

SUSTAINABLE SUPPLY CHAIN PERFORMANCE DASHBOARD USING POWER BI

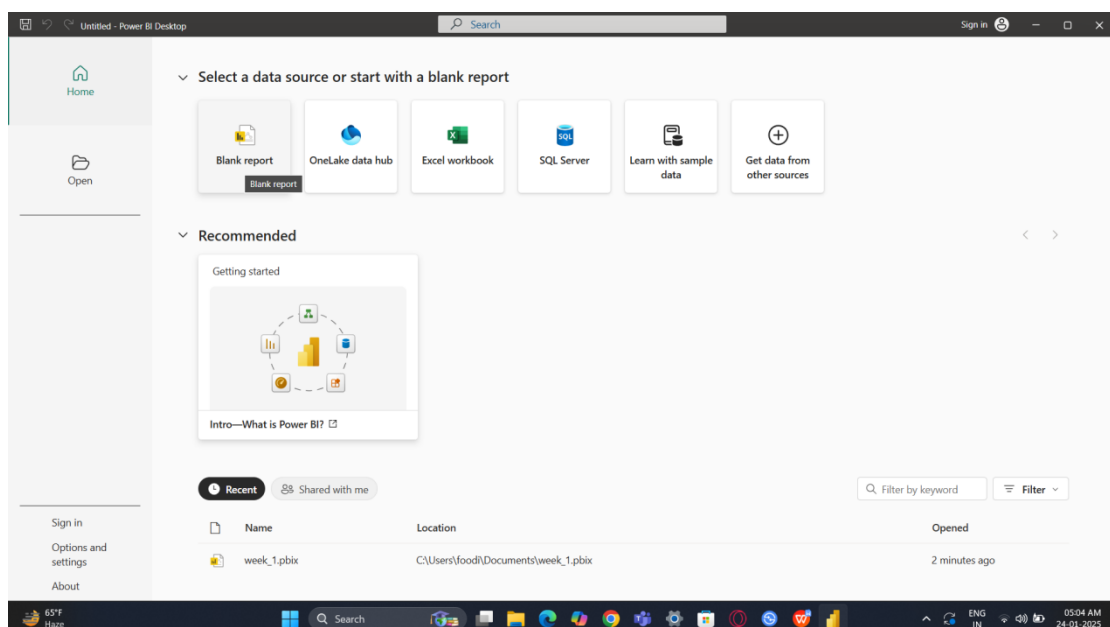
Week 1: Steps to Extract Required Tables from the Dataset

Input: Sustainable supply chain performance dataset

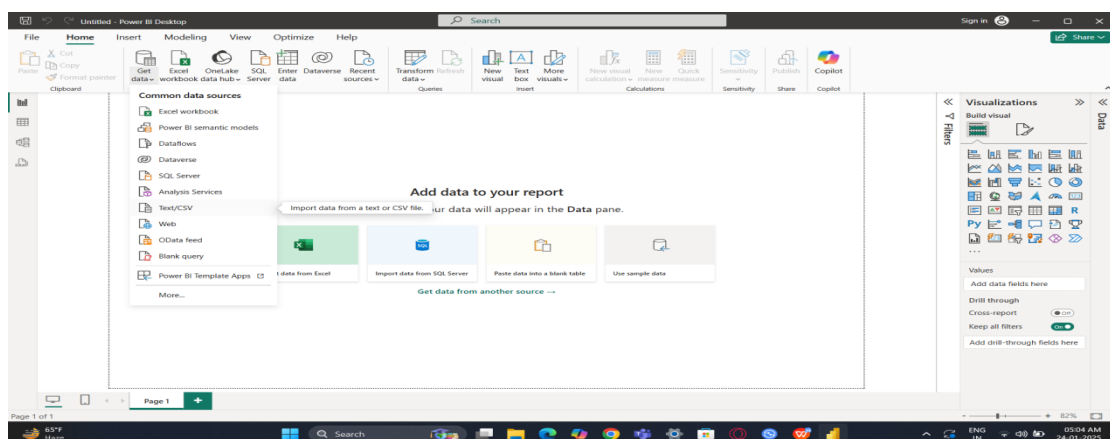
This guide outlines the step-by-step process to extract and analyze the required tables from your sustainable supply chain performance dataset using Power BI.

