IIT ROORKEE

NPTEL ONLINE CERTIFICATION COURSE

Project Management for Managers

Lec – 35

Project Time Management – Numbering of Nodes

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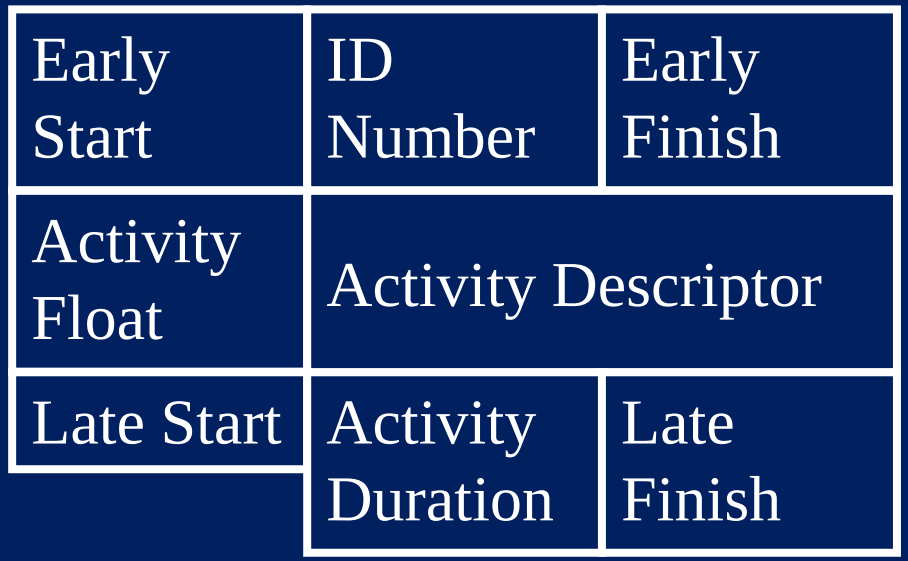
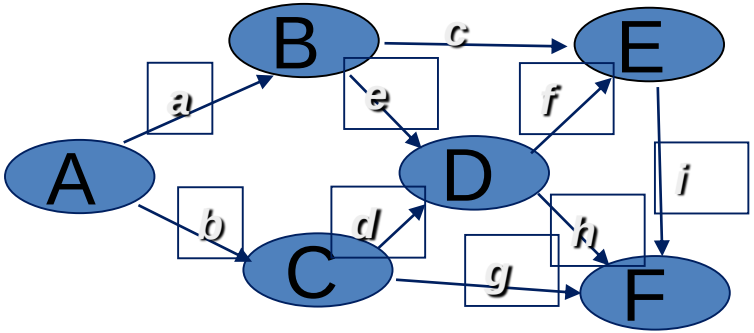
Node Label


Early Start
ID Number
Early Finish
Activity Float
Activity Descriptor
Late Start
Activity Duration
Late Finish

Numbering of events



Numbering the events : D. R . Fulkerson rule.

1. *An initial event is one which has arrows coming out of it and none entering it . In any network there will be one such event . Number it "1".*

2. *Delete all arrows emerging from event 1. This will create at least one more*

' initial event'.

3. *Number these initial events as 2,3,…….*

4. *Delete all emerging arrows from these numbered events which will create new initial events.*

5. *Follow step (3).*

6. *Continue until last event which has no arrows emerging from it is obtained.*

NUMBERING THE EVENTS

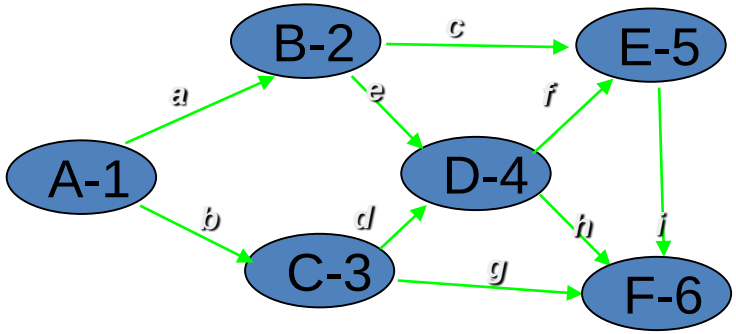
1.Number event A as 1, there is no incoming arrow.

