

Chapter 7 Section 1

MA1020 Quantitative Literacy

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Scheduling

Sugar Cookies

1 cup shortening

3/4 cup sugar

1 tsp vanilla

1 egg

5 tsp milk

2 1/2 cups flour

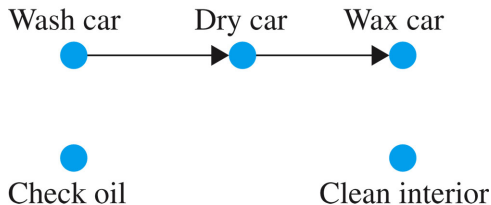
1 tsp baking powder

1/4 tsp salt

Cream shortening, sugar, and vanilla. Add egg and milk and beat until fluffy. Mix dry ingredients and stir into creamed mixture. Chill for 2 hours. Roll dough to 1/8 inch thickness and cut into shapes. Bake at 375° for 10 minutes.

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

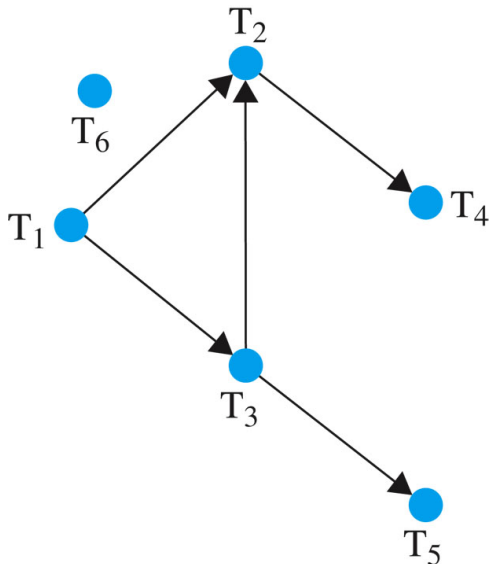
Digraphs



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- 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.