➤ Load Data into Power BI

1. Open Power BI Desktop and click on Blank Report to start creating your visualizations.

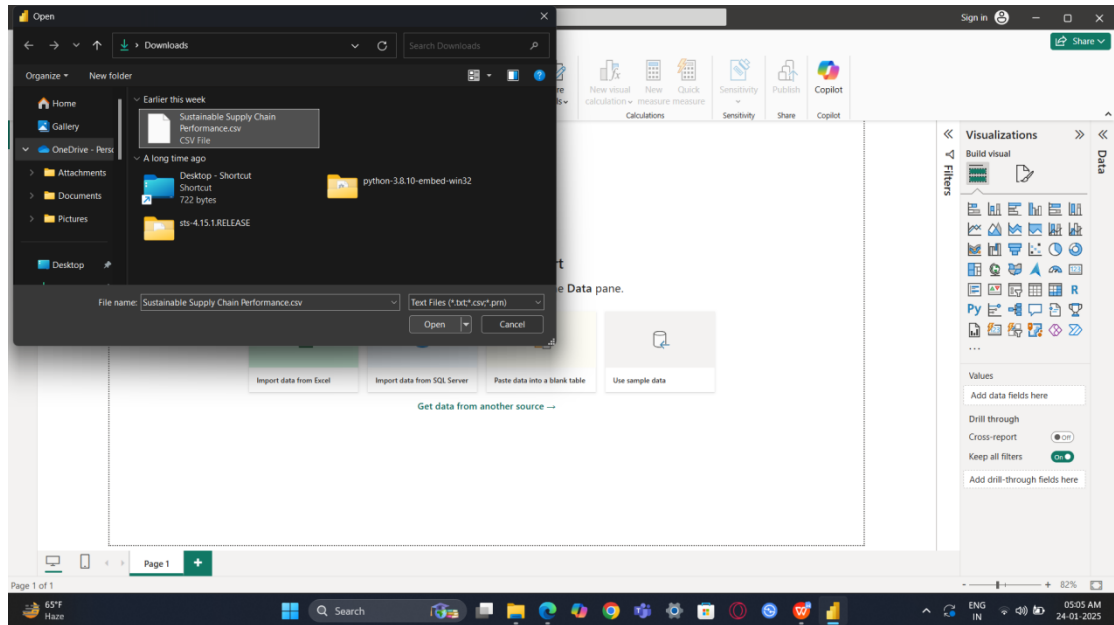


2. Navigate to the Home tab and click on Get Data

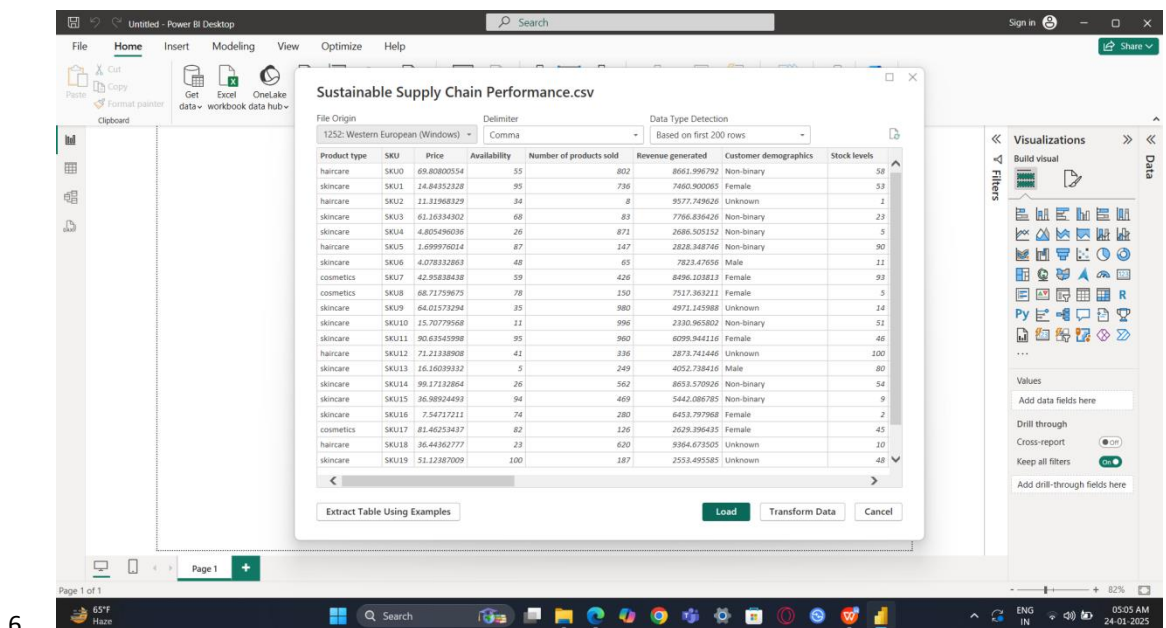


3. Select the data source type (e.g., "Text/CSV") and locate the dataset from its storage location.

4. Select the dataset and click Open.

