Constraints:

1. Intermediate product can be put directly to next step or in a storage tank, depends on its delay time

If it has delay time, then it must be put into a tank.

1. Products/intermediate products should be processed in batch.
2. Demand should be delivered in a certain time window; early delivery is not possible. Late delivery will have a tardiness cost, which is proportional to the delay time.
3. Each demand should be processed entirely, without splitting.
4. If a demand is not possible to be finished, then only consider the non-delivery cost.
5. Non-delivery cost consists of a fixed cost and a variable cost. The variable cost is proportional to the number of units in the demand.
6. A setup step takes place directly before the processing step.
7. Setup resources should be used, even though we don’t know how does it work..
8. Storage tank has a maximal quantity.
9. A storage tank can hold only one type of product simultaneously.
10. Switch from one product to another (for a storage tank) needs to consume all products in it and then clean it. The time and cost of clean depends on the state change of setup matrix.
11. Switching a storage tank does not require a setup resource.
12. Setup matrix depends on the resource table.
13. Production and assumption are instantaneous.
14. For one product demand it is not possible to be split into several tanks.
15. Tanks can be used for different demands at the same time if they produce the same product.