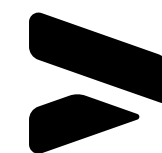




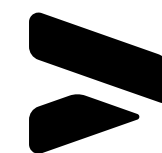
Database Normalization





Normalization

- Normalization is the process of organizing the **tables** and **columns** in a relational database to **reduce redundancy** and preserve **data integrity**.
- It's commonly used to:
 - **Eliminate** redundant data to decrease table sizes and improve processing speed & efficiency
 - **Minimize errors and anomalies** from data modifications (inserting, updating or deleting records)
 - **Simplify queries** and structure the database for meaningful analysis

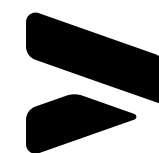




What is normalized Database?



- In a normalized database, each table should serve a **distinct** and **specific** purpose.
- *Example:*
 - Product Information
 - Transaction records
 - Customer Attributes
 - Store Details





Database Not Normalized

date	product_id	quantity	product_brand	product_name	product_sku	product_weight
1/1/1997	869	5	Nationeel	Nationeel Grape Fruit Roll	52382137179	17
1/7/1997	869	2	Nationeel	Nationeel Grape Fruit Roll	52382137179	17
1/3/1997	1	4	Washington	Washington Berry Juice	90748583674	8.39
1/1/1997	1472	3	Fort West	Fort West Fudge Cookies	37276054024	8.28
1/6/1997	1472	2	Fort West	Fort West Fudge Cookies	37276054024	8.28
1/5/1997	2	4	Washington	Washington Mango Drink	96516502499	7.42
1/1/1997	76	4	Red Spade	Red Spade Sliced Chicken	62054644227	18.1
1/1/1997	76	2	Red Spade	Red Spade Sliced Chicken	62054644227	18.1
1/5/1997	3	2	Washington	Washington Strawberry Drink	58427771925	13.1
1/7/1997	3	2	Washington	Washington Strawberry Drink	58427771925	13.1
1/1/1997	320	3	Excellent	Excellent Cranberry Juice	36570182442	16.4

