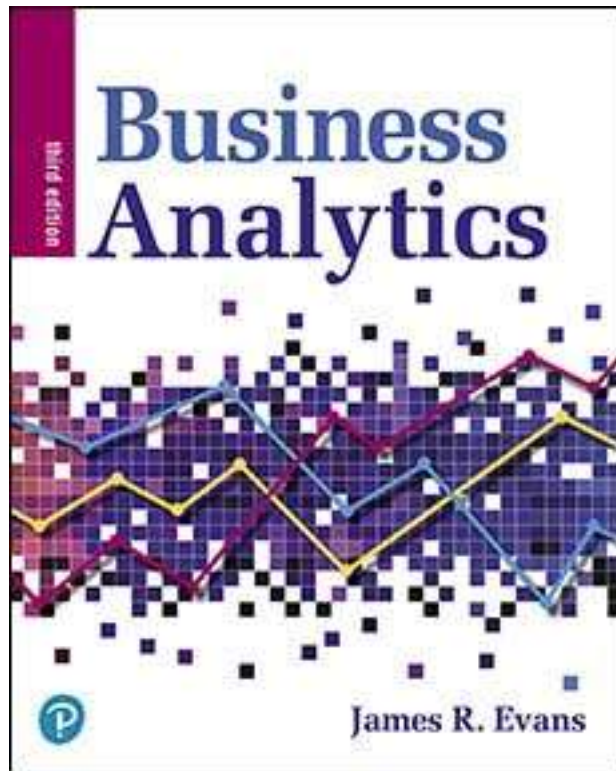


# Business Analytics: Methods, Models, and Decisions

Third Edition



## Chapter 2 Database Analytics

# Data Sets and Databases

- **Data set** - a collection of data
  - Examples: Marketing survey responses, a table of historical stock prices, and a collection of measurements of dimensions of a manufactured item
- **Database** - a collection of related files containing records on people, places, or things
  - A database file is usually organized in a two-dimensional table, where the columns correspond to each individual element of data (called fields, or attributes), and the rows represent records of related data elements.

# Example 2.1: A Purchase Order Database

	A	B	C	D	E	F	G	H	I	J
1	Purchase Orders									
2										
3	Supplier	Order No.	Item No.	Item Description	Item Cost	Quantity	Cost per order	A/P Terms (Months)	Order Date	Arrival Date
4	Hulkey Fasteners	Aug11001	1122	Airframe fasteners	\$ 4.25	19,500	\$ 82,875.00	30	08/05/11	08/13/11
5	Alum Sheeting	Aug11002	1243	Airframe fasteners	\$ 4.25	10,000	\$ 42,500.00	30	08/08/11	08/14/11
6	Fast-Tie Aerospace	Aug11003	5462	Shielded Cable/ft.	\$ 1.05	23,000	\$ 24,150.00	30	08/10/11	08/15/11
7	Fast-Tie Aerospace	Aug11004	5462	Shielded Cable/ft.	\$ 1.05	21,500	\$ 22,575.00	30	08/15/11	08/22/11
8	Steelpin Inc.	Aug11005	5319	Shielded Cable/ft.	\$ 1.10	17,500	\$ 19,250.00	30	08/20/11	08/31/11
9	Fast-Tie Aerospace	Aug11006	5462	Shielded Cable/ft.	\$ 1.05	22,500	\$ 23,625.00	30	08/20/11	08/26/11
10	Steelpin Inc.	Aug11007	4312	Bolt-nut package	\$ 3.75	4,250	\$ 15,937.50	30	08/25/11	09/01/11

- Each row represents a *record*.
- Each column represents a *field* or *attribute*.

## Example 2.2: Using Range Names for a Database

- Define the range name for each row of data as the month, and the name for each column of data by the product.

	A	B	C	D	E	F
1	Sales Units					
2						
3	Month	Product A	Product B	Product C	Product D	Product E
4	January	7792	5554	3105	3168	10350
5	February	7268	3024	3228	3751	8965
6	March	7049	5543	2147	3319	6827
7	April	7560	5232	2636	4057	8544
8	May	8233	5450	2726	3837	7535
9	June	8629	3943	2705	4664	9070
10	July	8702	5991	2891	5418	8389
11	August	9215	3920	2782	4085	7367
12	September	8986	4753	2524	5575	5377
13	October	8654	4746	3258	5333	7645
14	November	8315	3566	2144	4924	8173
15	December	7978	5670	3071	6563	6088

Example: The range name for B4:F4 is January; the range name for B4:B15 is Product\_A.

To find the annual sales of Product A, use the Excel formula =SUM(Product\_A).

# Data Queries: Tables

- An **Excel table** allows you to use table references to perform basic calculations. Select the data range including headers. Next, click *Table* from the *Tables* group on the Insert tab and make sure that the box for *My Table Has Headers* is checked.
- The table name (default: *Table1*), can be found (and changed) in the *Properties* group of the *Table Tools Design* tab in Windows or in the *Table* tab on a Mac.

