Data Visualization

Lab Assignment: 01

Topic: VLOOKUP (MS Excel Function)

Worksheet 1: Products

ProductID	Product	Price
101	Product A	120
102	Product B	150
103	Product C	200
104	Product D	90
105	Product E	220
106	Product F	130

Worksheet 2: Orders

OrderID	ProductID	Quantity
1	101	2
2	103	1
3	105	4
4	106	3
5	102	5
6	104	6

Questions:

1. Use VLOOKUP to find the product names for each Product ID in the Orders worksheet.

2. Use VLOOKUP to find the price for each Product ID in the Orders worksheet, then calculate the Total Price by multiplying the Quantity by the Product Price.

3. Use VLOOKUP to check if there are any Product IDs in the Orders worksheet that do not exist in the Products worksheet.

4. Assume a discount of 10% is given on all products. Use VLOOKUP to find the original price and then calculate the discounted price.

5. Use VLOOKUP to find the price for each Product ID and then calculate the order value. Find the maximum order value from the list.

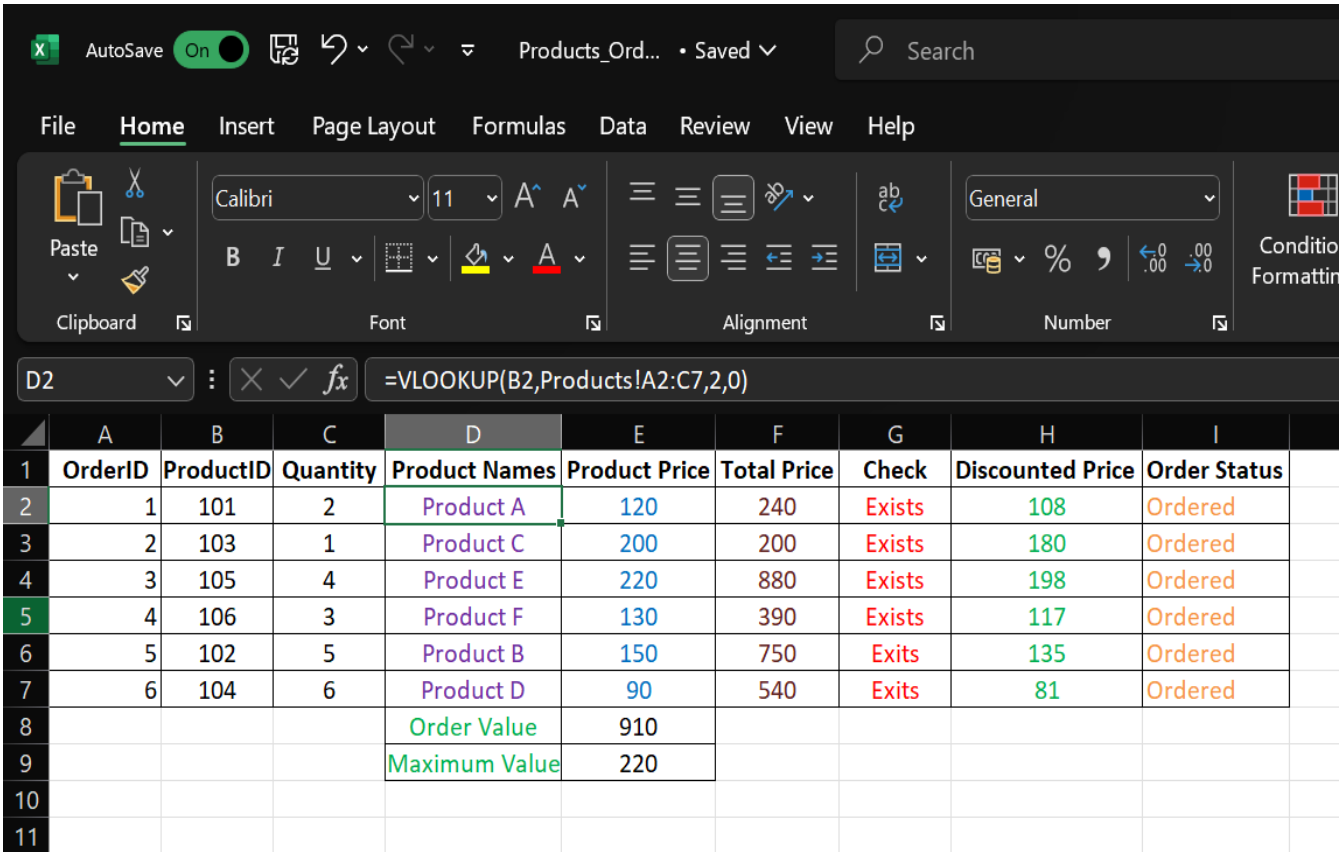
6. Use VLOOKUP to find out which products from the Products worksheet have not been ordered.

