

Step 1: Dummy Data

	transaction_id	customer_id	transaction_date	amount	product_category	\
0	1	1102	2023-02-13	331.101571	Home Goods	
1	2	1435	2023-06-11	130.867075	Electronics	
2	3	1860	2023-07-21	362.734860	Books	
3	4	1270	2023-09-27	907.760157	Electronics	
4	5	1106	2023-12-17	279.410927	Books	

	location
0	Los Angeles
1	Chicago
2	Los Angeles
3	Chicago
4	Los Angeles

Step 2: Cleaned Data

	transaction_id	customer_id	transaction_date	amount	product_category	\
0	1	1102	2023-02-13	331.101571	Home Goods	
1	2	1435	2023-06-11	130.867075	Electronics	
2	3	1860	2023-07-21	362.734860	Books	
3	4	1270	2023-09-27	907.760157	Electronics	
4	5	1106	2023-12-17	279.410927	Books	

	location
0	Los Angeles
1	Chicago
2	Los Angeles
3	Chicago
4	Los Angeles

Step 3: Transformed Data

	transaction_id	customer_id	transaction_date	amount	product_category	\
0	1	1102	2023-02-13	331.101571	Home Goods	
1	2	1435	2023-06-11	130.867075	Electronics	
2	3	1860	2023-07-21	362.734860	Books	
3	4	1270	2023-09-27	907.760157	Electronics	
4	5	1106	2023-12-17	279.410927	Books	

	location	transaction_year
0	Los Angeles	2023
1	Chicago	2023
2	Los Angeles	2023
3	Chicago	2023
4	Los Angeles	2023

Step 4: Aggregated Data

	product_category	amount
0	Books	14249.872214
1	Clothing	13649.898888
2	Electronics	12704.435011
3	Home Goods	11072.129103