2. Delete arrows a and b. Which will result in events B and C. Number B as 2 and C as 3.

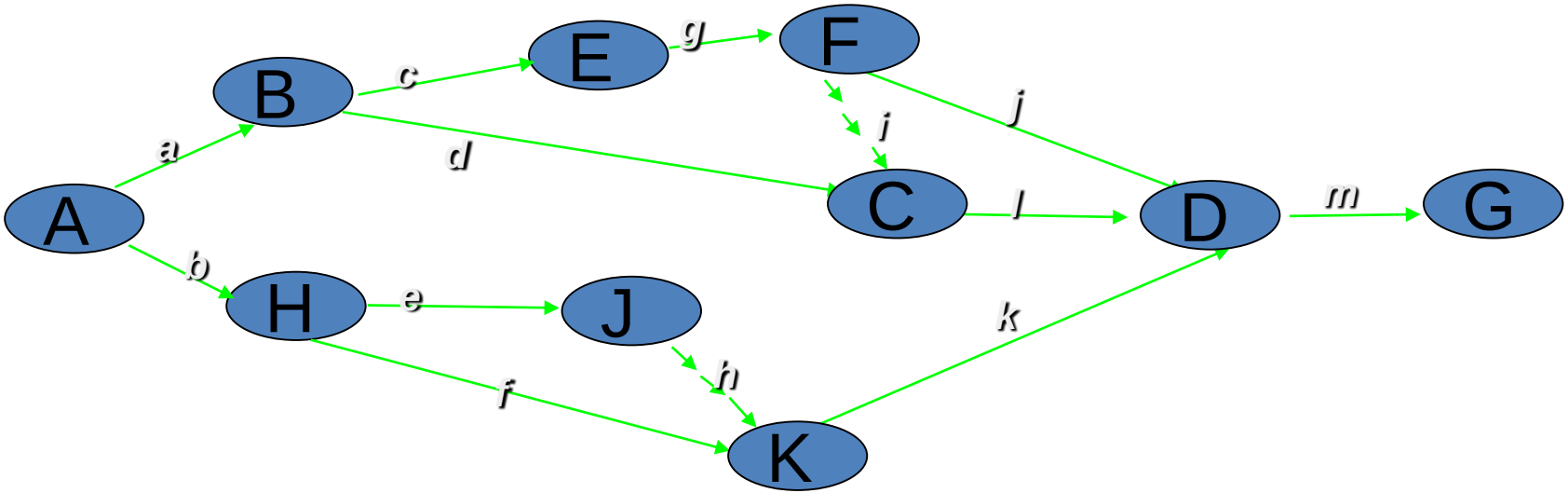
3. Delete arrows c & e and d & g. Which will result in events E, D and F. But events E and F have incoming arrows , number event D as 4.