7. Use VLOOKUP to find the Product name and summarize the total quantity sold for each product.

Solutions:

1. Use VLOOKUP to find the product names for each Product ID in the Orders worksheet.

   Formula: **=VLOOKUP(B2,Products!A2:C7,2,0)**
   Output:

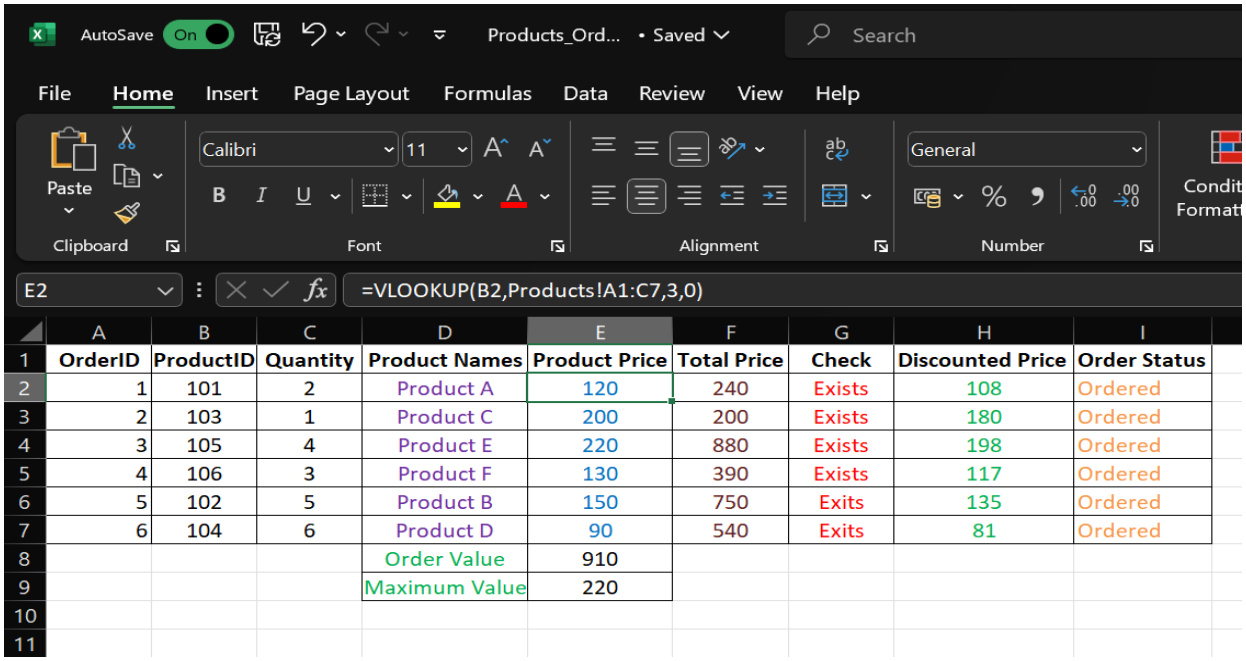


	A	B	C	D	E	F	G	H	I
1	OrderID	ProductID	Quantity	Product Names	Product Price	Total Price	Check	Discounted Price	Order Status
2	1	101	2	Product A	120	240	Exists	108	Ordered
3	2	103	1	Product C	200	200	Exists	180	Ordered
4	3	105	4	Product E	220	880	Exists	198	Ordered
5	4	106	3	Product F	130	390	Exists	117	Ordered
