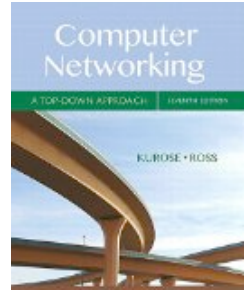


# COMP 375: Lecture 18



- **News & Notes:**

- Quiz #4 in class Monday
- Project #3 due in one week
- Project #2 demos to be scheduled
  - Today: 3:30 – 4:30
  - Monday: During Lab
  - Others?

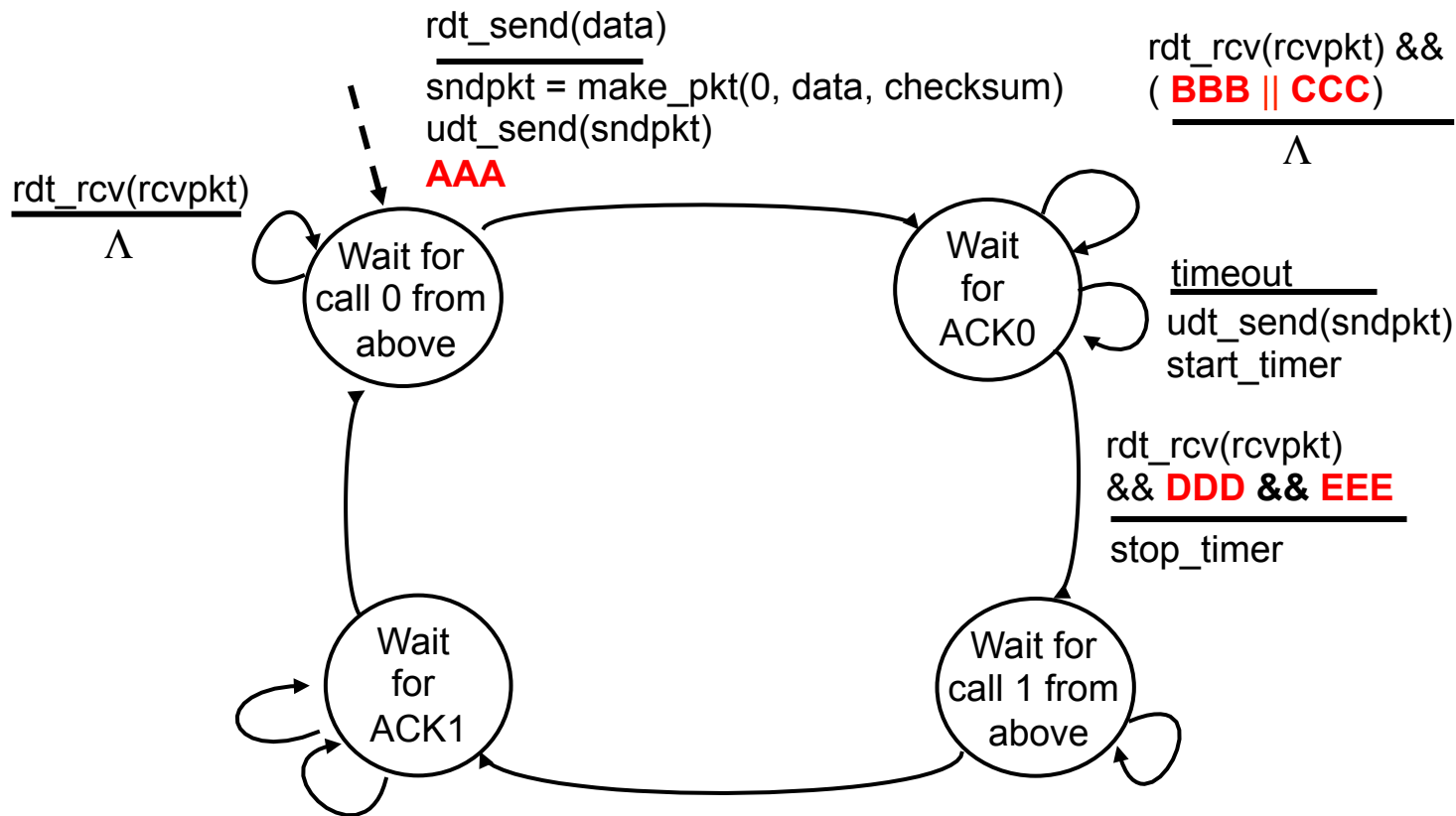
- **Reading (Mon, Oct. 10)**

- Review previous reading

Section 3.4

# **RELIABLE DATA TRANSFER**

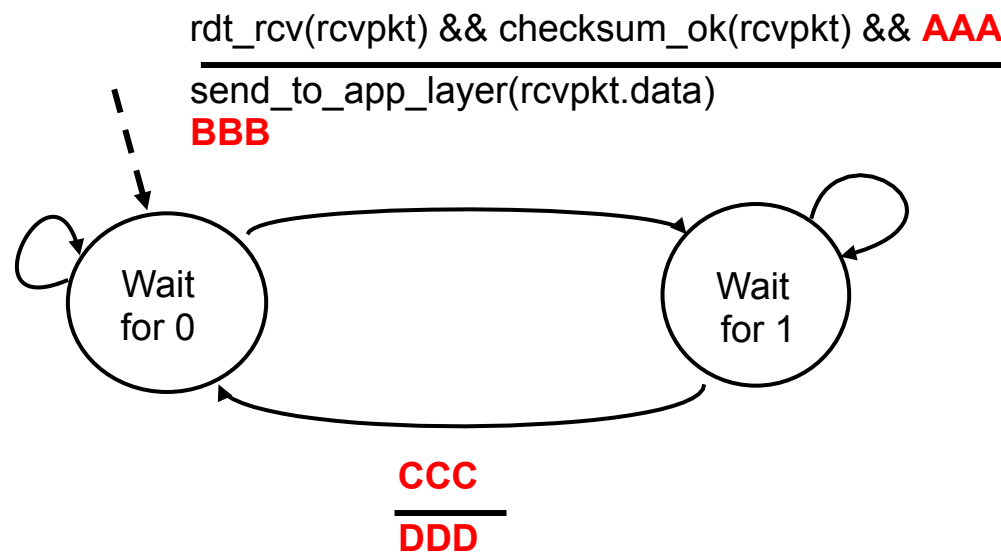
# Fill in the missing parts for the RDT 3.0 sender.



## How many states will our RDT 3.0 **receiver** need to have?

- |           |  |
|-----------|--|
| <b>A.</b> | <b>One:</b> It is simply receiving data.   |
| <b>B.</b> | <b>Two:</b> One wait state for each sequence number.   |
| <b>C.</b> | <b>Two:</b> One to validate data, and one to send ACK.   |
| <b>D.</b> | <b>Four:</b> Each sequence number will need one to validate and one to send ACK (i.e. 2 for each seq. #) |
| <b>E.</b> | Some other number, which I will explain.   |

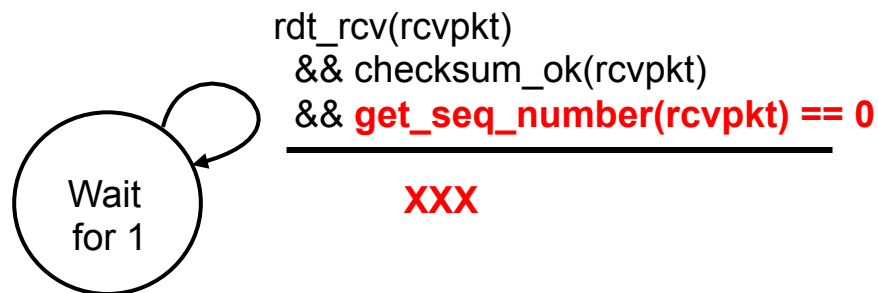
# Complete the missing, labeled parts of RDT 3.0 receiver.



**Note:** CCC and DDD may have multiple parts.

# What should the RTD 3.0 receiver do if getting an unexpected packet?

In other words, what should XXX be replaced with?



- |           |                          |
|-----------|--------------------------|
| <b>A.</b> | <code>send_ack(0)</code> |
| <b>B.</b> | <code>send_ack(1)</code> |
| <b>C.</b> | Something else.          |
| <b>D.</b> | Nothing!                 |

# How bad is stop-and-wait's performance?

Suppose we have an 8 Mbps link. Our RTT is 100 ms, and we send 1000B (1KB) segments. What is our link utilization with a stop and wait protocol?

|                                     |                  |
|-------------------------------------|------------------|
| A.                                  | $< 0.1 \%$       |
| B.                                  | $\approx 0.1 \%$ |
| <input checked="" type="radio"/> C. | $\approx 1 \%$   |
| D.                                  | 1-10 %           |
| E.                                  | $> 10 \%$        |