Software Project Management

Lecture 14

Sequencing and Scheduling activities

Topics Covered

- Activity Scheduling

- Network Planning Models

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
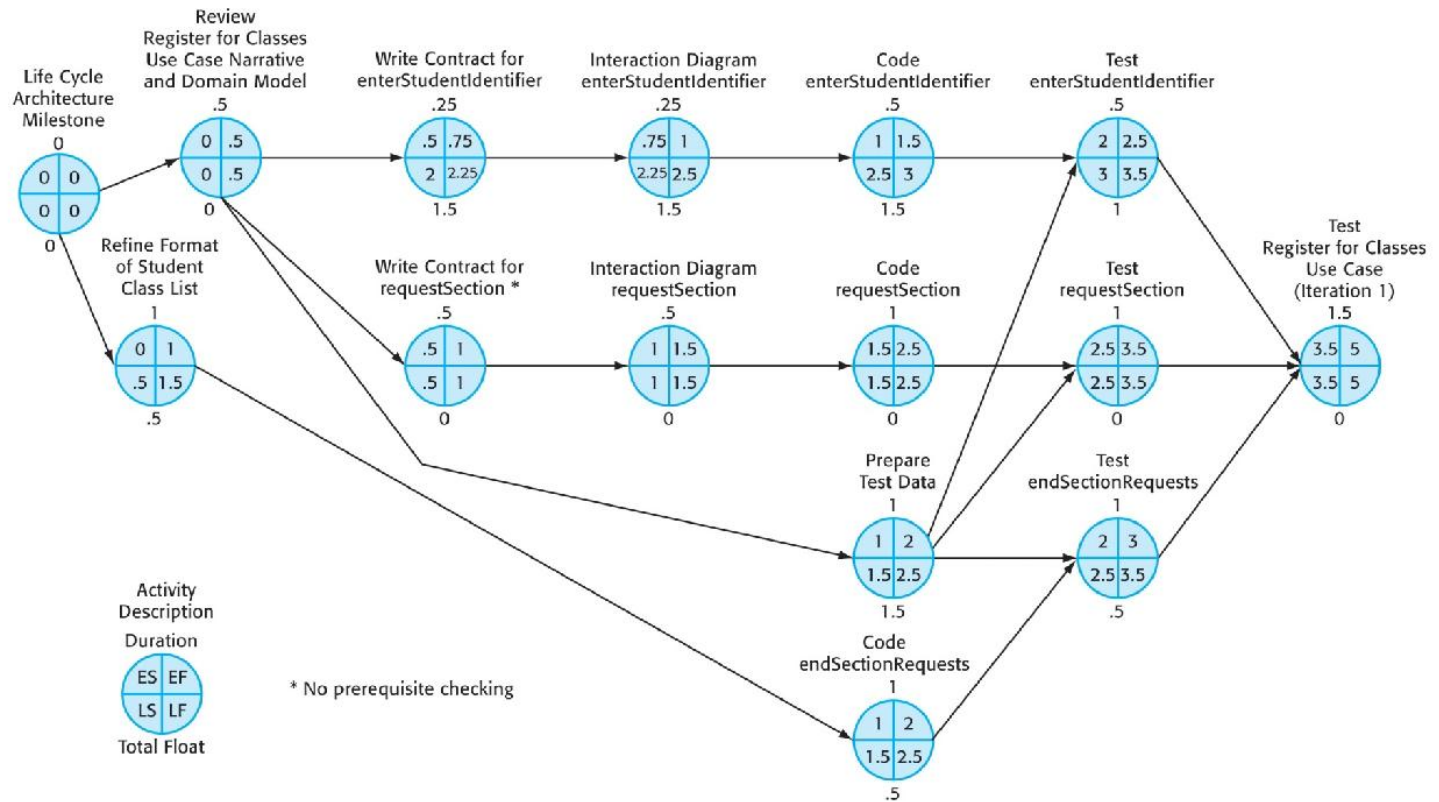
Network Planning Models

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.

