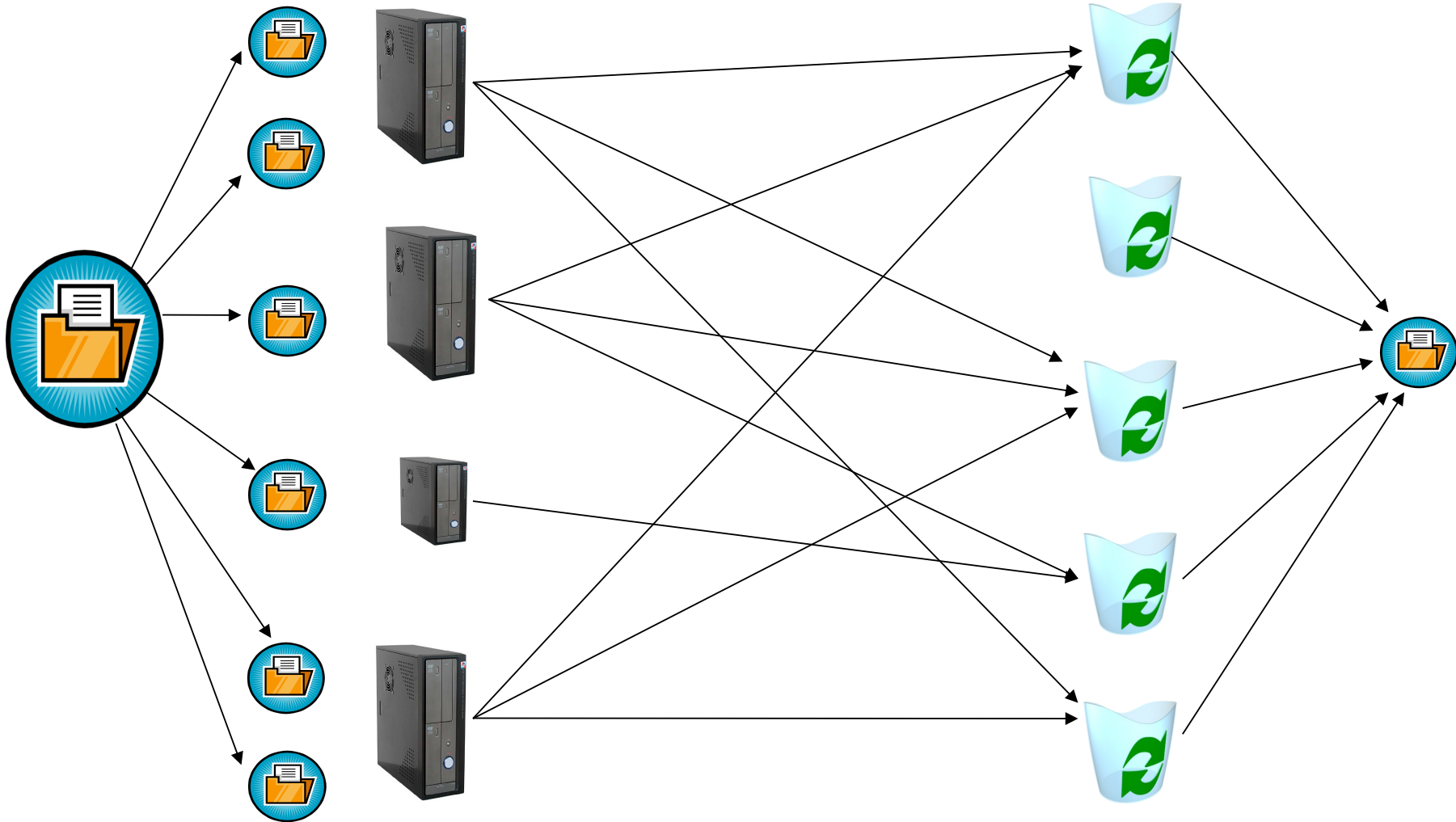


CS 241 Section  
(04/05/12)

