

CEE 536  
Problem Set 4

SCHEDULING PRECEDENCE NETWORKS

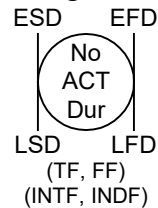
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September 18, 2025  
Due: September 25, 2025

**Problem 1**

For the network information given below:

- Construct a precedence diagram.
- On the diagram, compute the four schedule dates (ESD, EFD, LSD, and LFD) and the four floats (TF, FF, INTF, and INDF) for each activity, and the lag for each link. Calculate and show results on the diagram in the following form:



- Identify the critical path (use triple lines for the links) and the spanning tree (i.e., the tree of zero-lag links; use double lines for the links).
- Draw the same precedence diagram again, perform only a forward pass, and *calculate the four floats using link lags*. Show the same results as in (b) and (c) above (do not show LSD and LFD).

| No | ACT | DUR | PREDECESSORS |
|----|-----|-----|--------------|
| 5  | B   | 5   | -            |
| 10 | M   | 4   | B            |
| 15 | N   | 9   | B            |
| 20 | P   | 8   | B            |
| 25 | L   | 6   | M            |
| 30 | F   | 5   | M,N          |
| 35 | C   | 8   | N,P          |
| 40 | K   | 6   | P            |
| 45 | G   | 7   | L,F,C        |
| 50 | A   | 3   | F,C          |
| 55 | D   | 7   | C,K          |
| 60 | E   | 9   | K            |
| 65 | H   | 3   | G,A          |
| 70 | J   | 2   | D,E,H        |

## Problem 2

For the precedence network information given below:

- Set up a table, and without drawing a network, compute the schedule dates (ESD, EFD).
- Compute the lag for each link, and identify activities on the critical path.
- Compute the four floats (TF, FF, INTF, and INDF) for each activity.
- For the same network set up a triangular matrix and compute the schedule dates (ESD, EFD) and the floats (FF, TF).

| No | ACT | DUR | PREDECESSORS |
|----|-----|-----|--------------|
| 5  | A   | 2   | -            |
| 10 | B   | 3   | A            |
| 15 | C   | 6   | A            |
| 20 | D   | 5   | A            |
| 25 | E   | 9   | B            |
| 30 | F   | 7   | B,C          |
| 35 | G   | 2   | C            |
| 40 | H   | 4   | D            |
| 45 | J   | 3   | E,F,G        |
| 50 | K   | 5   | F,G,H,       |
| 55 | L   | 2   | G,H          |
| 60 | M   | 7   | J,K,L        |
| 65 | N   | 4   | K,L          |
| 70 | P   | 2   | M,N          |