4. Delete arrows f & h. Which will result in events E and F. But event F has an incoming arrow , number event E as 5.

5. Delete i, number F as 6.

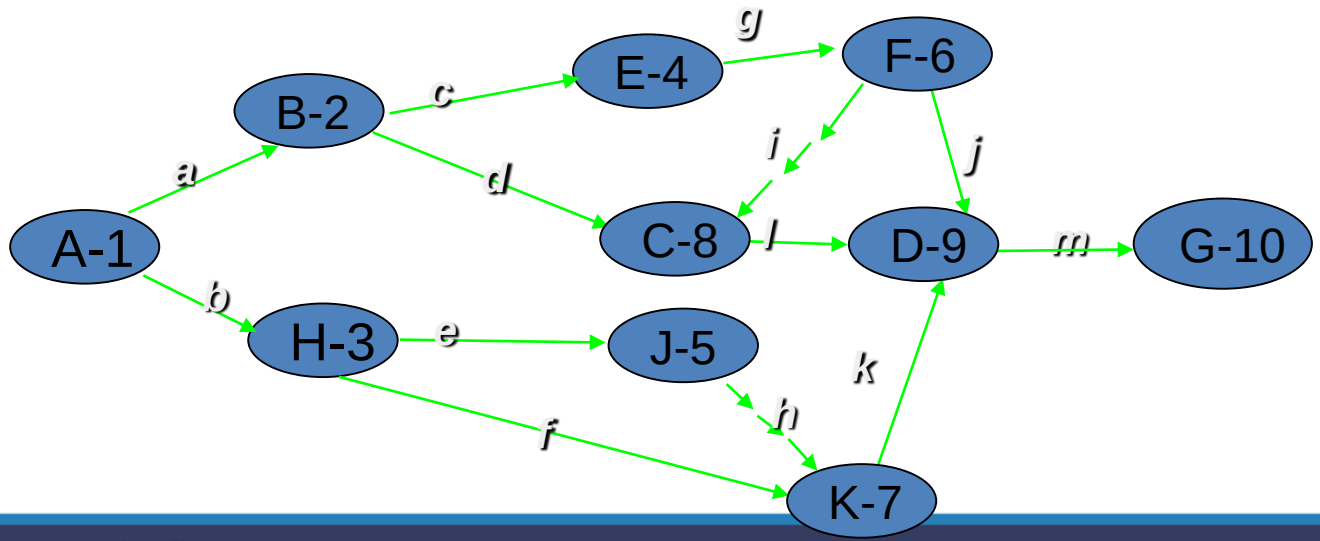


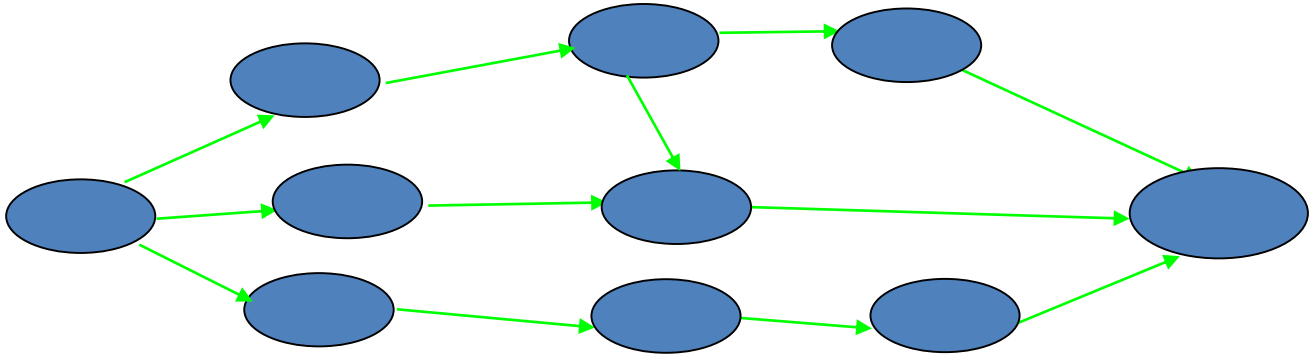
NUMBER THE EVENTS ?????????????