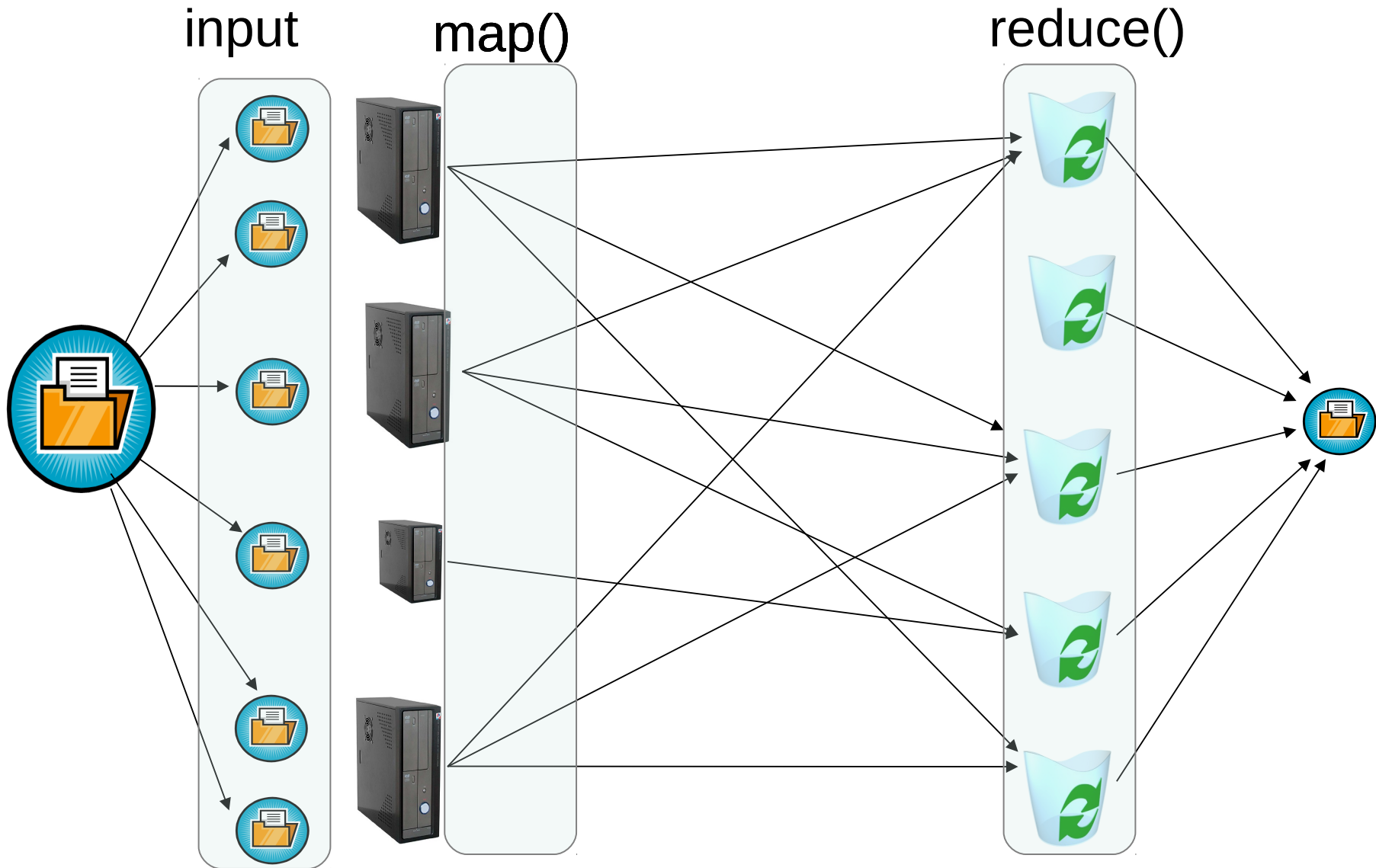
# MP7

- What is MapReduce?
  - Framework for Data Intensive Jobs