6	5	102	5	Product B	150	750	Exits	135	Ordered
7	6	104	6	Product D	90	540	Exits	81	Ordered
8				Order Value	910				
9				Maximum Value	220				
10									
11									

2. Use VLOOKUP to find the price for each Product ID in the Orders worksheet, then calculate the Total Price by multiplying the Quantity by the Product Price.

   Formula:
   To find the price for each Product ID: **=VLOOKUP(B2,Products!A1:C7,3,0)**
   To find the total price: **=C2*E2**

   Output:



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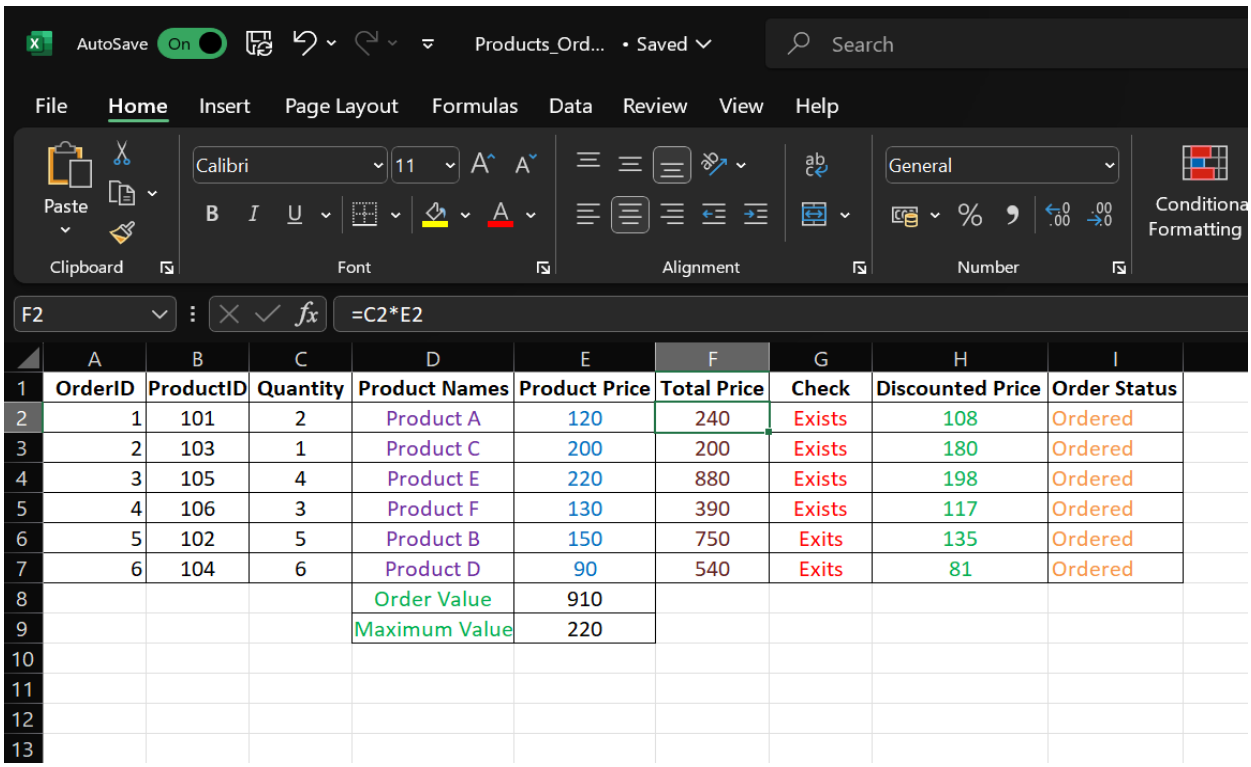

