CE 4990 - Construction Scheduling

Week 2: Representation Problem
Due next Friday 01/27

January 20, 2012

Problem 1

Consider the scheduling a project consisting of 3 sequences as follows:

- Each sequence i ($i = 1, 2, 3$) has four activities A_i, B_i, C_i, D_i, E_i, excepting for sequence 2 that does not include the activity B.

- In each sequence, activities B and C cannot start till activity A is completed, and activity D cannot start till activities B and C are completed. Activity E cannot start till activity D is completed.

- Each of the activities A_i, B_i, C_i, D_i and E_i share a critical resource.

- All relationships are considered Finish-to-Start with 0 required lag.

Develop the network diagram for the above project clearly showing all resource and technical constraints separately. The activity durations are as follows:

- $A_1 = 3$, $A_2 = 2$, $A_3 = 3$.

- $B_1 = 1$, $B_3 = 1$.

- $C_1 = 4$, $C_2 = 3$, $C_3 = 4$.

- $D_1 = 2$, $D_2 = 5$, $D_3 = 2$.

- $E_1 = 1$, $E_2 = 1$, $E_3 = 1$.

Please clearly show the critical path in the network.

Problem 2

Develop a network diagram and schedule it for the AISC case study (durations available online).