# MapReduce



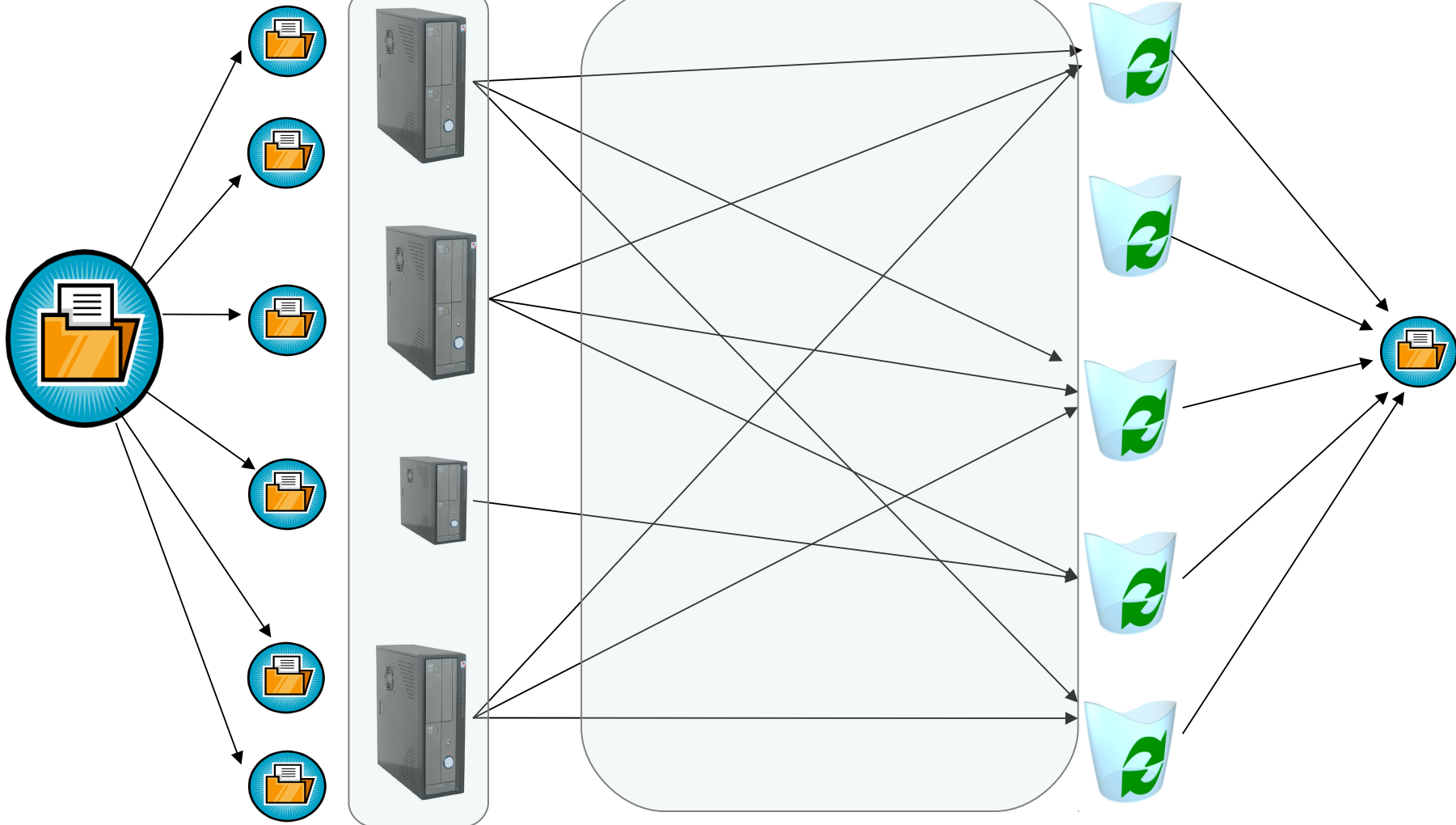
# We give you



# You need to

Fork()

