

CEE 536
Problem Set 6
SCHEDULING PERT NETWORKS

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Due: October 23, 2025

Data for a simplified PERT network are given below.

1. Write the PERT formulas for estimating the mean and the standard deviation of the Beta distribution for an activity duration. Identify the PERT terms for a, M, b. (See p. 327.)
2. Write the Perry and Greig formulas for estimating the mean and the standard deviation of the distribution for an activity duration. Identify the terms in the formulas.
3. In the table below, use the PERT formulas and the three time-estimates a, M, b, to estimate the mean and standard deviation of activity durations.
4. Set up a table (similar to Table 12.3) and calculate Early Event Times (TE), Late Event Times (TL), Activity Free Slack (AFS), and Activity Total Slack (ATS). (Set TS = TE₄₅)
5. Determine the PERT "critical path" and the mean and standard deviation for the project duration. (This is the path with the longest expected duration.)
6. Draw the network diagram and use the PNET method to determine
 - a. The probability of completing the project in less than 28 days.
 - b. The probability that the project will take more than 27 days.
 - c. The probability that event 35 will occur in less than 24 days.
 - d. Based on the PNET analysis, which path(s) could end up being the critical path when the project is completed?

i	j	ACT	Time Estimates (days)		
			a	M	b
5	10	A	1	3	5
5	15	B	2	5	6
10	20	C	4	6	7
10	25	E	8	10	12
15	25	d1	0	0	0
15	30	F	4	8	9
20	35	G	5	7	14
25	35	L	7	10	16
30	35	d2	0	0	0
30	40	M	6	9	12
35	45	N	1	3	7
40	45	P	3	5	7