Chapter 7 Section 1

MA1020 Quantitative Literacy

Sidney Butler

Michigan Technological University

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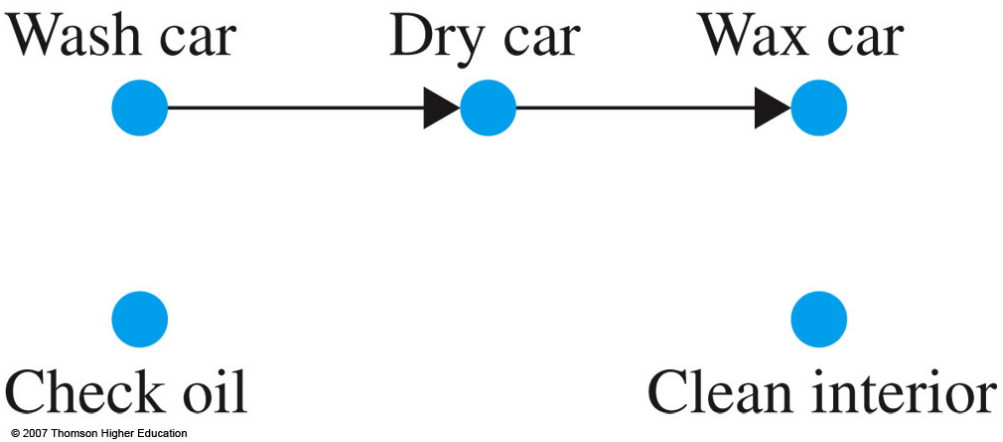
Scheduling

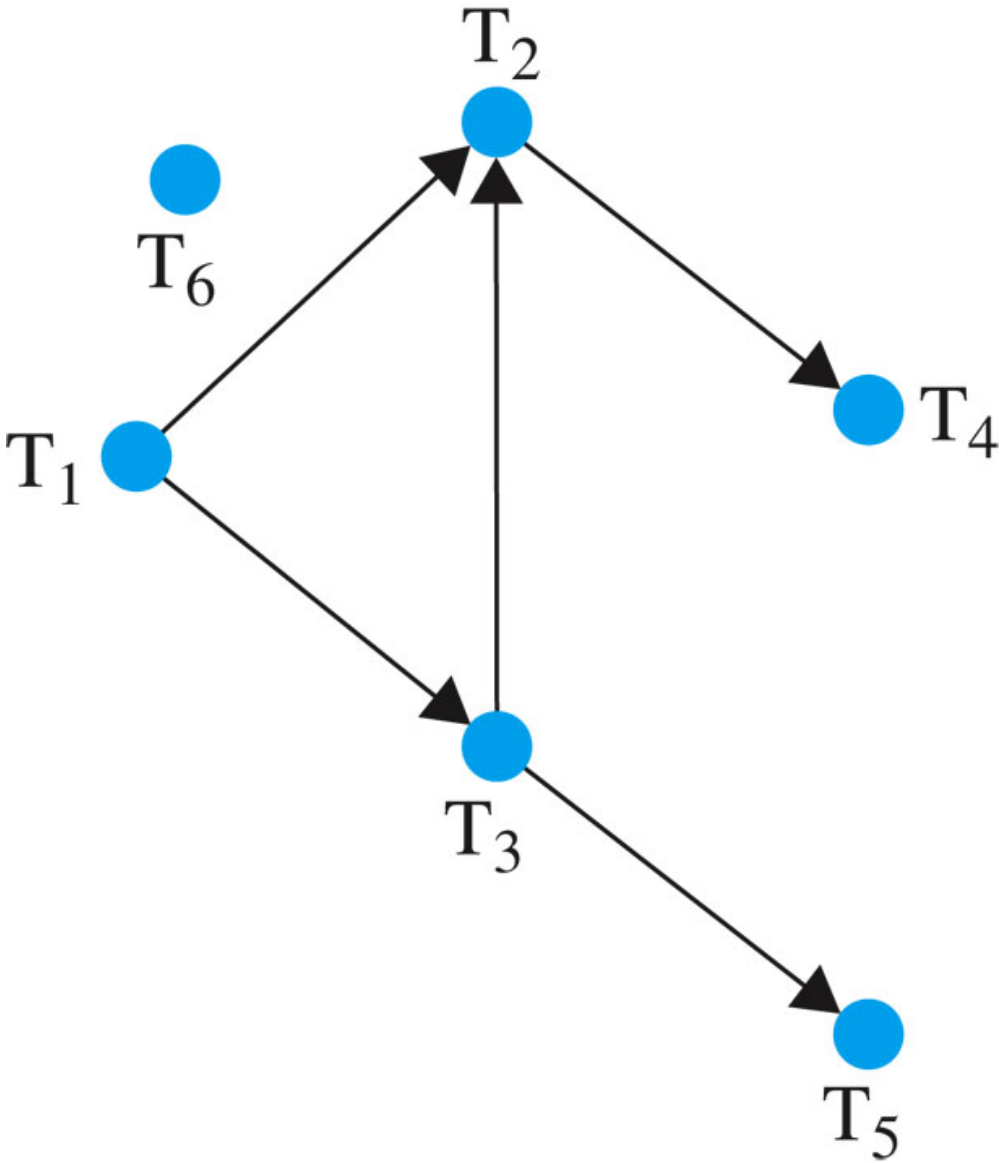
- Tasks
- Processors
- Completion time
- Precedence relation or order requirement
- Independent

Digraphs



- Directed graph
- Vertex
- Arc
- Order-requirement digraph
- Isolated vertex

Paths



- Directed Path or Path
- Maximal Path
- Source
- Sink

Algorithm for Finding All Maximal Paths

1. Locate all the sinks that are not isolated vertices
2. Locate all the sources that are not isolated vertices.
3. For each source, follow the arcs until you reach a sink.
4. If there is more than one arc at any vertex along the path formed in step 3, start again at the same source and choose different arcs.
5. Repeat until all possibilities for that source have been exhausted.

Weighted Digraphs

- Weight
- Weighted digraph
- Weighted order-requirement digraph
- Finishing time
- Weight of a path
- Critical path
- Critical time

Theorem

The finishing time of a project is greater than or equal to the critical time.