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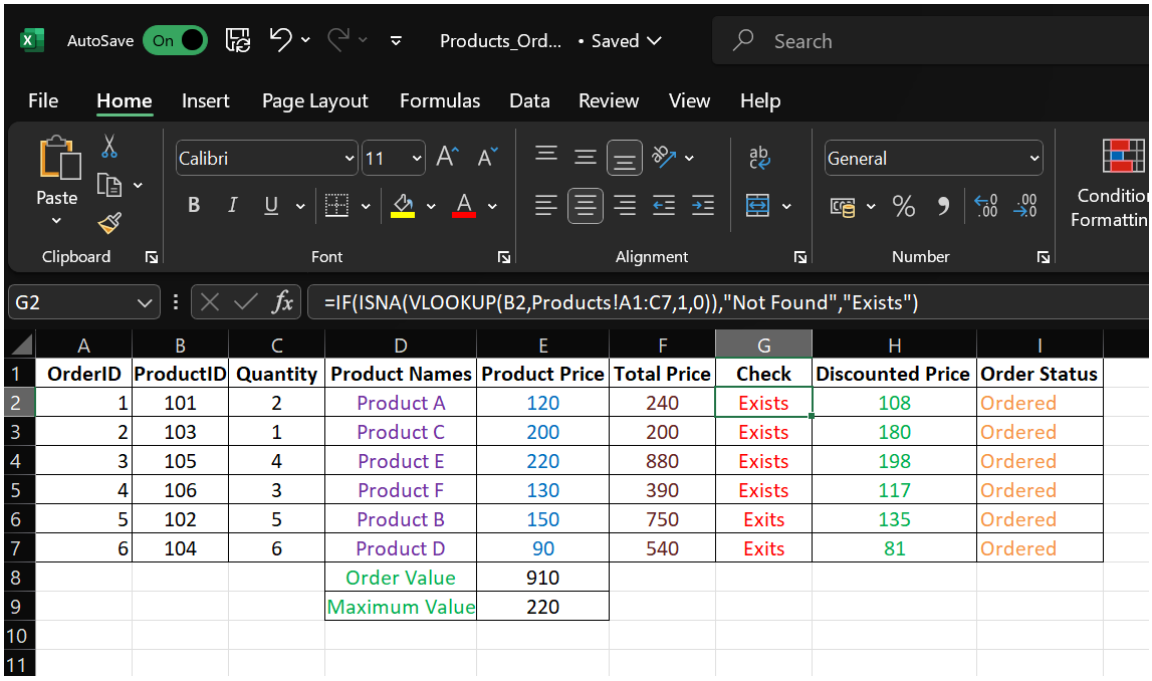
3. Use VLOOKUP to check if there are any Product IDs in the Orders worksheet that do not exist in the Products worksheet.

   Formula: **=IF(ISNA(VLOOKUP(B2,Products!A1:C7,1,0)),"Not Found","Exists")**
   Output:



