Chapter 7 Section 2

MA1020 Quantitative Literacy

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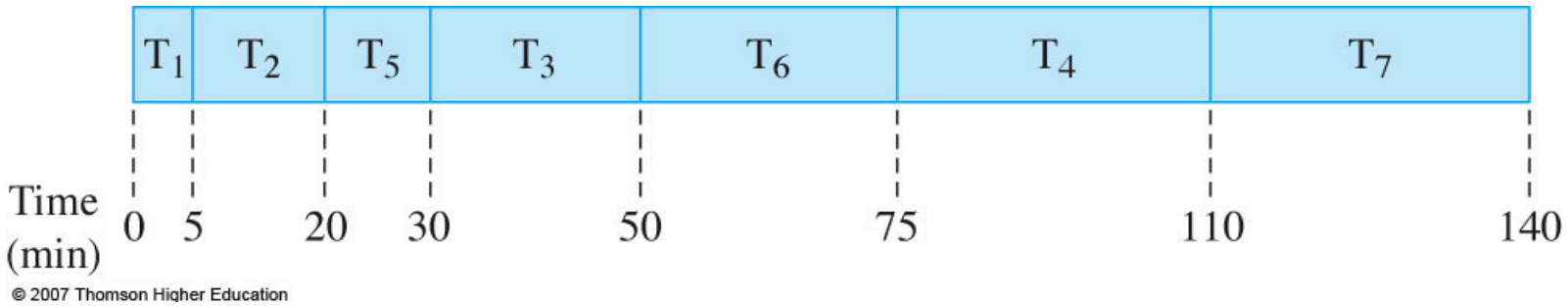
Priority Lists

Example

Suppose that a project consists of one person planting a tree. The tasks are T_1: dig a hole (30 min), T_2: insert tree (5 minutes), T_3: fill hole (10 minutes), T_4: fertilize (7 minutes), T_5: water (15 minutes).

- Priority List
- Increasing-time priority list
- Decreasing-time priority list

Gantt Charts



List-processing Scheduling Algorithm

1. The lowest-numbered idle processor is assigned to the highest-priority ready task until either all processors are assigned or all ready tasks are being worked on. Each processor is to work steadily on a task until that task is completed.
2. When a processor completes a task, that processor becomes idle Check for ready tasks and tasks still not completed and determine which of the following applies:
    1. If there are ready tasks, repeat step 1.
    2. If there are no ready tasks but not every task has been completed, the idle processors remain idle until more tasks are completed (which may make a task ready).
    3. If all tasks have been completed, the project is finished.

Optimal Schedule

Does it exist?