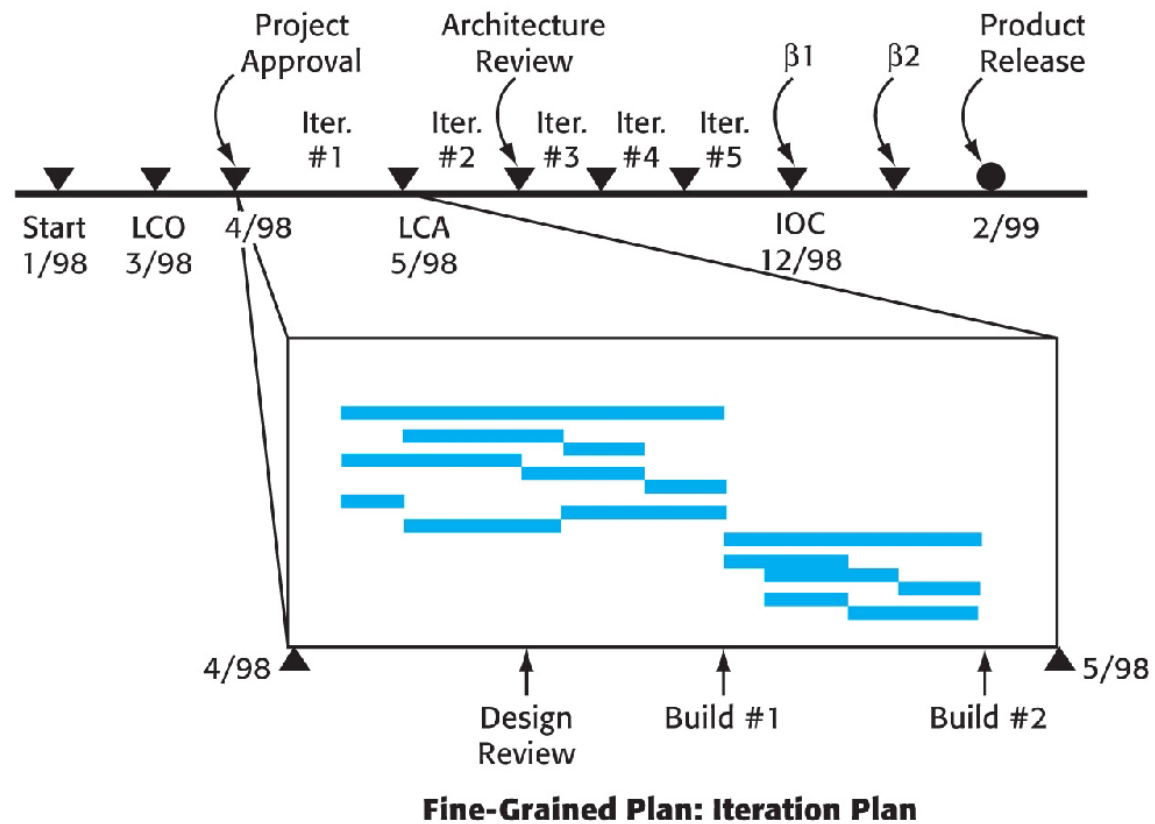It does not show dependencies among
the project activities.

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

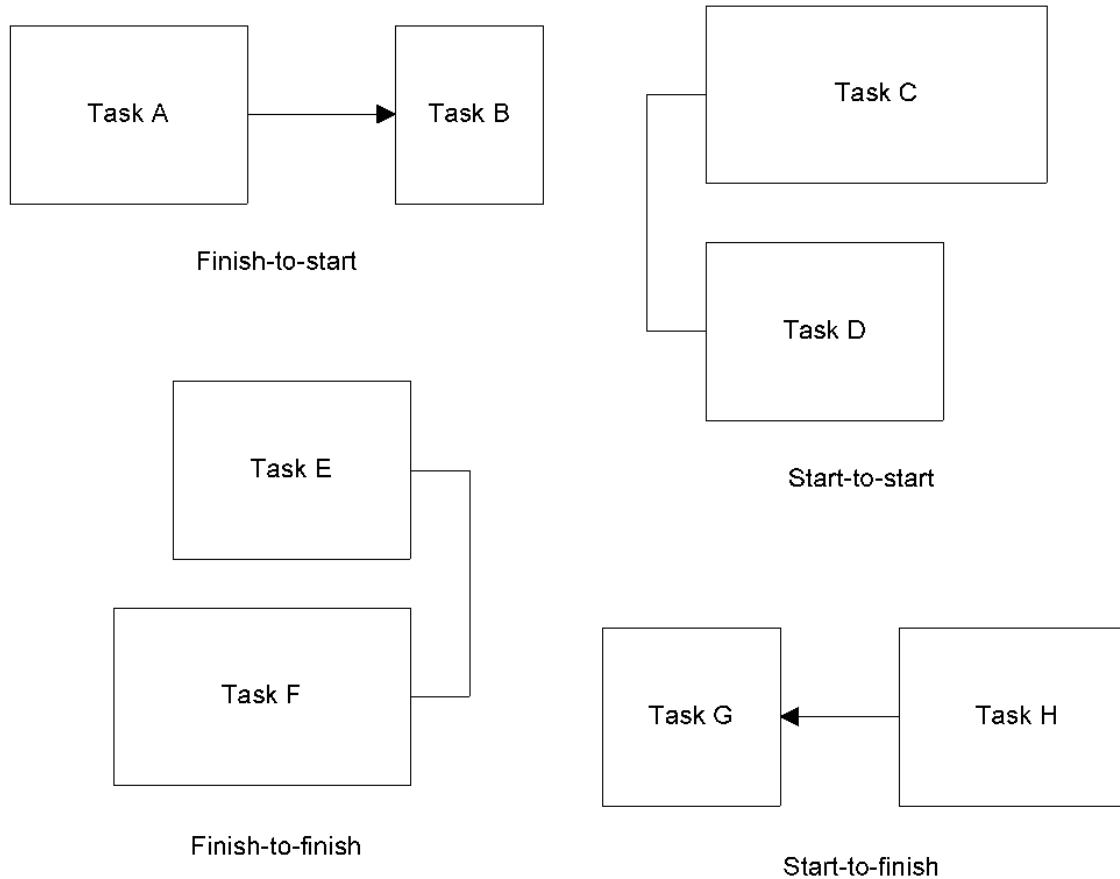# Network Planning Models (continued)

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

Task A → Task B

Finish-to-start

Task C

Task D

Start-to-start

Task E

Task F

Finish-to-finish

Task G ← Task H

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