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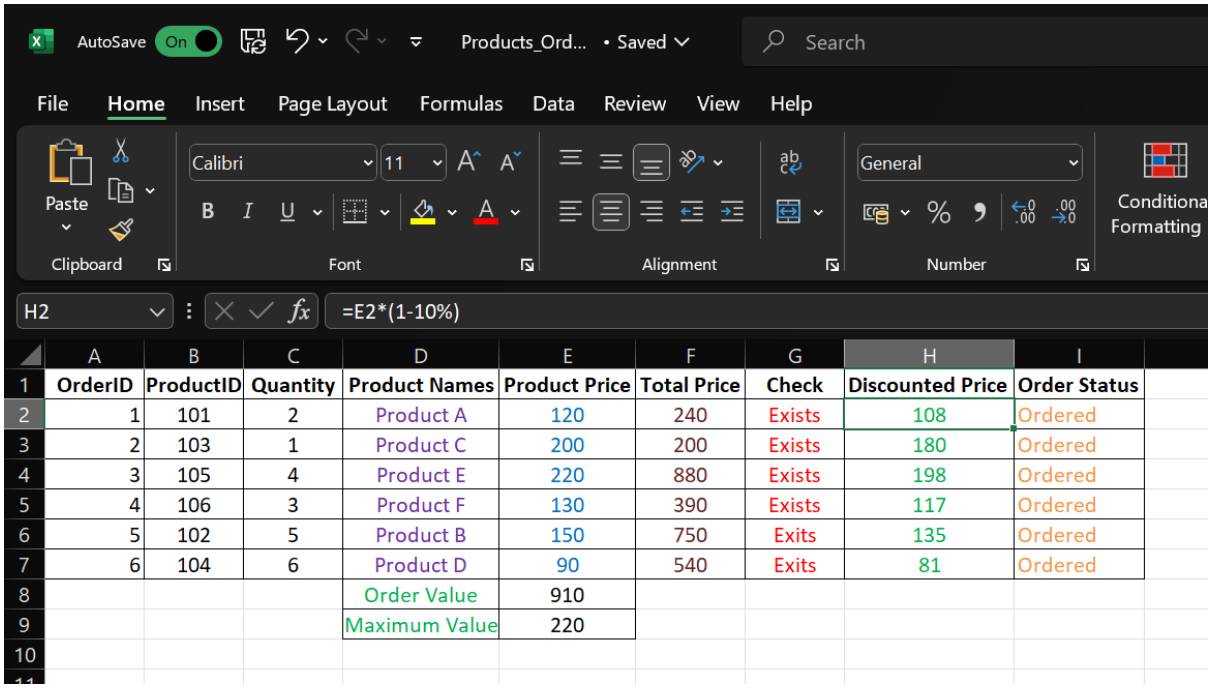
4. Assume a discount of 10% is given on all products. Use VLOOKUP to find the original price and then calculate the discounted price.

   Formula: **=E2*(1-10%)**
   Output:



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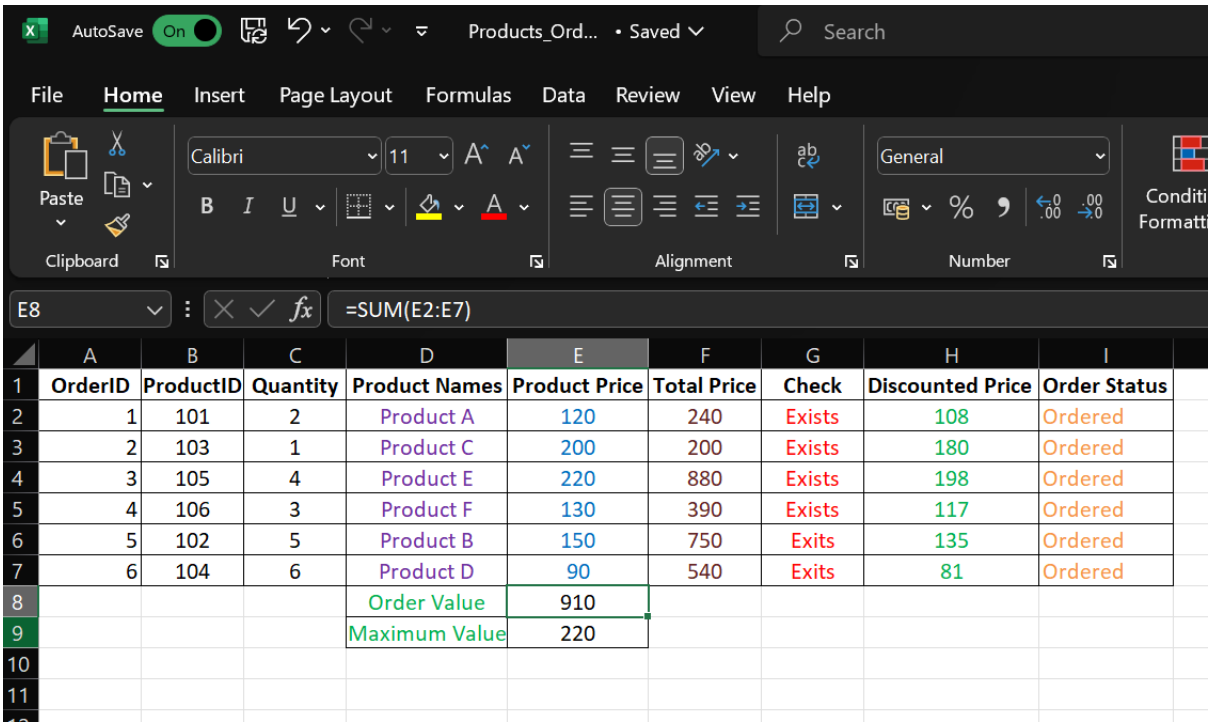
5. Use VLOOKUP to find the price for each Product ID and then calculate the order value. Find the maximum order value from the list.