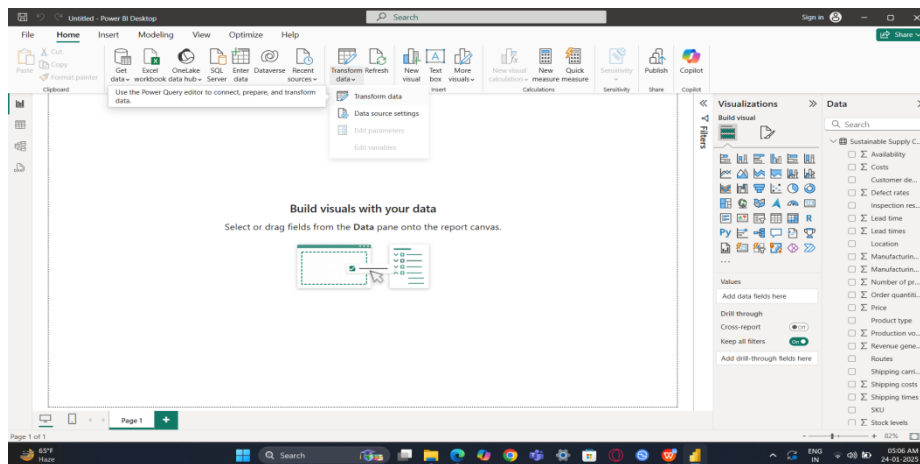


5. Preview the data and click Load to import

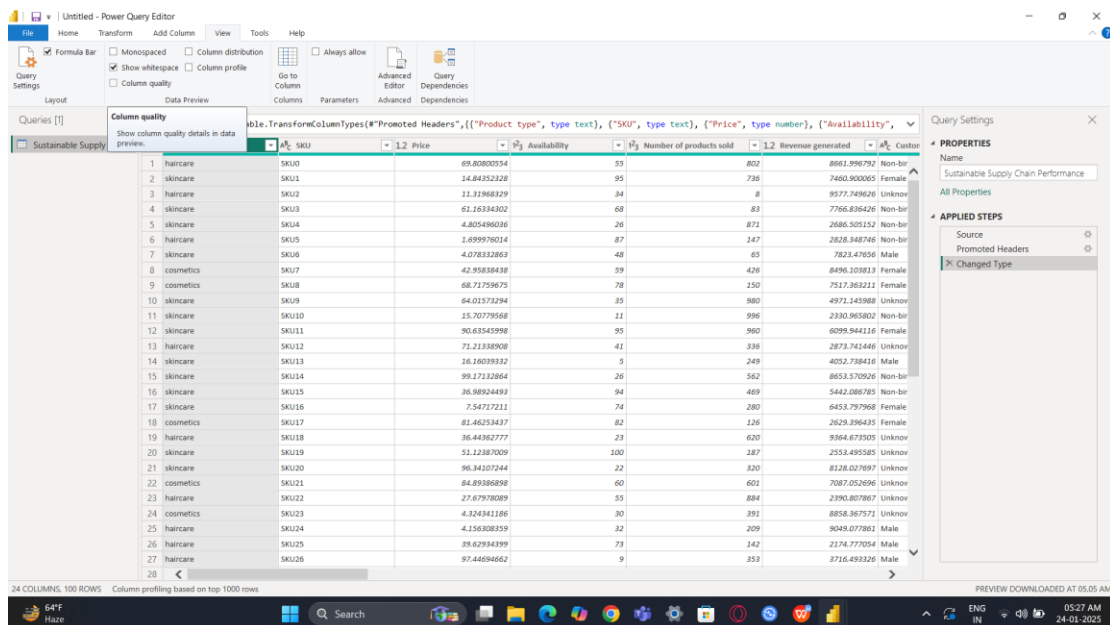


➤ Transform Data Using Power Query

1. Click on Transform Data under the Queries tab in the ribbon.



2. In the Power Query Editor window, enable Column Quality under the View tab to identify any errors or anomalies in the dataset.