# Example 2.3: Excel Table for *Credit Risk Data*

	A	B	C	D	E	F	G	H	I	J	K	L
1	Credit Risk Data											
2												
3	Loan Purpose	Checking	Savings	Months Customer	Months Employed	Gender	Marital Status	Age	Housing	Years	Job	Credit Risk
4	Small Appliance	\$0	\$739	13	12	M	Single	23	Own	3	Unskilled	Low
5	Furniture	\$0	\$1,230	25	0	M	Divorced	32	Own	1	Skilled	High
6	New Car	\$0	\$389	19	119	M	Single	38	Own	4	Management	High
7	Furniture	\$638	\$347	13	14	M	Single	36	Own	2	Unskilled	High
8	Education	\$963	\$4,754	40	45	M	Single	31	Rent	3	Skilled	Low
9	Furniture	\$2,827	\$0	11	13	M	Married	25	Own	1	Skilled	Low
10	New Car	\$0	\$229	13	16	M	Married	26	Own	3	Unskilled	Low

	A	B	C	D	E	F	G	H	I	J	K	L
1	Credit Risk Data											
2												
3	Loan Purpo	Checkin	Savin	Months Customer	Months Employ	Gender	Marital Stat	Age	Housi	Years	J	Credit Ri
4	Small Appliance	\$0	\$739	13	12	M	Single	23	Own	3	Unskilled	Low
5	Furniture	\$0	\$1,230	25	0	M	Divorced	32	Own	1	Skilled	High
6	New Car	\$0	\$389	19	119	M	Single	38	Own	4	Management	High
7	Furniture	\$638	\$347	13	14	M	Single	36	Own	2	Unskilled	High
8	Education	\$963	\$4,754	40	45	M	Single	31	Rent	3	Skilled	Low
9	Furniture	\$2,827	\$0	11	13	M	Married	25	Own	1	Skilled	Low
10	New Car	\$0	\$229	13	16	M	Married	26	Own	3	Unskilled	Low
11	Business	\$0	\$533	14	2	M	Single	27	Own	1	Unskilled	Low
12	Small Appliance	\$6,509	\$493	37	9	M	Single	25	Own	2	Skilled	High
13	Small Appliance	\$966	\$0	25	4	F	Divorced	43	Own	1	Skilled	High
14	Business	\$0	\$989	49	0	M	Single	32	Rent	2	Management	High



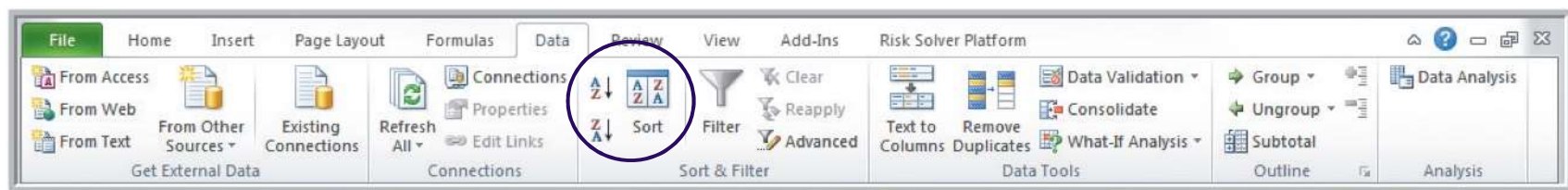
# Example 2.4: Table-Based Calculations

- To sum the data in column C, use the function =SUM(Table1[Savings]).
- To find the number of home owners use the function =COUNTIF(Table1[Housing], "Own").
- If we add new records to the table, the calculation will be updated automatically.

	A	B	C	D	E	F	G	H	I	J	K	L
1	Credit Risk Data											
2												
3	Loan Purpo	Checkir	Savin	Months Customer	Months Employ	Gender	Marital Stat	Age	Housi	Years	J	Credit Ri
4	Small Appliance	\$0	\$739	13	12	M	Single	23	Own	3	Unskilled	Low
5	Furniture	\$0	\$1,230	25	0	M	Divorced	32	Own	1	Skilled	High
6	New Car	\$0	\$389	19	119	M	Single	38	Own	4	Management	High
7	Furniture	\$638	\$347	13	14	M	Single	36	Own	2	Unskilled	High
8	Education	\$963	\$4,754	40	45	M	Single	31	Rent	3	Skilled	Low
9	Furniture	\$2,827	\$0	11	13	M	Married	25	Own	1	Skilled	Low
10	New Car	\$0	\$229	13	16	M	Married	26	Own	3	Unskilled	Low
11	Business	\$0	\$533	14	2	M	Single	27	Own	1	Unskilled	Low
12	Small Appliance	\$6,509	\$493	37	9	M	Single	25	Own	2	Skilled	High
13	Small Appliance	\$966	\$0	25	4	F	Divorced	43	Own	1	Skilled	High
14	Business	\$0	\$989	49	0	M	Single	32	Rent	2	Management	High

# Data Queries: Sorting Data

- Select a cell (but not the header) in the column for sorting.
  - Use the *AZ* or *ZA* buttons on the *Data* tab to sort from low to high or high to low.
- Click the *Sort* button for advanced sorting.