   Formula:
   To find order value: **=SUM(E2:E7)**
   To find maximum order value: **=MAX(E2:E7)**
   Output:



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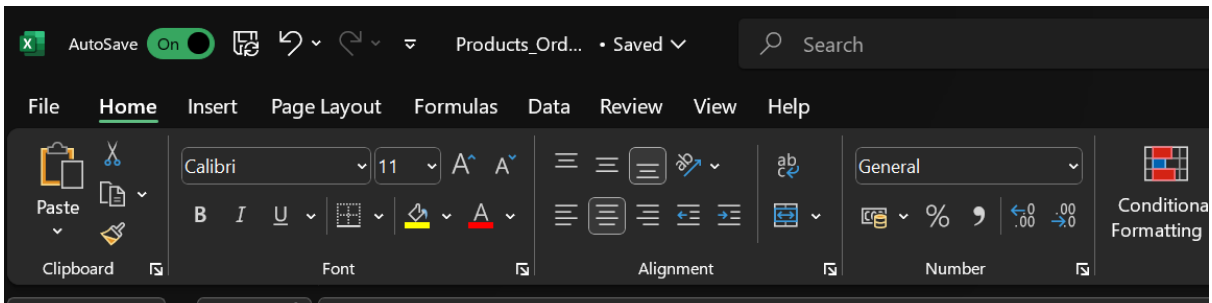