Pipe() and Select()



# Pipes

Ps aux | grep "bash"

# Chat Room with Fifo!

Everyone: ssh  
linux1.ews.illinois.edu

TA

Student

```
mkfifo /tmp/chat
```

```
echo "a" >/tmp/chat
```

```
cat /tmp/chat
```

```
tail -f /tmp/chat
```

# Banker's Algorithm



# Current Allocation

Pr	Alloc			Max			Need			Total		
	A	B	C	A	B	C	A	B	C		A	B
P0	1	2	0	7	5	3	6	3	3	12	6	6
P1	2	2	4	3	2	5	1	0	1	Available		
P2	3	1	0	10	1	2	7	0	2	A	B	C
P3	2	1	1	2	2	2	0	1	1	4	0	1
P4	0	0	0	4	3	3	4	3	3			

Can P2 request (A:3 B:0 C:0) ?

# Current Allocation

Pr	Alloc			Max			Need			Total		
	A	B	C	A	B	C	A	B	C		A	B
P0	1	2	0	7	5	3	6	3	3	12	6	6
P1	2	2	4	3	2	5	1	0	1	Available		
P2	3	1	0	10	1	2	7	0	2	A	B	C
P3	2	1	1	2	2	2	0	1	1	1	0	1
P4	0	0	0	4	3	3	4	3	3			

Can P2 request (A:3 B:0 C:0) ?

# Current Allocation

Pr	Alloc			Max			Need			Total		
	A	B	C	A	B	C	A	B	C	A	B	C
P0	1	2	0	7	5	3	6	3	3	12	6	6
P1	2	2	4	3	2	5	1	0	1	Available		
P2	3	1	0	10	1	2	7	0	2	A	B	C
P3	2	1	1	2	2	2	0	1	1	3	2	5
P4	0	0	0	4	3	3	4	3	3			

Can P2 request (A:3 B:0 C:0) ?

# Current Allocation

Pr	Alloc			Max			Need			Total		
	A	B	C	A	B	C	A	B	C	A	B	C
P0	1	2	0	7	5	3	6	3	3	12	6	6
P1	2	2	4	3	2	5	1	0	1	Available		
P2	3	1	0	10	1	2	7	0	2	A	B	C
P3	2	1	1	2	2	2	0	1	1	5	3	6
P4	0	0	0	4	3	3	4	3	3			

Can P2 request (A:3 B:0 C:0) ?

# Current Allocation

Pr	Alloc			Max			Need			Total		
	A	B	C	A	B	C	A	B	C	A	B	C
P0	1	2	0	7	5	3	6	3	3	12	6	6
P1	2	2	4	3	2	5	1	0	1	Available		
P2	3	1	0	10	1	2	7	0	2	A	B	C
P3	2	1	1	2	2	2	0	1	1	5	3	6
P4	0	0	0	4	3	3	4	3	3			

Can P2 request (A:3 B:0 C:0) ?

# Current Allocation

Pr	Alloc			Max			Need			Total		
	A	B	C	A	B	C	A	B	C	A	B	C
P0	1	2	0	7	5	3	6	3	3	12	6	6
P1	2	2	4	3	2	5	1	0	1	Available		
P2	3	1	0	10	1	2	7	0	2	A	B	C
P3	2	1	1	2	2	2	0	1	1	5	3	6
P4	0	0	0	4	3	3	4	3	3			

Can P2 request (A:3 B:0 C:0) ? No?

# Current Allocation

Pr	Alloc			Max			Need			Total		
	A	B	C	A	B	C	A	B	C	A	B	C
P0	1	2	0	7	5	3	6	3	3	12	6	6
P1	2	2	4	3	2	5	1	0	1	Available		
P2	3	1	0	10	1	2	7	0	2	A	B	C
P3	2	1	1	2	2	2	0	1	1	5	3	6
P4	0	0	0	4	3	3	4	3	3			

Can P2 request (A:3 B:0 C:0) ? No?  
Remember to subtract initial request from Need