# Example 2.5: Sorting Data in the *Purchase Orders Database*

- Sort data by supplier.

	A	B	C	D	E	F	G	H	I	J
1	<b>Purchase Orders</b>									
2										
3	<b>Supplier</b>	<b>Order No.</b>	<b>Item No.</b>	<b>Item Description</b>	<b>Item Cost</b>	<b>Quantity</b>	<b>Cost per order</b>	<b>A/P Terms (Months)</b>	<b>Order Date</b>	<b>Arrival Date</b>
4	Alum Sheeting	Aug11002	1243	Airframe fasteners	\$ 4.25	10,000	\$ 42,500.00	30	08/08/11	08/14/11
5	Alum Sheeting	Sep11002	5417	Control Panel	\$ 255.00	406	\$ 103,530.00	30	09/01/11	09/10/11
6	Alum Sheeting	Sep11008	1243	Airframe fasteners	\$ 4.25	9,000	\$ 38,250.00	30	09/05/11	09/12/11
7	Alum Sheeting	Oct11016	1243	Airframe fasteners	\$ 4.25	10,500	\$ 44,625.00	30	10/10/11	10/17/11
8	Alum Sheeting	Oct11022	4224	Bolt-nut package	\$ 3.95	4,500	\$ 17,775.00	30	10/15/11	10/20/11
9	Alum Sheeting	Oct11026	5417	Control Panel	\$ 255.00	500	\$ 127,500.00	30	10/20/11	10/27/11
10	Alum Sheeting	Oct11028	5634	Side Panel	\$ 185.00	150	\$ 27,750.00	30	10/25/11	11/03/11
11	Alum Sheeting	Oct11036	5634	Side Panel	\$ 185.00	140	\$ 25,900.00	30	10/29/11	11/04/11
12	Durrable Products	Aug11008	7258	Pressure Gauge	\$ 90.00	100	\$ 9,000.00	45	08/25/11	08/28/11
13	Durrable Products	Sep11009	7258	Pressure Gauge	\$ 90.00	120	\$ 10,800.00	45	09/05/11	09/09/11
14	Durrable Products	Sep11027	1369	Airframe fasteners	\$ 4.20	15,000	\$ 63,000.00	45	09/25/11	09/30/11
15	Durrable Products	Sep11031	1369	Airframe fasteners	\$ 4.20	14,000	\$ 58,800.00	45	09/27/11	10/03/11

# Data Queries: Filtering Data

- **Filtering** is finding a subset of records that meet certain characteristics.
- Excel provides two filtering tools:
  - *AutoFilter* for simple criteria
  - *Advanced Filter* for more complex criteria.

## Example 2.7: Filtering Purchase Order Records by Item Description

- First, select any cell within the database. Then, from the *Data* tab, click *Filter*. Click on cell D3 dropdown arrow. Select only Bolt-nut package.

	A	B	C	D	E
1	Purchase Orders				
2					
3	Supplier	Order N	Item N	Item Description	Item Co
4	Hulkey Fasteners	Aug1			\$4.25
5	Alum Sheeting	Aug1			\$4.25
6	Fast-Tie Aerospace	Aug1			\$1.05
7	Fast-Tie Aerospace	Aug1			\$1.05
8	Steelpin Inc.	Aug1			\$1.10
9	Fast-Tie Aerospace	Aug1			\$1.05
10	Steelpin Inc.	Aug1			\$3.75
11	Durable Products	Aug1			\$90.00
12	Fast-Tie Aerospace	Aug1			\$2.45
13	Fast-Tie Aerospace	Aug1			\$1.05
14	Steelpin Inc.	Aug1			\$1.10
15	Hulkey Fasteners	Aug1			\$1.25
16	Hulkey Fasteners	Aug1			\$0.75
17	Steelpin Inc.	Aug1			\$1.65
18	Steelpin Inc.	Sep1			\$3.75
19	Alum Sheeting	Sep1			\$255.00
20	Hulkey Fasteners	Sep1			\$1.25
21	Steelpin Inc.	Sep1			\$1.65
22	Steelpin Inc.	Sep1			\$3.75
23	Hulkey Fasteners	Sep1			\$4.25

## Example 2.7 Continued

- The Filter tool will display only those orders for this item.

