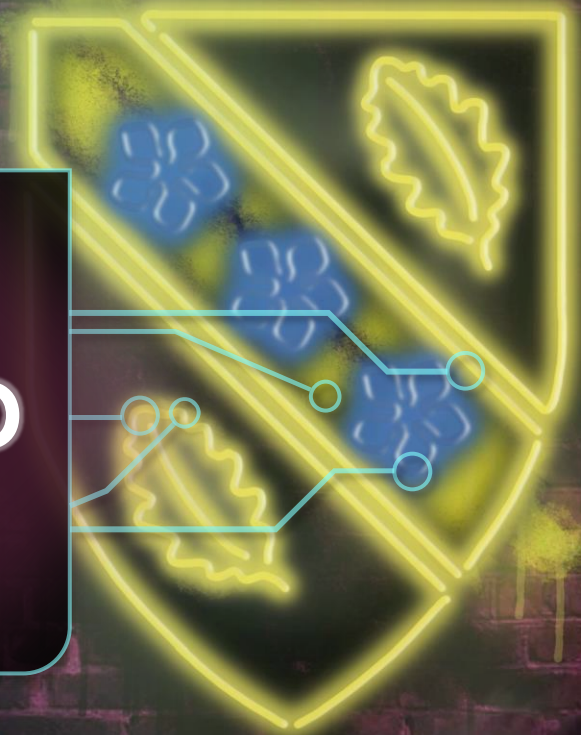


BMBM5023

**DIGITAL INTELLIGENCE AND
FUTURE DEVELOPMENT**

**Business Intelligence: Pivot Tables
in Action, Data Analysis and Insight
Generation**



Recap...

What do you remember from last week?



What does SQL or Sequel stand for?

When might you use SQL in business?

How did the other games go?

This Week

- Understand Business Intelligence (BI) concepts
- Explore how pivot tables support BI
- Build pivot tables for analysis
- Translate data into actionable insights



When have you used data to make a decision?



BUSINESS DECISIONS WORK THE SAME WAY — THEY
RELY ON SUMMARISING AND EXPLORING DATA,
WHICH IS WHAT BI TOOLS LIKE PIVOT TABLES DO!

A matter of perspective!

