

# CB 510

# Project Management

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# What we learned so far

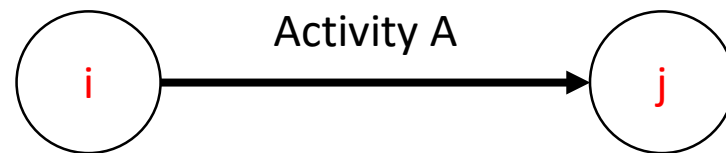
- What is planning
- What do we mean by activities
- Activities predecessors and successors
- Activities relationship, overlap, and lag times

# Plan representation

- Activity on Arrow (AOA)
- Activity on Node (AON)
- Bar chart (Gantt chart)

# Activity on Arrow

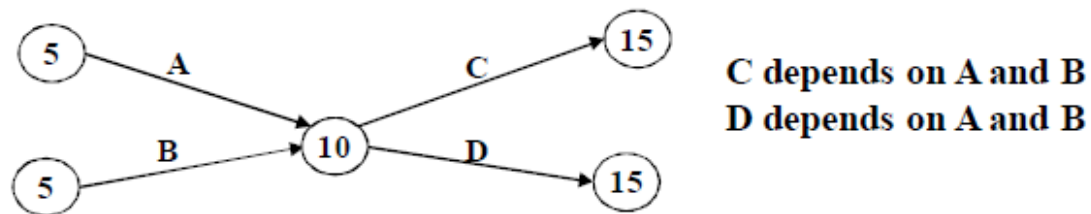
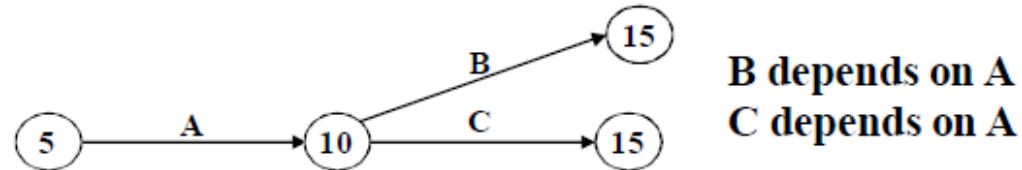
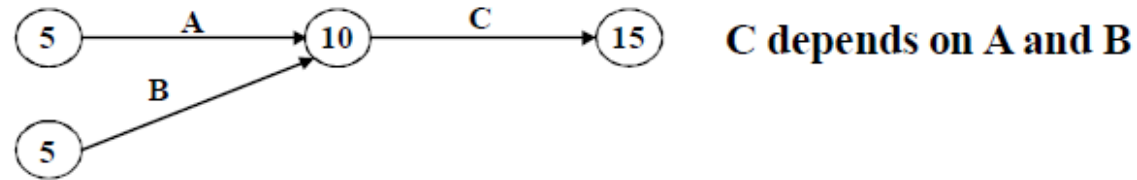
- Each activity is represented by an arrow
- Each arrow is preceded by an event (node), and succeeded by another event
- The event resembles the accomplishment of tasks before starting the following activities



**Note:  $i > j$**

# Activity on Arrow (Cont'd)

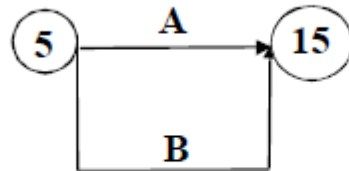
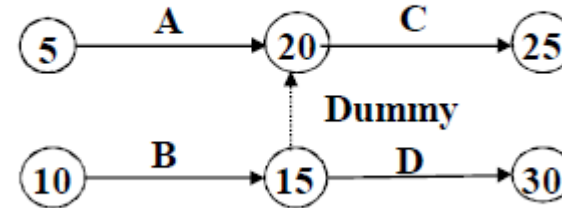
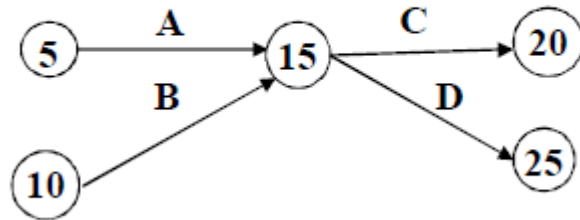
- Example of different activities representations



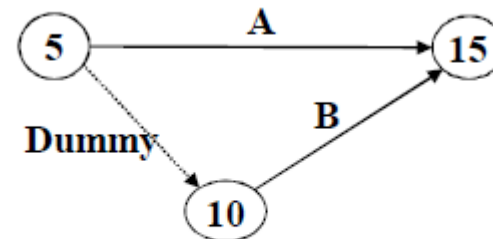
# Activity on Arrow (Cont'd)

- Dummy activities

**C depends on A and B; D depends on B only**



**Incorrect representation**



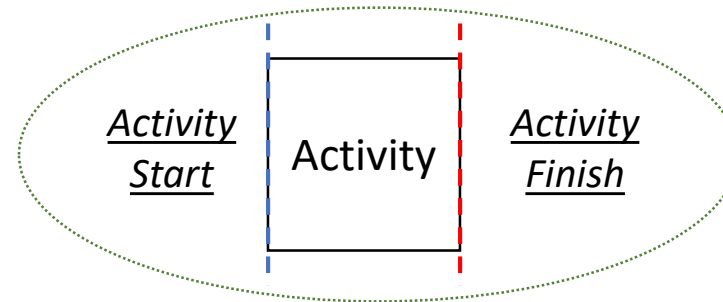
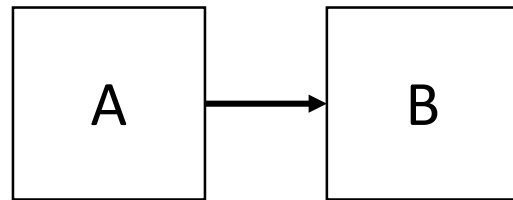
**Correct representation**