3. Ensure that the dataset is properly transformed and ready for analysis. Perform necessary cleaning, such as removing duplicates, handling missing values, and ensuring consistent formatting

The screenshot displays the Microsoft Power Query Editor interface. The main area shows a table with the following columns: Product type, SKU, Price, Availability, Number of products sold, and Revenue generated. The table contains 25 rows of data. The right pane shows the 'Query Settings' for 'Sustainable Supply Chain Performance' with 'Applied Steps' including 'Changed Type'.

	Product type	SKU	Price	Availability	Number of products sold	Revenue generated	Customer
1	haircare	SKU0	69.80800554		53	802	8861.996792 Non-bir
2	skincare	SKU1	14.84352328		99	736	7460.900065 Female
3	haircare	SKU2	11.31968329		34	8	9577.749620 Unknown
4	skincare	SKU3	61.16394302		68	83	7766.836420 Non-bir
5	skincare	SKU4	4.805496036		26	871	2686.505152 Non-bir
6	haircare	SKU5	1.09976014		87	147	2828.348740 Non-bir
7	skincare	SKU6	4.078332863		48	65	7823.47656 Male
8	cosmetics	SKU7	42.95888438		59	426	8496.103813 Female
9	cosmetics	SKU8	68.71759675		78	150	7517.363213 Female
10	skincare	SKU9	64.01573294		35	980	4971.145988 Unknown
11	skincare	SKU10	15.70779568		11	996	2390.965802 Non-bir
12	skincare	SKU11	90.63545998		95	940	6089.944116 Female
13	haircare	SKU12	71.21338908		41	336	2873.743446 Unknown
14	skincare	SKU13	16.16039332		5	249	4052.738416 Male
15	skincare	SKU14	99.17132864		26	562	8653.570920 Non-bir
16	skincare	SKU15	36.98924493		94	409	5442.080785 Non-bir
17	skincare	SKU16	7.54571211		74	280	6453.797940 Female
18	cosmetics	SKU17	81.46253437		82	126	2629.396435 Female
19	haircare	SKU18	36.44362777		23	620	9364.673305 Unknown
20	skincare	SKU19	51.12387009		100	187	2553.495585 Unknown
21	skincare	SKU20	96.34107244		22	320	8128.027697 Unknown
22	cosmetics	SKU21	84.89386898		60	601	7087.052696 Unknown
23	haircare	SKU22	27.47979809		55	884	2780.307867 Unknown
24	cosmetics	SKU23	4.32434186		30	393	8858.367573 Unknown
25	cosmetics	SKU24	1.111111111		1	1	1.111111111 Unknown

3. Extracting Tables for Efficient Analysis

The following tables need to be extracted from the dataset:

- Inventory Table
- Manufacturing Table
- Supplier Table
- Supply Chain Table

4. Performing Analysis on the Inventory Table

A. To create the Inventory Table from the original dataset:

Right-click on the table name in the left pane of the Power BI canvas.

Select Duplicate. A new dataset will be created without affecting the original data.

Double-click on the newly created dataset and rename it as Inventory Table.

Apply remove column option for columns irrelevant to inventory data to facilitate the analysis.

Product type	SKU	Availability	Number of products sold	Revenue generated	Customer demographics	Stock levels	Lead times	Order quantities	Lead time
haircare	SKU0	55	802	8661.99679239238	Non-binary	58	7		
skincare	SKU1	95	736	7460.90006544585	Female	53	30		
haircare	SKU2	34	8	9577.74962986873	Unknown	1	10		
skincare	SKU3	68	83	7766.83642568523	Non-binary	23	13		
skincare	SKU4	26	871	2606.50515156765	Non-binary	5	3		
haircare	SKU5	87	147	2828.34874597576	Non-binary	90	27		
skincare	SKU6	48	65	7823.47655953774	Male	11	15		
cosmetics	SKU7	59	426	8496.10381308984	Female	93	17		
cosmetics	SKU8	78	150	7517.36321063113	Female	5	10		
skincare	SKU9	35	980	4971.14598758556	Unknown	14	27		
skincare	SKU10	11	996	2330.96580209195	Non-binary	51	13		
skincare	SKU11	95	960	6099.94411558145	Female	46	23		
haircare	SKU12	41	336	2873.74144602144	Unknown	100	30		
skincare	SKU13	5	249	4052.73841623787	Male	80	8		
skincare	SKU14	26	562	8653.5709264698	Non-binary	54	29		
skincare	SKU15	94	469	5442.08678539767	Non-binary	9	8		
skincare	SKU16	74	280	6453.79796817629	Female	2	5		
cosmetics	SKU17	82	126	2629.39643484526	Female	45	17		
haircare	SKU18	23	620	9364.67350507617	Unknown	10	10		
skincare	SKU19	100	187	2553.49558499121	Unknown	48	11		
skincare	SKU20	22	320	8128.02789485119	Unknown	27	12		
cosmetics	SKU21	60	601	7087.05269635744	Unknown	69	25		
haircare	SKU22	55	884	2390.80786655617	Unknown	71	1		
cosmetics	SKU23	30	391	8858.36757101148	Unknown	84	5		
haircare	SKU24	32	209	9049.0778609399	Male	4	26		
haircare	SKU25	73	142	2174.77705435065	Male	82	11		
haircare	SKU26	9	353	3716.4932589404	Male	59	16		
cosmetics	SKU27	47	363	3696.46733367600	Unknown	47	0		