	A	B	C	D	E	F	G	H	I	J
1	OrderID	Date	Customer	Product	Category	Region	Quantity	Sales	Profit	
2	ORD97498	08/11/2023	CUST5426	Toaster	Home Goo	North	5	432.25	45.21	
3	ORD77969	03/08/2024	CUST7949	Football	Sports	West	6	225.85	68.36	
4	ORD35658	26/12/2023	CUST9666	Bicycle	Sports	North	6	80.77	4.69	
5	ORD21394	16/12/2024	CUST2528	Lamp	Home Goo	West	3	592.22	233.41	
6	ORD53001	07/09/2023	CUST9433	Headphon	Electronics	East	2	949.91	368.54	
7	ORD90077	28/04/2024	CUST9226	Smartphor	Electronics	North	7	2162.29	738.68	
8	ORD81211	02/04/2024	CUST7873	Tablet	Electronics	South	6	671.35	166.96	
9	ORD33247	14/08/2024	CUST8892	T-Shirt	Clothing	South	7	1856.46	717.36	
10	ORD48044	26/08/2023	CUST8208	Smartphor	Electronics	East	9	1328.92	318.87	
11	ORD97538	09/07/2023	CUST6258	Vacuum	Home Goo	North	8	1627.94	248.62	
12	ORD32662	27/01/2023	CUST4099	Tablet	Electronics	East	5	2319.44	644.52	
13	ORD73335	16/01/2024	CUST3731	Tablet	Electronics	West	7	1136.67	186.2	
14	ORD10206	05/03/2023	CUST7910	Jacket	Clothing	East	3	1148.35	283.01	
15	ORD90356	07/03/2024	CUST2757	Lamp	Home Goo	South	1	164.03	37.4	
16	ORD79163	04/11/2023	CUST3693	Sofa	Home Goo	North	7	1063.85	113.22	
17	ORD71373	23/10/2023	CUST2306	Tennis Rac	Sports	South	9	1492.4	132.1	
18	ORD23545	07/03/2023	CUST4748	Tablet	Electronics	North	6	1561.6	306.22	
19	ORD72003	24/06/2023	CUST7585	Bicycle	Sports	East	9	1870.92	136.04	
20	ORD10854	17/03/2024	CUST5737	Tennis Rac	Sports	East	5	747.86	47.05	
21	ORD73734	02/03/2023	CUST6535	Tablet	Electronics	North	5	1249.16	493.39	
22	ORD99045	17/11/2024	CUST1197	Yoga Mat	Sports	East	6	1141.28	309.64	
23	ORD66250	09/01/2024	CUST3811	Sofa	Home Goo	West	6	2105.69	737.89	
24	ORD98614	20/03/2023	CUST6759	Yoga Mat	Sports	South	7	668.08	194.96	
25	ORD56843	25/12/2023	CUST1262	Sneakers	Clothing	North	9	1012.01	242.38	
26	ORD39855	28/04/2023	CUST5548	Tennis Rac	Sports	West	1	128.51	10.61	
27	ORD42711	19/03/2023	CUST2648	Sofa	Home Goo	North	3	1288.8	246.91	
28	ORD87505	16/03/2024	CUST5973	Tennis Rac	Sports	West	9	3016.04	156.15	
29	ORD13987	04/09/2023	CUST5911	Jacket	Clothing	West	1	18.86	4.2	
30	ORD27429	17/03/2023	CUST4446	Bicycle	Sports	West	1	275.84	62.91	
31	ORD49790	22/03/2024	CUST5893	T-Shirt	Clothing	South	8	2554.06	838.2	
32	ORD28589	04/03/2024	CUST8339	Football	Sports	North	3	1159.77	75.69	
33	ORD55236	28/03/2024	CUST1301	Smartphor	Electronics	North	9	4293.05	711.63	
34	ORD42745	21/04/2023	CUST2816	Sofa	Home Goo	West	7	990.87	217.84	
35	ORD45777	14/08/2023	CUST2686	Lamp	Home Goo	South	8	898.96	256.11	
36	ORD64748	17/10/2024	CUST8343	Sofa	Home Goo	South	8	2812.3	832.07	
37	ORD80316	25/02/2023	CUST8992	Jacket	Clothing	South	8	3659.9	838.01	
38	ORD20966	19/12/2024	CUST6919	Football	Sports	West	7	164.73	41.61	
39	ORD25338	22/10/2023	CUST4854	Lamp	Home Goo	East	6	795.74	50.6	

	A	B	C	D	E
1					
2					
3	Row Labels	Sum of Profit			
4	<02/01/2023				
5	2023	73534.06			
6	East	20040.27			
7	North	21764.55			
8	South	17499.57			
9	West	14229.67			
10	2024	74529.64			
11	Grand Total	148063.7			
12					
13					
14					

PivotTable Fields

Choose fields to add to report:

Search

- ☐ OrderID
- ☐ Date
- ☐ Customer
- ☐ Product
- ☐ Category
- ☒ Region
- ☐ Quantity
- ☐ Sales
- ☒ Profit
- ☐ Months (Date)
- ☒ Quarters (Date)
- ☒ Years (Date)

More Tables...

Where does SQL fit in?

- SQL = asks specific *questions* (“SELECT product, SUM(sales) FROM etc..”).
-
- BI tools (like pivot tables) = explore and summarize dynamically.
- The “bridge” from SQL → BI:
- SQL extracts data (ETL).
- Pivot Tables transform & visualize it.



What does ETL stand for again?

What is the benefit of a visual representation of data?



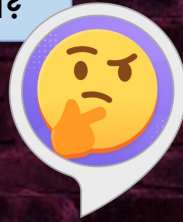
“SQL is like ordering a meal off a menu (you choose exactly what you want); Pivot Tables are like a buffet — you can mix, match, and explore.”



Activity

- Create pivot tables from a dataset.
- Explore data using grouping, filtering, and calculated fields.
- Translate a business question into a pivot-table-based report.

“What types of questions could a regional manager ask about this data?”



LETS HAVE A LOOK AT SOME BASIC TABLE
SET UPS

Activity

- Which region and category combination gives us the highest profit margin?
- “How did this change between 2023 and 2024?”
- What trends do you see and what actionable insight and recommendations can you make to the business?
- 2 Teams (2–3 students) use pivot tables to create:
 1. A summary table
 2. A small visualization
 3. A 10-minute presentation of your findings.

