Set

1. set of suppliers indicated by
2. set of factories indicated by
3. : set of products indicated by
4. set of raw materials indicated by
5. : set of raw materials required to produce product
6. measured in unit

Parameters

1. Demand for each product .
2. Capacity of quantity for supplier parts to factory
3. Production capacity at factory .
4. Inventory capacity at factory .
5. Initial inventory at factory for product
6. : number of days the node is disrupted.
7. : Number of units of parts required for product

Variables

1. Continuous, Raw material supplied by supplier for parts to factory
2. : Continuous, finished goods exported from factory for product
3. : Continuous, Inventory for product at factory
4. : Continuous, lost production due to disruption for product

Constraints

1. Raw materials supplied by a supplier cannot exceed the limit.
2. The production along with the lost production must satisfy the demand for the disrupted days.
3. Finished good production is limited by raw materials availability and production capacity