# Activity on Arrow (Cont'd)

Activity	Predecessor
A	--
B	A
C	A
D	B,C
E	B
F	D
G	E,F
H	G

# Activity on Node

- Activities are represented by nodes
- Arrows connect the activities to represent the relationship between them
- Details of the activities can be shown at the node (more next lecture)



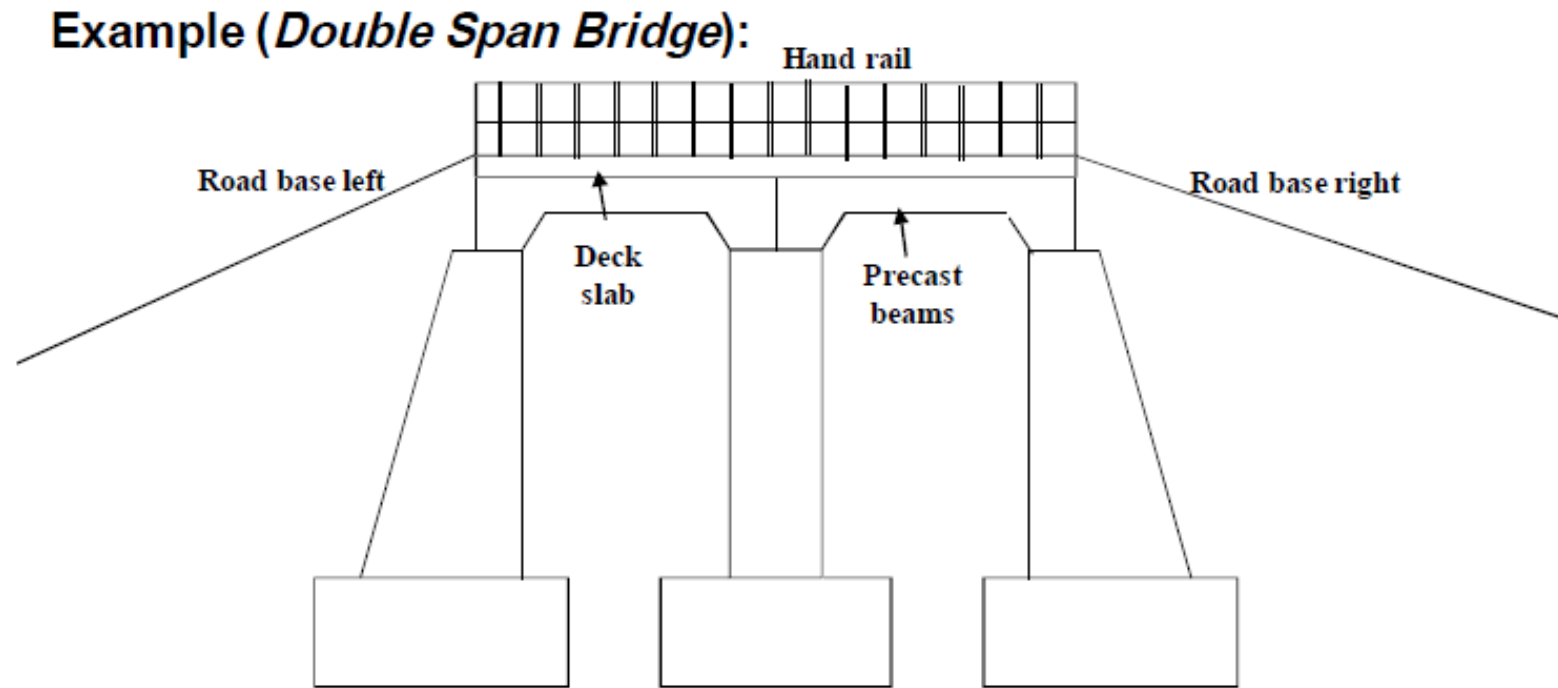


# Activity on Node (Cont'd)

Activity	Predecessor
A	--
B	A
C	A
D	B,C
E	B
F	D
G	E,F
H	G

**Note:** Try to create levels when you represent your plan

# Last week example



<b>Code</b>	<b>Description</b>	<b>Predecessor</b>	<b>Code</b>	<b>Description</b>	<b>Predecessor</b>
10	Mobilization and site setup	NA	100	Construct center pier	70
14	Procure Reinforcement	NA	110	Erect left precast beam	16,80,100
16	Procure Precast Beams	NA	120	Erect right precast beam	16,90,100
20	Excavate left abutment	10	130	Fill left embankment	80
30	Excavate right abutment	10	140	Fill right embankment	90
40	Excavate Center pier	10	150	Construct deck slab	110,120
50	Foundation left abutment	14,20	160	Left road base	130
60	Foundation right abutment	14,30	170	Right road base	140
70	Foundation center pier	14,40	180	Road surfacing	150,160,170
80	Construct left abutment	50	190	Bridge railing	150
90	Construct right abutment	60	200	Clear site	180, 190