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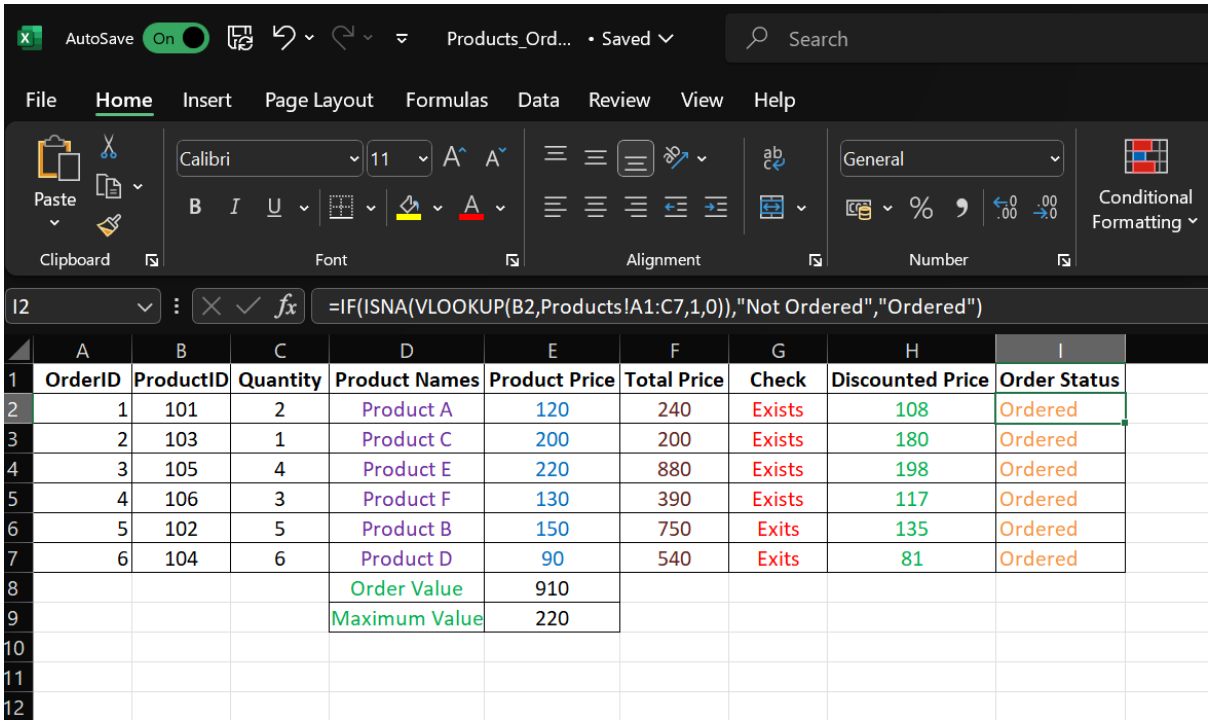
6. Use VLOOKUP to find out which products from the Products worksheet have not been ordered.

   Formula: **=IF(ISNA(VLOOKUP(B2,Products!A1:C7,1,0)),"Not Ordered","Ordered")**
   Output:



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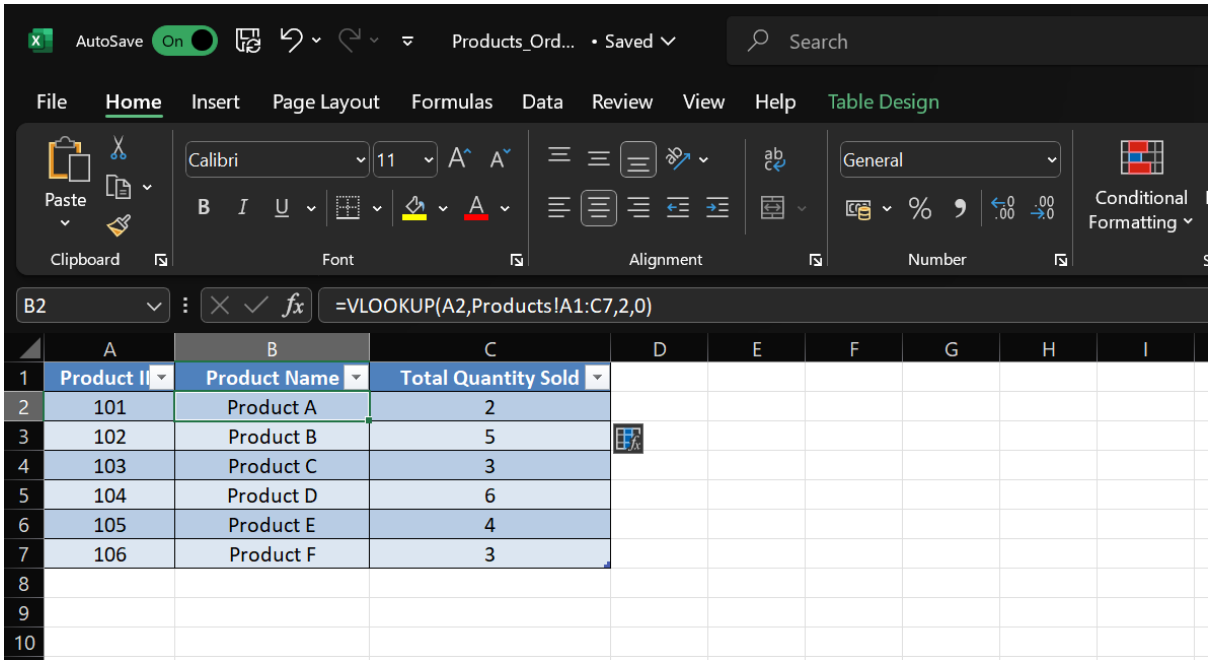
7. Use VLOOKUP to find the Product name and summarize the total quantity sold for each product.

