

Sequencing & scheduling
activities, network planning
model

Introduction to Sequencing & scheduling activity

Scheduling activity

- Uses results of the other time management processes to determine the start and end date of the project
- Ultimate goal is to create a realistic project schedule that provides a basis for monitoring project progress for the time dimension of the project
- Important tools and techniques include Gantt charts, critical path analysis, critical chain scheduling, and PERT analysis

Activity Scheduling

- Involves reviewing activities and determining dependencies
- A **dependency** or **relationship** is the sequencing of project activities or tasks
- You *must* determine dependencies in order to use critical path analysis

Network Planning Models

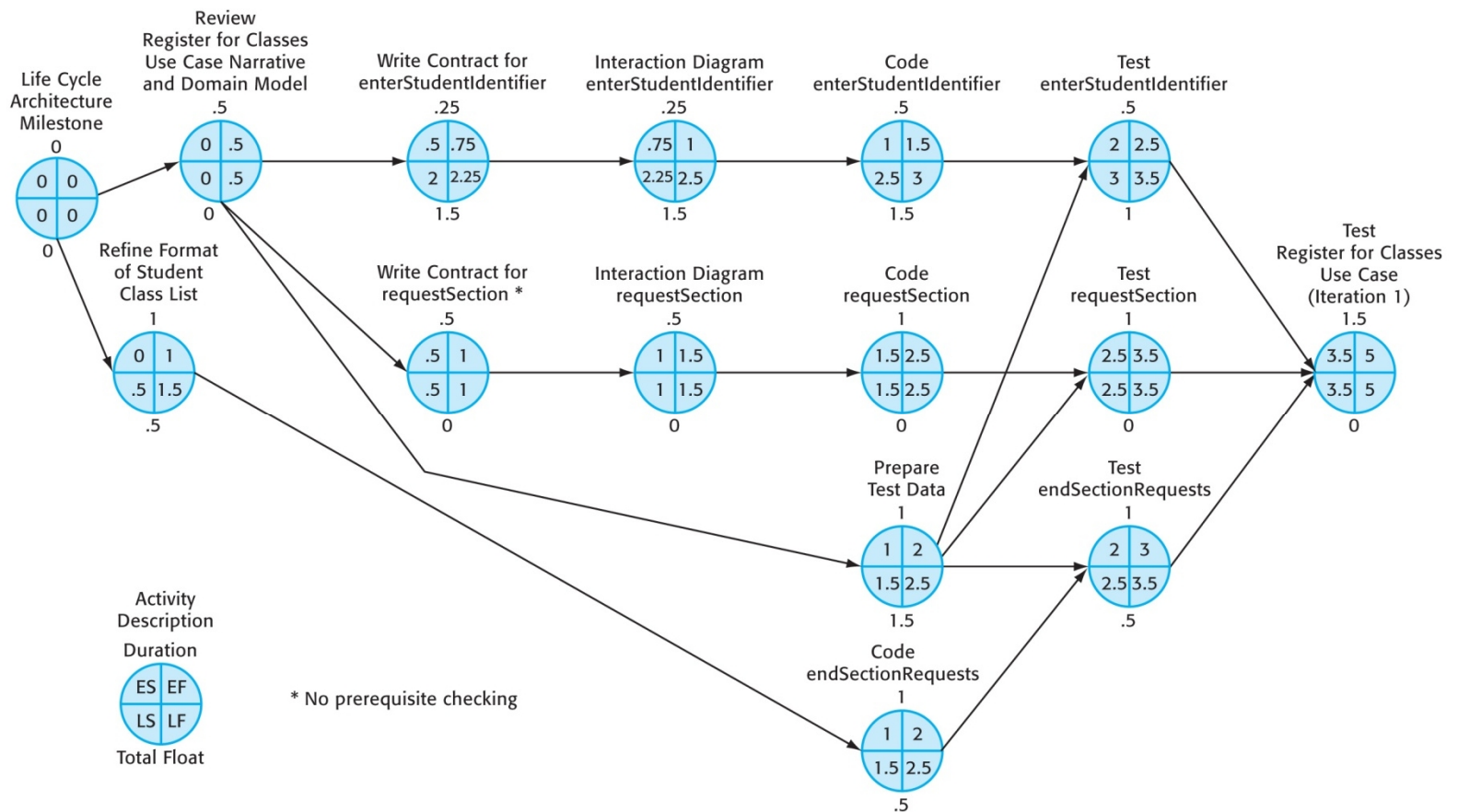
A critical path model or network shows the sequential dependencies among activities in a project.

It permits the calculation of:

- the earliest project completion date and
- the activities which will delay the project if not completed on time (the critical path).

Network Planning Models (continued)

FIGURE 14.1



Network Planning Models (continued)

A Gantt chart presents a project schedule as horizontal bars on a vertical time grid.