	A	B	C	D	E	F	G	H	I	J
1	Purchase Orders									
2										
3	Supplier	Order N	Item N	Item Description	Item Co	Quant	Cost per ord	A/P Terms (Months	Order Da	Arrival Da
10	Steelpin Inc.	Aug11007	4312	Bolt-nut package	\$3.75	4,250	\$15,937.50	30	08/25/11	09/01/11
18	Steelpin Inc.	Sep11001	4312	Bolt-nut package	\$3.75	4,200	\$15,750.00	30	09/01/11	09/10/11
22	Steelpin Inc.	Sep11005	4312	Bolt-nut package	\$3.75	4,150	\$15,562.50	30	09/03/11	09/11/11
24	Spacetime Technologies	Sep11007	4111	Bolt-nut package	\$3.55	4,800	\$17,040.00	25	09/05/11	09/20/11
32	Spacetime Technologies	Sep11015	4111	Bolt-nut package	\$3.55	4,585	\$16,276.75	25	09/10/11	09/30/11
36	Spacetime Technologies	Sep11019	4111	Bolt-nut package	\$3.55	4,200	\$14,910.00	25	09/15/11	10/15/11
39	Spacetime Technologies	Sep11022	4111	Bolt-nut package	\$3.55	4,250	\$15,087.50	25	09/20/11	10/10/11
43	Spacetime Technologies	Sep11026	4111	Bolt-nut package	\$3.55	4,200	\$14,910.00	25	09/25/11	10/25/11
61	Spacetime Technologies	Oct11010	4111	Bolt-nut package	\$3.55	4,600	\$16,330.00	25	10/05/11	10/19/11
62	Durable Products	Oct11011	4569	Bolt-nut package	\$3.50	3,900	\$13,650.00	45	10/05/11	10/10/11
73	Alum Sheeting	Oct11022	4224	Bolt-nut package	\$3.95	4,500	\$17,775.00	30	10/15/11	10/20/11

- To restore the original data file, click on the drop-down arrow again and then click *Clear filter from "Item Description."*

# Example 2.8: Filtering Records by Item Cost

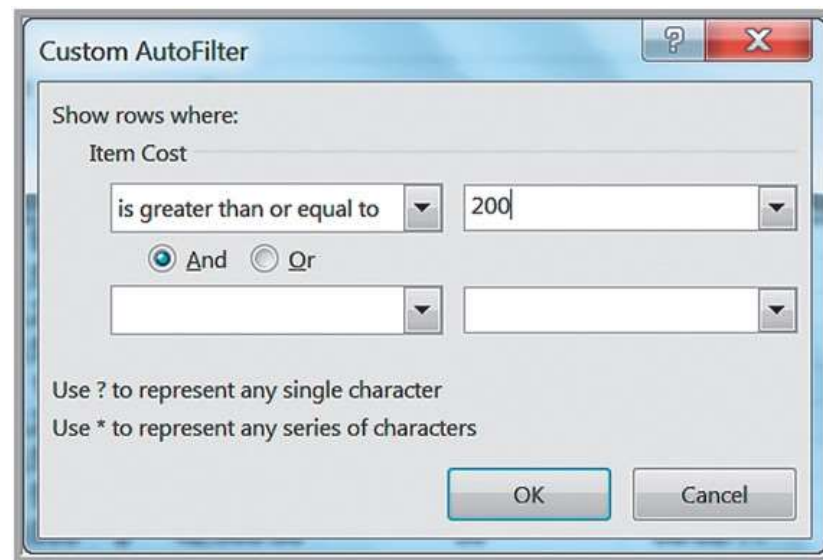
- Identify all records in the *Purchase Orders* database whose item cost is at least \$200.
- Click on the drop-down arrow in the Item Cost column and position the cursor over *Numbers Filter*. Select *Greater Than Or Equal To . . .* from the list.

	A	B	C	D	E	F	G
1	Purchase Orders						
2							
3	Supplier	Order N°	Item N°	Item Description	Item Co	Quantit	Cost per ord
4	Hulkey Fasteners	Aug11001	11	Sort Smallest to Largest		19,500	\$82,875.00
5	Alum Sheeting	Aug11002	12	Sort Largest to Smallest		10,000	\$42,500.00
6	Fast-Tie Aerospace	Aug11003	54	Sort by Color		23,000	\$24,150.00
7	Fast-Tie Aerospace	Aug11004	54	Clear Filter From "Item Cost"		21,500	\$22,575.00
8	Steelpin Inc.	Aug11005	53	Filter by Color		17,500	\$19,250.00
9	Fast-Tie Aerospace	Aug11006	54			22,500	\$23,625.00
10	Steelpin Inc.	Aug11007	43	Number Filters			
11	Durable Products	Aug11008	72	Search			
12	Fast-Tie Aerospace	Aug11009	63	(Select All)			
13	Fast-Tie Aerospace	Aug11010	54	<input checked="" type="checkbox"/> \$0.55			
14	Steelpin Inc.	Aug11011	53	<input checked="" type="checkbox"/> \$0.75			
15	Hulkey Fasteners	Aug11012	31	<input checked="" type="checkbox"/> \$0.85			
16	Hulkey Fasteners	Aug11013	99	<input checked="" type="checkbox"/> \$0.95			
17	Steelpin Inc.	Aug11014	52	<input checked="" type="checkbox"/> \$1.00			
18	Steelpin Inc.	Sep11001	43	<input checked="" type="checkbox"/> \$1.05			
19	Alum Sheeting	Sep11002	54	<input checked="" type="checkbox"/> \$1.10			
20	Hulkey Fasteners	Sep11003	31	<input checked="" type="checkbox"/> \$1.15			
21	Steelpin Inc.	Sep11004	52	<input checked="" type="checkbox"/> \$1.25			
22	Steelpin Inc.	Sep11005	43				
23	Hulkey Fasteners	Sep11006	11				



## Example 2.8 Continued

- This brings up a *Custom AutoFilter* dialog that allows you to specify up to two specific criteria using “and” and “or” logic. (The Mac version does not have these and/or options.) Enter 200 in the box and then click OK.