   Formula:
   To find the Product name: **=VLOOKUP(A2,Products!A1:C7,2,0)**
   To find the sum of the total quantity sold: **=SUMIF(Orders!B2:B7,A2,Orders!C2:C7)**
   Output:



	A	B	C	D	E	F	G	H	I
1	Product I	Product Name	Total Quantity Sold						
2	101	Product A	2						
3	102	Product B	5						
4	103	Product C	3						
5	104	Product D	6						
6	105	Product E	4						
7	106	Product F	3						
8									
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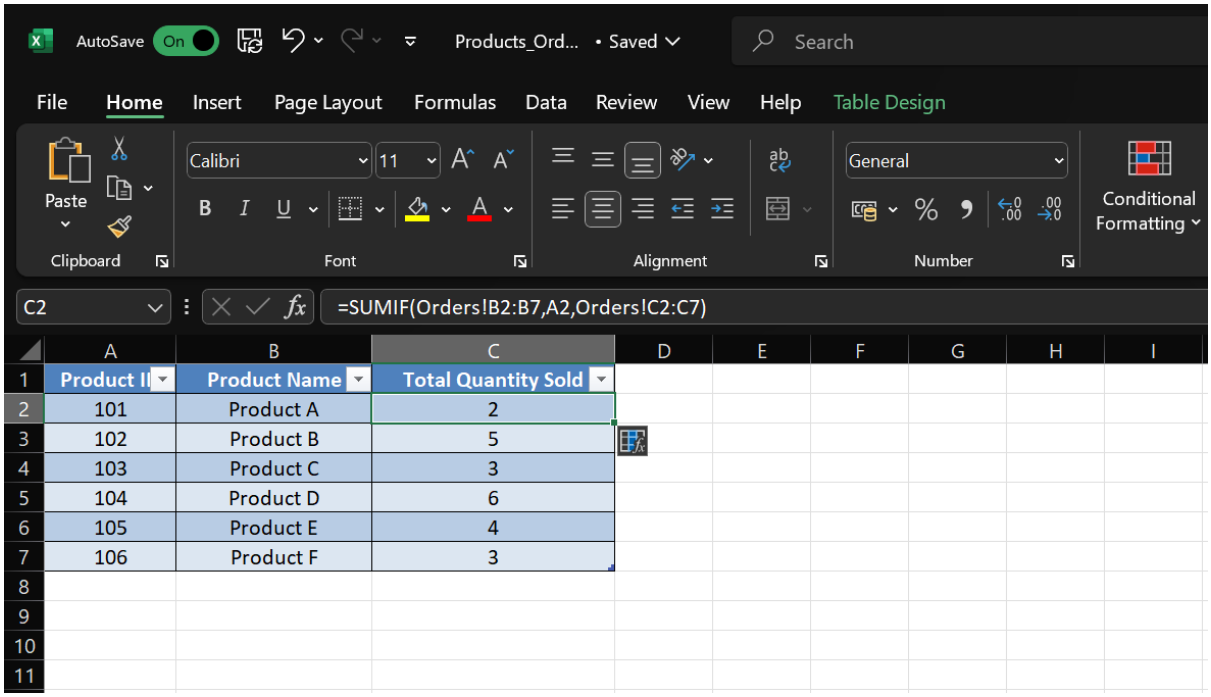

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