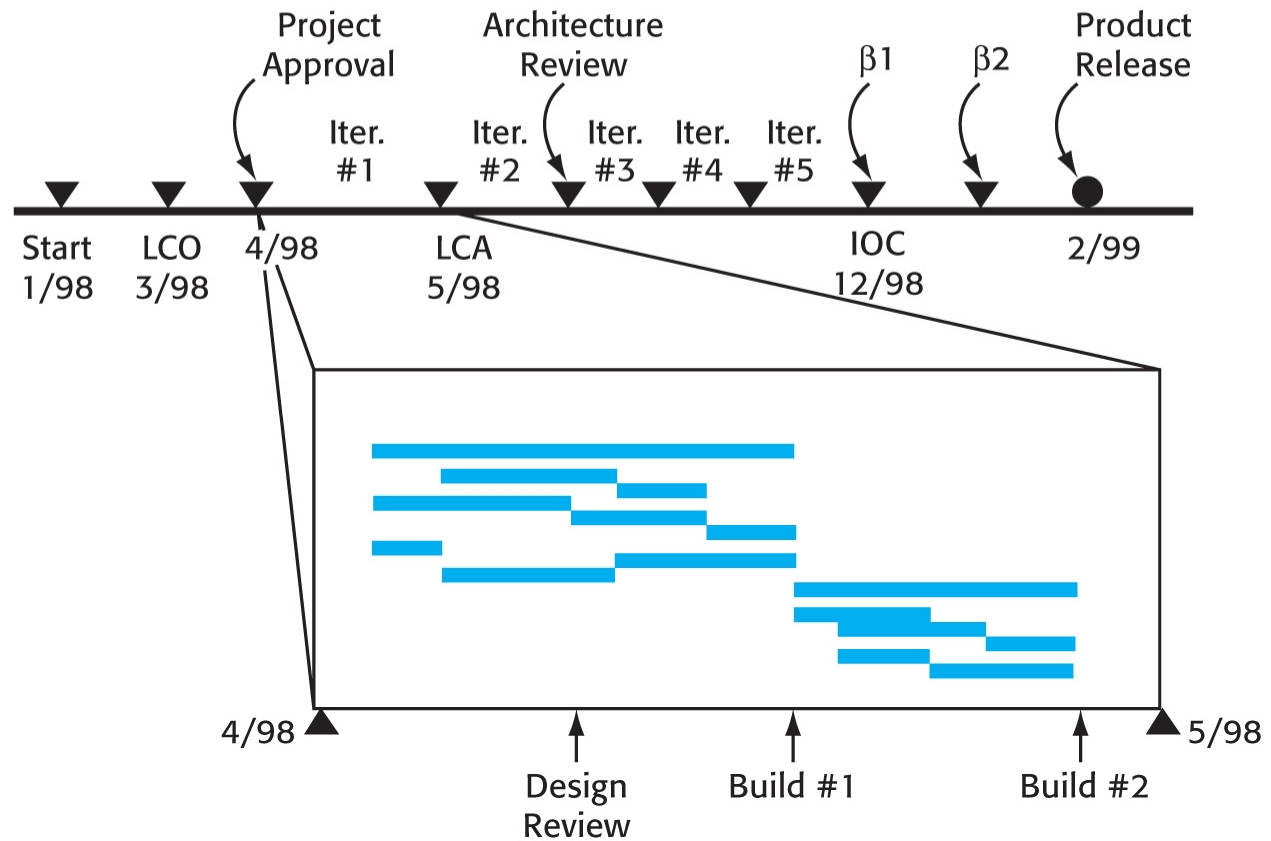
It does not show dependencies among the project activities.

It can help communicate the overall features of a project schedule.

Network Planning Models (continued)

FIGURE 14.2

Coarse-Grained Plan: Phase Plan

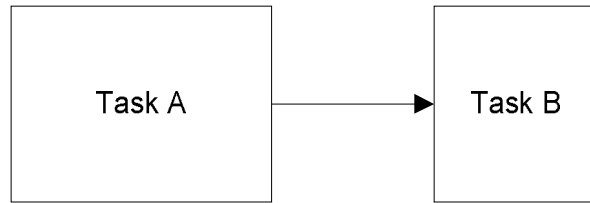


Fine-Grained Plan: Iteration Plan

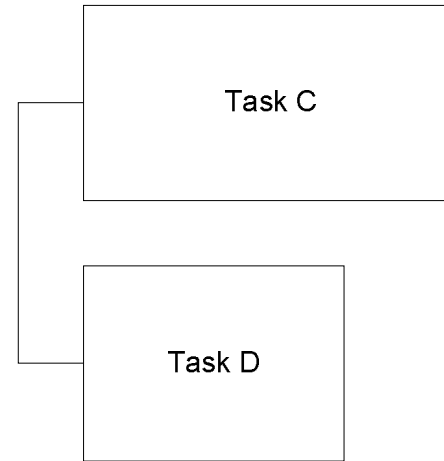
Precedence diagramming method (representation of lagged activities)

- The precedence diagramming method (PDM) adds to AON by showing the key sequence relationships
 - Finish to start (most common, sequential)
 - Start to start
 - Finish to finish
 - Start to finish

PDM node relationships



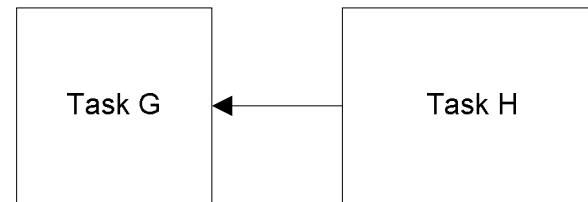
Finish-to-start



Start-to-start



Finish-to-finish



Start-to-finish

PDM

- PDM can also show lead and lag times for activities
 - Lead time is an amount of time a task can start before the end of its predecessor
 - Lag time is the amount of time a task must start after the end of its predecessor
 - Hence lag time = negative lead time