# Caution!

- The Filter tool does not extract the records; it simply *hides* the records that don't match the criteria.
  - This means that if you highlight a range of filtered data to compute a sum or average, for example, you will get the results for *all* records, including those that are hidden from view.
  - You can copy and paste the filtered data to another range or Excel worksheet, which then uses only the filtered records, and get the correct results.

# Logical Functions

- =IF(*condition*, *value if true*, *value if false*) – returns one value if the condition is true and another if the condition is false,
- = AND(*condition1*, *condition2*, ...) – returns TRUE if all conditions are true and FALSE if not,
- = OR(*condition1*, *condition2*, ...) – returns TRUE if any condition is true and FALSE if not.

# IF Function

- =IF(*condition, value if true, value if false*)
- Conditions may include the following:

= equal

<> not equal to

> greater than

>= greater than or equal to

< less than

<= less than or equal to

## Example 2.11: Using the IF Function

- Suppose that orders with quantities of at least 10,000 units are classified as Large.
  - Cell K4: =IF(F4 >= 10000, “Large”, “Small”)
- Suppose that large orders with a total cost of at least \$25,000 are considered critical.
  - Cell L4: =IF(AND(K4 = “Large”, G4 >= 25000), “Critical”, “”)

	A	B	C	D	E	F	G	H	I	J	K	L
1	Purchase Orders											
2												
3	Supplier	Order No.	Item No.	Item Description	Item Cost	Quantity	Cost per order	A/P Terms (Months)	Order Date	Arrival Date	Order Size	Type
4	Hulkey Fasteners	Aug11001	1122	Airframe fasteners	\$ 4.25	19,500	\$ 82,875.00	30	08/05/11	08/13/11	Large	Critical
5	Alum Sheeting	Aug11002	1243	Airframe fasteners	\$ 4.25	10,000	\$ 42,500.00	30	08/08/11	08/14/11	Large	Critical
6	Fast-Tie Aerospace	Aug11003	5462	Shielded Cable/ft.	\$ 1.05	23,000	\$ 24,150.00	30	08/10/11	08/15/11	Large	
7	Fast-Tie Aerospace	Aug11004	5462	Shielded Cable/ft.	\$ 1.05	21,500	\$ 22,575.00	30	08/15/11	08/22/11	Large	
8	Steelpin Inc.	Aug11005	5319	Shielded Cable/ft.	\$ 1.10	17,500	\$ 19,250.00	30	08/20/11	08/31/11	Large	
9	Fast-Tie Aerospace	Aug11006	5462	Shielded Cable/ft.	\$ 1.05	22,500	\$ 23,625.00	30	08/20/11	08/26/11	Large	
10	Steelpin Inc.	Aug11007	4312	Bolt-nut package	\$ 3.75	4,250	\$ 15,937.50	30	08/25/11	09/01/11	Small	
11	Durrable Products	Aug11008	7258	Pressure Gauge	\$ 90.00	100	\$ 9,000.00	45	08/25/11	08/28/11	Small	
12	Fast-Tie Aerospace	Aug11009	6321	O-Ring	\$ 2.45	1,300	\$ 3,185.00	30	08/25/11	09/04/11	Small	
13	Fast-Tie Aerospace	Aug11010	5462	Shielded Cable/ft.	\$ 1.05	22,500	\$ 23,625.00	30	08/25/11	09/02/11	Large	
14	Steelpin Inc.	Aug11011	5319	Shielded Cable/ft.	\$ 1.10	18,100	\$ 19,910.00	30	08/25/11	09/05/11	Large	
15	Hulkey Fasteners	Aug11012	3166	Electrical Connector	\$ 1.25	5,600	\$ 7,000.00	30	08/25/11	08/29/11	Small	

# Nesting IF Functions

- You may “nest” up to seven IF functions by replacing *value if true* or *value if false* in an IF function with another IF function:

=IF(A8= 2,(IF(B3= 5, “YES”, “”)),15)

## Example 2.12: Calculating the Price of Quantity Discounts

- For quantities of 1,000 or less, the unit price is \$10; for quantities of 1,001 to 5,000, the unit price is \$9.00; and for quantities that exceed 5,000, the unit price is \$7.50.
  - $\text{IF}(\text{Q} \leq 1,000, \text{Q} * 10, \text{value if false})$
  - $\text{IF}(\text{Q} \leq 1,000, \text{Q} * 10, \text{IF}(\text{Q6} \leq 5,000, \text{Q} * 9, \text{value if false}))$
  - $\text{IF}(\text{Q} \leq 1,000, \text{Q} * 10, \text{IF}(\text{Q6} \leq 5,000, \text{Q} * 9, \text{Q} * 7.5))$



