Tutorial 7
PERT

1. An activity has an optimistic time of 15 days, a most likely time of 18 days, and a pessimistic time of 27 days. What is its expected time?

2. An activity has an optimistic time of 11 days, a most likely time of 15 days, and a pessimistic time of 23 days. What is its variance?

3. Activities A and B are both 6 days long and the only immediate predecessors to activity C. Activity A has ES=8 and LS=8 and activity B has ES=7 and LS=10. What is the ES of activity C?

4. A project's critical path is composed of activities A, B, and C. Activity A has a standard deviation of 2, activity B has a standard deviation of 1, and activity C has a standard deviation of 2. What is the standard deviation of the critical path?

5. What is the probability that a project with a mean completion time of 23.9 days and a variance of 6 days will be finished in 26 days?

6. The following estimates of activity times (in days) are available for a small project:

Activity	Optimistic	Most Probable	Pessimistic	Expected Completion time	Variance
A	4	5.0	6		
B	8	9.0	10		
C	7	7.5	11		
D	7	9.0	10		
E	6	7.0	9		
F	5	6.0	7		

   a) Compute the expected activity completion times and the variance for each activity, and complete the table above.
   b) An analyst determined that the critical path consists of activities B-D-F. Compute the expected project completion time and the variance.
   c) Using the standard normal table, find the probability that the project can be completed within 24 days.