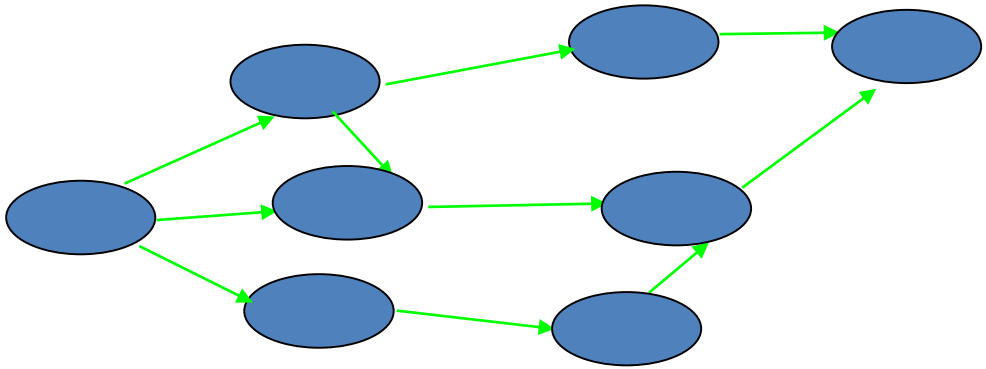


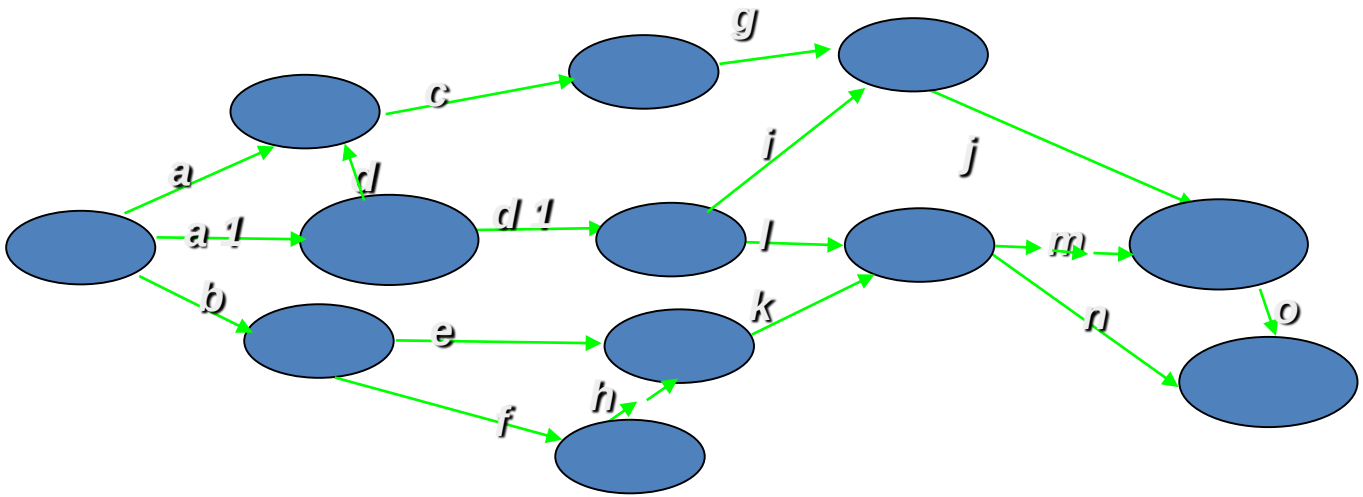
NUMBERING THE EVENTS

1. Number event A as 1, which has no incoming arrows.
2. Delete arrows ‘a’ and ‘b’. We will have events B and H, both do not have incoming arrows, number event B as 2 and event H as 3.
3. Delete arrows c, d, and e, f. Which will result in E & C and J &K , but events C and K have incoming arrows . Number events E as 4, and event J as 5
4. Delete arrows g, h . Which will result in events F and K . Number event F as 6 and K as 7 .
5. Delete arrows i, j, k . Which will result in event C and D, number C as 8 and D as 9.
6. Delete arrow m, number event G as 10.



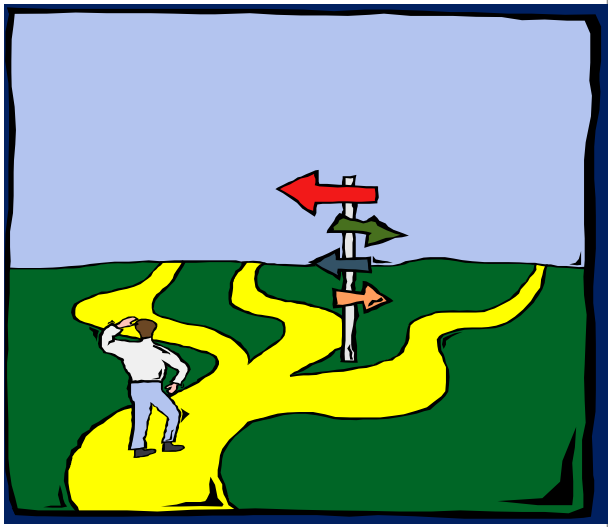





g
c
a
d
j
j
a 1
d 1
l
m
b
e
k
n
o
f
h

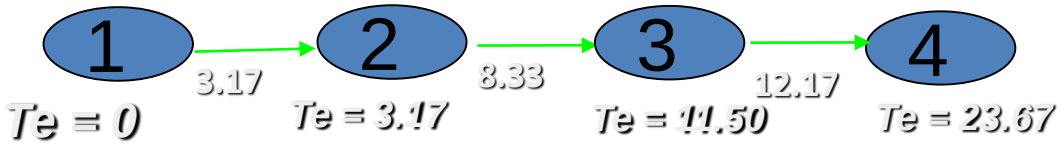
Critical Path

- ✓ ***A path is a sequence of connected activities running from start to end node in network***
- ✓ ***The critical path is the path with the longest duration in the network***
- ✓ ***Project cannot be completed in less than the time of the critical path***



To find critical path in a large network we compute two time estimates for every event.

Earliest expected time / Earliest start time (Te) : *Refers to the time when an event can be expected to start as early as possible. It is computed by adding the te's of the activity paths leading to that event*



We calculate "Te" in forward pass.