B. To create the Manufacturing Table from the original dataset:

Right-click on the supply chain dataset in the left pane of the Power BI canvas.

Select Duplicate. A new dataset will be created without affecting the original data.

Double-click on the newly created dataset and rename it as Manufacturing Table.

Apply remove column option for columns irrelevant to inventory data to facilitate the analysis.

1. Product type
2. SKU
3. Production volumes
4. Manufacturing lead time
5. Manufacturing costs
6. Inspection results
7. Defect rates

Product type	SKU	Production volumes	Manufacturing lead time	Manufacturing costs	Inspection results	Defect rates
haircare	SKU0	215	29	46.2798792405083	Pending	0.226410360849925
skincare	SKU1	517	30	33.61676895373	Pending	4.85406802638871
haircare	SKU2	971	27	30.6880193462042	Pending	4.58059261919923
skincare	SKU3	937	18	35.624741397125	Fail	4.74954862064775
skincare	SKU4	414	3	82.8631605987129	Fail	3.145579522832
haircare	SKU5	104	17	56.7964755574318	Fail	2.77919351157716
skincare	SKU6	314	24	1.0850685658707	Pending	1.00091061930414
cosmetics	SKU7	564	1	99.4661086035991	Fail	0.398177186850651
cosmetics	SKU8	769	8	11.4230271395657	Pending	2.70986269110996
skincare	SKU9	963	23	47.9576016349516	Pending	3.84461447876759
skincare	SKU10	830	5	96.5273527853109	Pass	1.72731392835594
skincare	SKU11	362	11	27.5923630866637	Pending	0.0211698213729944
haircare	SKU12	563	3	32.321286213424	Fail	2.16125374755591
skincare	SKU13	173	10	97.8290501101733	Pending	1.63107423007154
skincare	SKU14	558	14	5.79143662986299	Pending	0.100682851565094
skincare	SKU15	580	7	97.1212817514743	Pass	2.26440576119855
skincare	SKU16	399	21	77.10634249785	Pass	1.01256308925805
cosmetics	SKU17	453	16	47.679680368353	Fail	0.102020754918176
haircare	SKU18	374	17	27.1079808548439	Pending	2.23193911072926
skincare	SKU19	694	16	82.373305879962	Fail	3.6464988541703
skincare	SKU20	309	6	65.8862596084866	Pass	4.23141653253454
cosmetics	SKU21	791	4	61.7257289541609	Pending	0.0186075676310149
haircare	SKU22	780	28	50.1208396129773	Fail	2.59127547321112
cosmetics	SKU23	568	29	98.6099572427039	Pending	1.3429156272273
haircare	SKU24	447	3	40.3823597029248	Pending	3.69131029262873
skincare	SKU25	934	23	78.2803831184154	Pending	3.79723121711418
haircare	SKU26	171	4	15.9722297571818	Pass	2.11931973672492
cosmetics	SKU27	361	4	10.5763460396473	Fail	3.06466703796037

C. To create the Supply Chain Table from the original dataset:

Right-click on the table name in the left pane of the Power BI canvas.

Select Duplicate. A new dataset will be created without affecting the original data.

Double-click on the newly created dataset and rename it as Supplier Table.

Apply remove column option for columns irrelevant to supply chain table data to facilitate the analysis.

The screenshot displays the Microsoft Power BI Desktop interface. The main canvas shows a data table with 100 rows. The table columns are: Product type, SKU, Price, Availability, Number of products sold, Revenue generated, Customer demographics, Stock levels, Lead times, Order quantities, and Shipping times. The right-hand pane shows the 'Data' view with a list of tables including 'supplier chain table'.

