, Selective Repeat
  - ◼ TCP (rdt, flow control, congestion control, connection management)
  - ◼ UDP

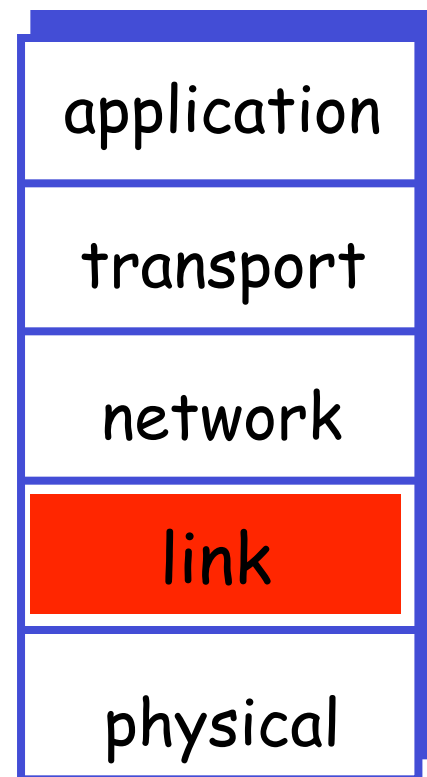Mechanisms used to design a RDT protocol

TCP

Course revision

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☐ Network layer

- datagrams
- forwarding, routing
- IP addressing, DHCP, NAT
- routing algorithms

    Dijkstra

    Bellman-Ford

- Internet routing protocols

Routing computations

Course revision

application

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physical

◻ Data link layer

- ▪ frames
- ▪ MAC address, ARP
- ▪ medium access control
- ▪ error detection
- ▪ Ethernet
- ▪ switching
- ▪ WiFi

Multiple access protocols

Computation of channel efficiency

Final exam

- 6:30-9:30pm Monday May 13, 2024 (3/F, Multi-purpose Zone, Main Library)
  - Candidates are permitted to bring to the examination ONE sheet(s) of A4-sized paper with printed/written notes on both sides

- Question types
  - Analysis and computation (calculator is allowed)
  - No programming questions, no T/F/multiple choice questions

- Consultation in the following weeks
  - make appointments by email

Remaining assessment tasks

- Lab 6 will be due by Wednesday Apr. 24, 2024

- Assignment 4 will be posted today and due by Wednesday May 8, 2024