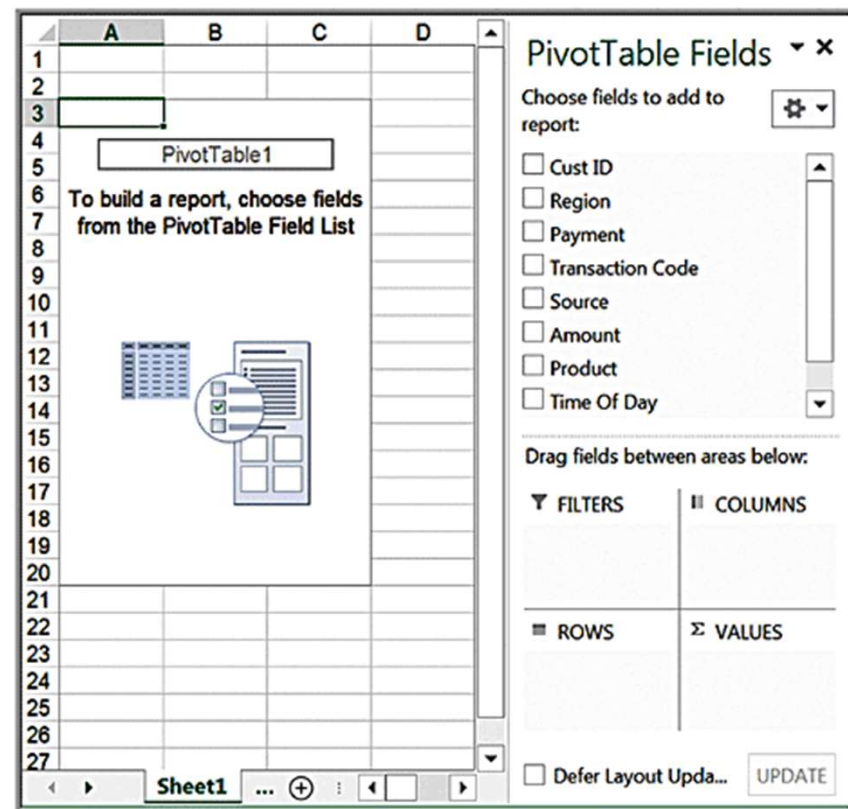
# Exploring Data Using PivotTables

- Excel provides a powerful tool for distilling a complex data set into meaningful information: **PivotTables.**
- PivotTables allows you to create custom summaries and charts of key information in the data.
- PivotTables can be used to quickly create cross-tabulations and to drill down into a large set of data in numerous ways.

## Example 2.21: Creating a PivotTable

Click inside the *Sales Transactions* database  
Insert > Tables > PivotTable

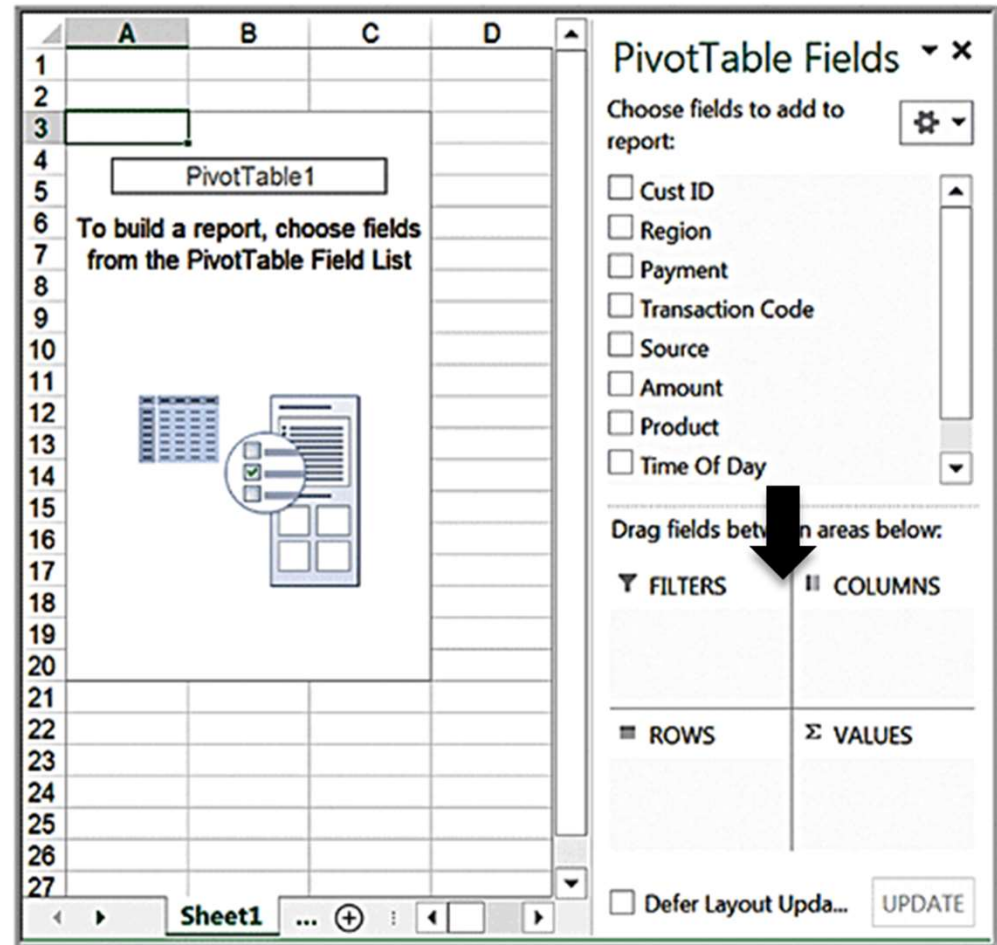
The wizard creates a blank PivotTable as shown.



