PERT Diagram Example

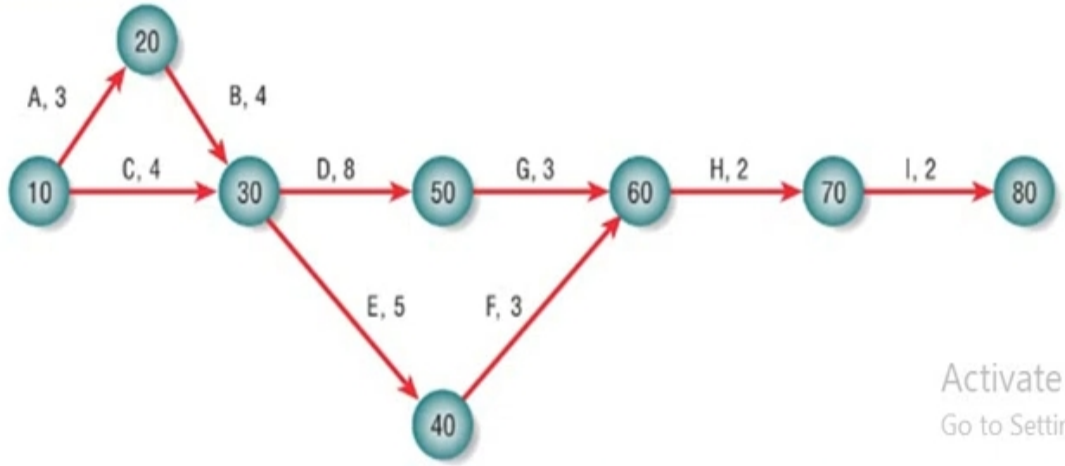
A PERT EXAMPLE. Suppose a systems analyst is trying to set up a realistic schedule for the data gathering and proposal phases of the systems analysis and design life cycle. The systems analyst looks over the situation and lists activities that need to be accomplished along the way. This list, which appears in Figure 3.21, also shows that some activities must precede other activities. The time estimates were determined as discussed in an earlier section of this chapter.

DRAWING THE PERT DIAGRAM. In constructing the PERT diagram, the analyst looks first at those activities requiring no predecessor activities, in this case A (conduct interviews) and C (read company reports). In the example in Figure 3.22, the analyst chose to number the nodes 10, 20, 30, and so on, and he or she drew two arrows out of the beginning node 10. These arrows represent

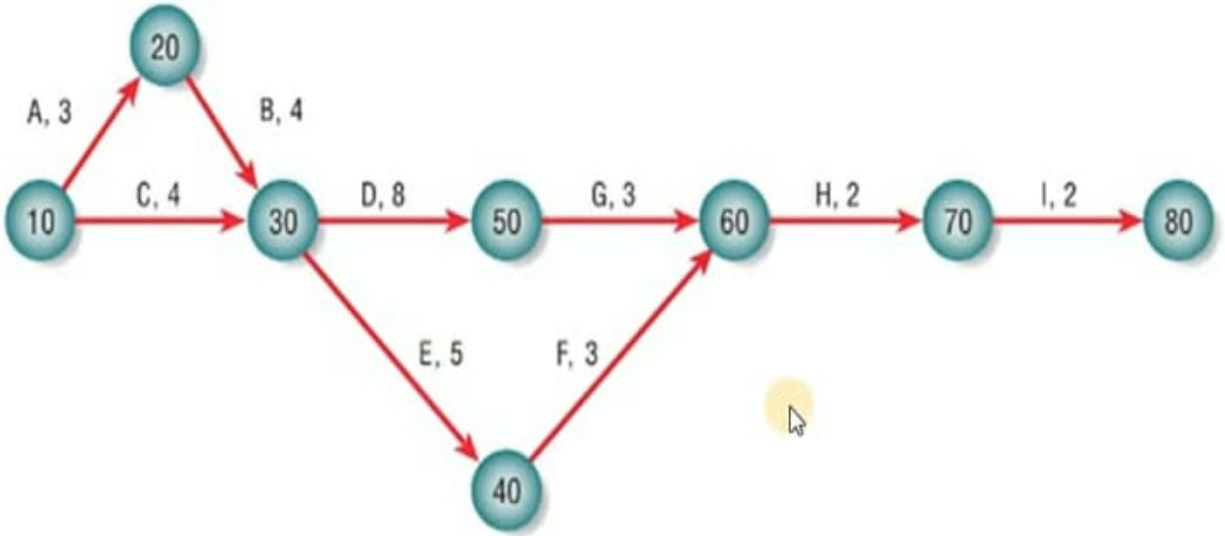
Activity	Predecessor	Duration
A Conduct interviews	None	3
B Administer questionnaires	A	4
C Read company reports	None	4
D Analyze data flow	B, C	8
E Introduce prototype	B, C	5
F Observe reactions to prototype	E	3
G Perform cost-benefit analysis	D	3
H Prepare proposal	F, G	2
I Present proposal	H	2

AOA PERT Diagram Example

Activity		Predecessor	Duration
A	Conduct interviews	None	3
B	Administer questionnaires	A	4
C	Read company reports	None	4
D	Analyze data flow	B, C	8
E	Introduce prototype	B, C	5
F	Observe reactions to prototype	E	3
G	Perform cost-benefit analysis	D	3
H	Prepare proposal	F, G	2
I	Present proposal	H	2



Critical Path Example



IDENTIFYING THE CRITICAL PATH. Once the PERT diagram is drawn, it is possible to identify the critical path by calculating the sum of the activity times on each path and choosing the longest path. In this example, there are four paths: 10–20–30–50–60–70–80, 10–20–30–40–60–70–80, 10–30–50–60–70–80, and 10–30–40–60–70–80. The longest path is 10–20–30–50–60–70–80, which takes 22 days. It is essential that the systems analyst carefully monitors the activities on the critical path so as to keep the entire project on time or even shorten the project length if warranted.