Product type	SKU	Price	Availability	Number of products sold	Revenue generated	Customer demographics	Stock levels	Lead times	Order quantities	Shipping times
haircare	SKU0	69.808005421158	55	802	8661.99679239238	Non-binary	58	7	96	
skincare	SKU1	14.8435232750843	95	736	7460.90005544585	Female	53	30	37	
haircare	SKU2	71.3196832930906	34	8	9577.74962588973	Unknown	7	10	88	
skincare	SKU3	61.1633430164377	68	83	7766.83642568523	Non-binary	23	13	59	
skincare	SKU4	4.80549603634589	26	871	2686.50515155745	Non-binary	5	3	56	
haircare	SKU5	1.69997601386394	87	147	2828.34874597576	Non-binary	90	27	66	
skincare	SKU6	4.0783286210794	48	65	7823.47655953174	Male	71	15	58	
cosmetics	SKU7	42.9583843824601	59	426	8496.10381308984	Female	93	17	11	
cosmetics	SKU8	68.7175967485773	78	150	7517.36321063113	Female	5	10	15	
skincare	SKU9	64.0157329412785	35	980	4971.14598758556	Unknown	14	27	83	
skincare	SKU10	15.7077956819121	17	996	2330.96580209195	Non-binary	51	13	80	
skincare	SKU11	90.6354599822887	95	960	6099.94411558145	Female	46	23	60	
haircare	SKU12	71.2133890753601	41	336	2873.74144602144	Unknown	100	30	85	
skincare	SKU13	16.160393317738	5	249	4052.73841623787	Male	80	8	48	
skincare	SKU14	99.1713286386242	26	562	8653.5709264698	Non-binary	54	29	78	
skincare	SKU15	36.9892449386269	94	469	5442.08678539767	Non-binary	9	8	69	
skincare	SKU16	7.54717210979127	74	280	6453.79796817629	Female	2	5	78	
cosmetics	SKU17	81.462534369237	82	126	2629.39643484526	Female	45	17	85	
skincare	SKU18	36.4438277704809	23	620	9364.87350507617	Unknown	10	10	46	
skincare	SKU19	51.1288708979447	100	187	2553.8958499121	Unknown	48	11	94	
skincare	SKU20	96.3410172499634	22	320	8128.02789685119	Unknown	27	12	68	
cosmetics	SKU21	84.893868949508	60	601	7087.05269635744	Unknown	69	25	7	
haircare	SKU22	27.679780886502	55	884	2390.80786655617	Unknown	71	1	63	
cosmetics	SKU23	4.32434118586416	30	391	8858.36757101148	Unknown	84	5	29	
haircare	SKU24	4.15630835931111	32	209	9049.0778609399	Male	4	26	2	
haircare	SKU25	39.6293439850926	73	142	2174.77705433065	Male	82	11	52	
haircare	SKU26	97.4469466178928	9	353	3716.49322589404	Male	59	16	48	

D. To create the Supplier Table from the original dataset:

Right-click on the table name in the left pane of the Power BI canvas.

Select Duplicate. A new dataset will be created without affecting the original data.

Double-click on the newly created dataset and rename it as Supplier Table.

Apply remove column option for columns irrelevant to supplier table data to facilitate the analysis.

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Create, change, or delete security roles.

Supplier nameLocationLead timeTransportation modesRoutes

Supplier 3Mumbai29RoadRoute B

Supplier 3Mumbai23RoadRoute B

Supplier 1Mumbai12AirRoute C

Supplier 5Kolkata24RailRoute A

Supplier 1Delhi5AirRoute A

Supplier 4Bangalore19RoadRoute A

Supplier 3Kolkata14SeaRoute A

Supplier 4Bangalore22RoadRoute C

Supplier 4Mumbai13SeaRoute B

Supplier 2Chennai29RailRoute B

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Supplier 1Bangalore14SeaRoute B

Supplier 1Bangalore3AirRoute A

Supplier 1Chennai7AirRoute C

Supplier 2Kolkata18SeaRoute A

Supplier 4Chennai20RoadRoute C

Supplier 1Chennai29AirRoute B

Supplier 5Chennai19AirRoute C

Supplier 4Kolkata22RailRoute C

Supplier 5Kolkata11RailRoute A

Supplier 2Bangalore28AirRoute A

Supplier 4Kolkata19RoadRoute B

Supplier 2Bangalore26RailRoute A

Supplier 3Mumbai35SeaRoute B

Table: supplier table (100 rows)

Search

Inventory Table

Manufacturing Table

supplier table

Lead time

Location

Routes

Supplier name

Transportation modes

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