# PivotTable Field List

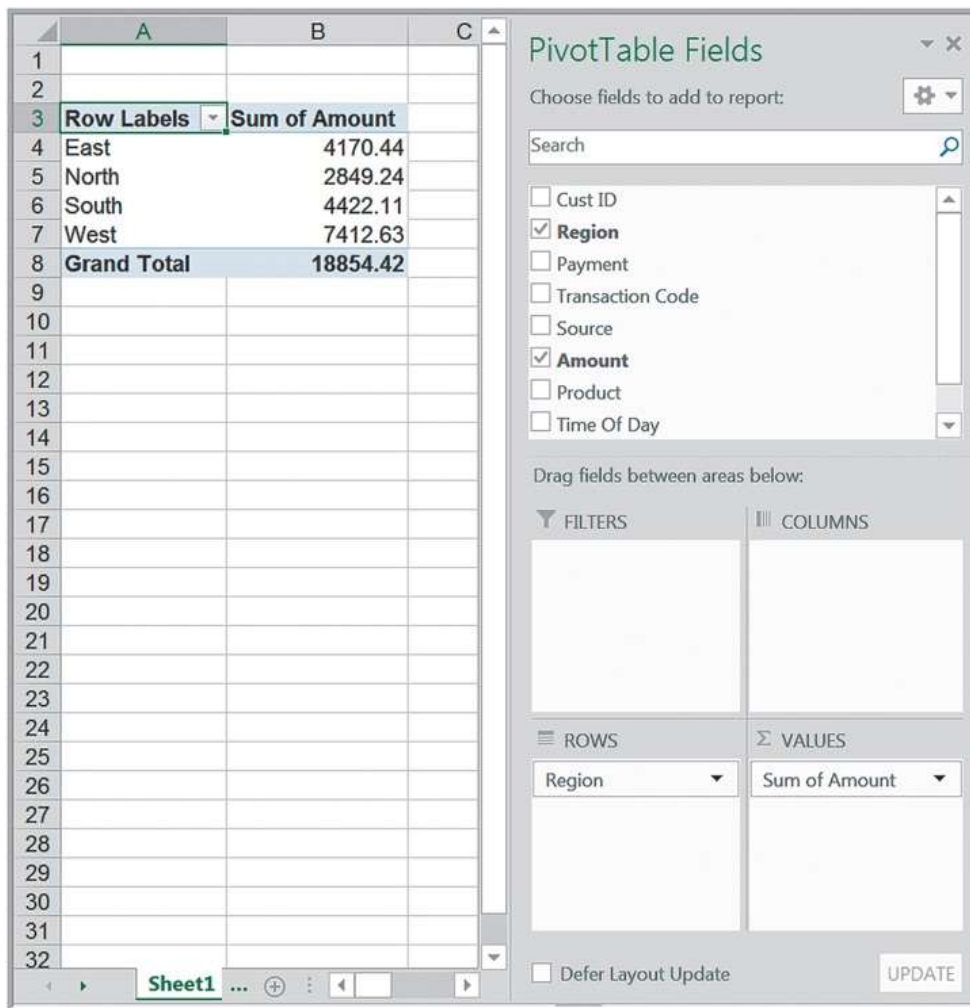
Select and drag the fields to one of the PivotTable areas:

- Report Filter
- Column Labels
- Row Labels
- $\Sigma$  Values



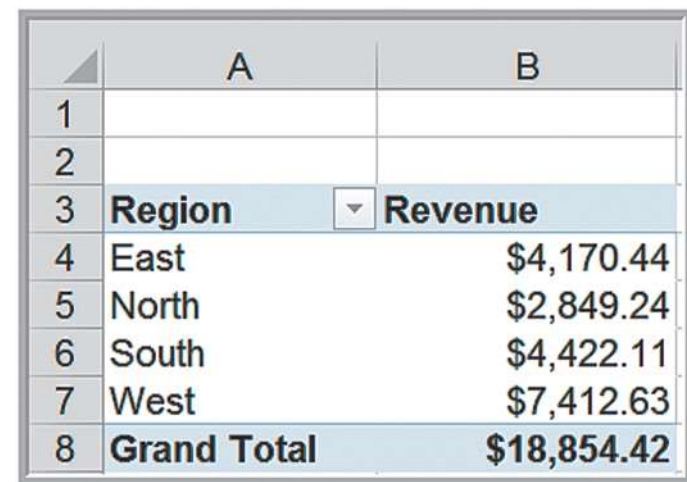
# Pivot Table for Total Revenue by Region

You may select the range of the value, right click, and format the cells as currency to make the PivotTable more meaningful. You may also replace the names in the headers; for instance, change Row Labels to Region and Sum of Amount to Revenue.



