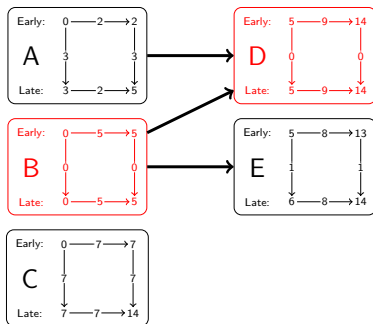
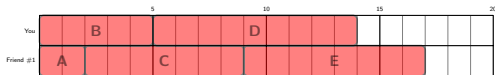


# MA111: Contemporary mathematics

Task	Duration	Finish first
A:	2 min	Nothing
B:	5 min	Nothing
C:	7 min	Nothing
D:	9 min	A, B
E:	8 min	B

Priority:  $B = D > E > A > C$



Why might someone think  $C > E > D > A > B$  is a better priority list?

Schedule:

- Exam 4 is Tue Dec 16th, 2014 from 3:30pm to 5:30pm

Today we'll handle a different idea for priority.

# Important concepts

- **Tasks** have a **duration**
- Tasks have **dependencies** that must be done first
- The **schedule** lists the start time of each task
- Simplest way to schedule is a **priority list**- do them in this order
- The **float time** is the difference between the earliest the task could be started (after dependencies are finished) versus the latest the task could be started (to finish “on time”)

# Calculating the float time

- Earliest start time: maximum of the earliest finished times of the dependencies (0 if no dependencies)
- Earliest finish time: earliest start time plus duration

Use those two rules to calc all EST and EFT from left to right

- Latest finish time: minimum of the latest start times of tasks that depend on it (“at the end” if nothing depends on it)
- Latest start time: latest finish time minus duration

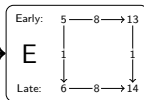
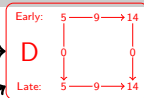
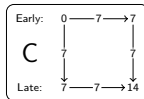
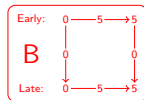
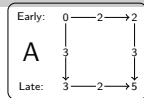
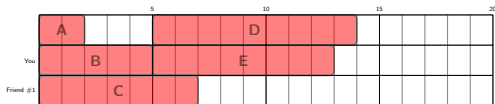
Use those two rules to calc all LST and LFT from right to left (backwards)

- Float time: LFT minus EFT or LST minus EST (same number)

The smaller the float time, the higher priority the task should be

# Exit quiz

Task	Duration	Finish first
A:	2 min	Nothing
B:	5 min	Nothing
C:	7 min	Nothing
D:	9 min	A, B
E:	8 min	B



- There are several paths in this project:  $A \rightarrow D$ ,  $B \rightarrow D$ ,  $B \rightarrow E$ , and  $C$
- We want to rank  $A$  vs  $B$  vs  $C$ . Assume the other two have been done.
- How long does it take to do  $A \rightarrow D$ ?
- How long does it take to do  $B \rightarrow D$  and  $B \rightarrow E$  (unlimited workers)?
- How long does it take to do  $C$ ?
- Which should you work on if you want to finish up quickly?  
 $A$  (and its paths),  $B$  (and its paths), or  $C$  (and its very short path)?