The screenshot shows an Excel worksheet with a PivotTable and the PivotTable Fields task pane. The PivotTable has 'Row Labels' and 'Sum of Amount'. The task pane shows 'Region' and 'Amount' selected for the report.

Row Labels	Sum of Amount
East	4170.44
North	2849.24
South	4422.11
West	7412.63
<b>Grand Total</b>	<b>18854.42</b>



The screenshot shows the modified PivotTable with 'Region' and 'Revenue' as headers. The values are formatted as currency.

Region	Revenue
East	\$4,170.44
North	\$2,849.24
South	\$4,422.11
West	\$7,412.63
<b>Grand Total</b>	<b>\$18,854.42</b>

# Revenue Breakdown by Region and Product

	A	B	C	D	E
1					
2					
3	Revenue	Product			
4	Region	Book	DVD	Grand Total	
5	East		\$3,364.34	\$806.10	\$4,170.44
6	North		\$2,009.27	\$839.97	\$2,849.24
7	South		\$3,683.26	\$738.85	\$4,422.11
8	West		\$5,615.40	\$1,797.23	\$7,412.63
9	Grand Total		\$14,672.27	\$4,182.15	\$18,854.42
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					

## PivotTable Fields

Choose fields to add to report:

Search

- ☐ Cust ID
- ☒ Region
- ☐ Payment
- ☐ Transaction Code
- ☐ Source
- ☒ Amount
- ☒ Product
- ☐ Time Of Day

Drag fields between areas below:

FILTERS

COLUMNS

Product

ROWS

VALUES

Region

Revenue

☐ Defer Layout Update

UPDATE

# Alternate PivotTable View of Region and Product Revenue

	A	B	C	D	E
1					
2					
3	<b>Region</b>	<b>Revenue</b>			
4	East	\$4,170.44			
5	Book	\$3,364.34			
6	DVD	\$806.10			
7	North	\$2,849.24			
8	Book	\$2,009.27			
9	DVD	\$839.97			
10	South	\$4,422.11			
11	Book	\$3,683.26			
12	DVD	\$738.85			
13	West	\$7,412.63			
14	Book	\$5,615.40			
15	DVD	\$1,797.23			
16	<b>Grand Total</b>	<b>\$18,854.42</b>			
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					

### PivotTable Fields

Choose fields to add to report:

Search

- ☐ Cust ID
- ☒ **Region**
- ☐ Payment
- ☐ Transaction Code
- ☐ Source
- ☒ **Amount**
- ☒ **Product**
- ☐ Time Of Day

Drag fields between areas below:

FILTERS	COLUMNS
ROWS	VALUES
Region	Revenue
Product	

☐ Defer Layout Update UPDATE



# PivotTable for Count of Regional Sales by Product

	A	B	C	D	E
1					
2					
3	Count of Amount	Product			
4	Region	Book	DVD	Grand Total	
5	East	56	42	98	
6	North	43	42	85	
7	South	62	37	99	
8	West	100	90	190	
9	Grand Total	261	211	472	
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					

### PivotTable Fields

Choose fields to add to report:

Search

- ☒ Region
- ☐ Payment
- ☐ Transaction Code
- ☐ Source
- ☒ Amount
- ☒ Product
- ☐ Time Of Day

Drag fields between areas below:

**FILTERS**

**COLUMNS**

Product

**ROWS**

Region

**VALUES**

Count of Amount

☐ Defer Layout Update

UPDATE

# Using the PivotTable Report Filter

- Dragging a field into the *Filters* area in the PivotTable Field list allows you to add a third dimension to your analysis. Drag Payment to the *Filters* area. Click the drop down arrow in cell B1; choose Credit.

The screenshot shows an Excel spreadsheet with a PivotTable and the PivotTable Fields task pane. The PivotTable is located in the range A3:D9 and has the following data:

Region	Book	DVD	Grand Total
East	\$2,494.56	\$644.47	\$3,139.03
North	\$687.81	\$578.82	\$1,266.63
South	\$2,760.84	\$335.35	\$3,096.19
West	\$3,325.41	\$1,200.22	\$4,525.63
Grand Total	\$9,268.62	\$2,758.86	\$12,027.48

The PivotTable Fields task pane is open on the right side of the screen. It shows the following fields:

- Region** (checked)
- Payment** (checked)
- Transaction Code** (unchecked)
- Source** (unchecked)
- Amount** (checked)
- Product** (checked)
- Time Of Day** (unchecked)

The task pane also shows the following areas:

- FILTERS:** Payment (dropdown)
- COLUMNS:** Product (dropdown)
- ROWS:** Region (dropdown)
- VALUES:** Revenue (dropdown)

The task pane includes a search bar, a "Choose fields to add to report" button, and an "UPDATE" button.