Lab Assignment 2

Dataset Given

	A	B	C
1	Products		
2			
3	Product ID	Product	Price
4	101	Product A	120
5	102	Product B	150
6	103	Product C	200
7	104	Product D	90
8	105	Product E	220
9	106	Product F	130

	A	B	C
1	Orders		
2			
3	**Order ID**	**Product ID**	**Quantity**
4	1	101	2
5	5	102	5
6	2	103	1
7	6	104	6
8	3	105	4
9	4	106	3

Q1. Use VLOOKUP to find the product names for each ProductID in the Orders.

Ans. Formula Used: =VLOOKUP(B4,Products!A3:C9,2,FALSE)
Output Obtained: Product Name

	A	B	C	D
1	Orders			
2				Q1
3	**Order ID**	**Product ID**	**Quantity**	**Product Name**
4	1	101	2	Product A
5	5	102	5	Product B
6	2	103	1	Product C
7	6	104	6	Product D
8	3	105	4	Product E
9	4	106	3	Product F

Q2. Use VLOOKUP to find the price for each ProductID in the Orders worksheet, then calculate the TotalPrice by multiplying the Quantity by the Product Price.

Ans. Formula Used: =VLOOKUP(B4,Products!A3:C9,3,FALSE)*C4
Output Obtained: Total Price

	A	B	C	D	E
1	Orders				
2				Q1	Q2
3	**Order ID**	**Product ID**	**Quantity**	**Product Name**	**Total Price**
4	1	101	2	Product A	240
5	5	102	5	Product B	750
6	2	103	1	Product C	200
7	6	104	6	Product D	540
8	3	105	4	Product E	880
9	4	106	3	Product F	390

Q3. Use VLOOKUP to check if there are any ProductIDs in the Orders worksheet that do not exist in the Products worksheet.

Ans. Here, the basic approach would be to verify if the Product ID in the Orders Worksheet is equal to the Product ID in the Product Worksheet since Product ID is a primary key in both tables and a foreign key for Orders Table. If they don't match then it means that it doesn't exist. In our example, all of them exist surprisingly.

Formula Used:
=IF(VLOOKUP(B4,Products!A3:C9,1,FALSE)=Orders1!B4,"Exists","Doesn't Exist")

Output Obtained: ID Exists?

	A	B	C	D	E	F
1	Orders					
2				Q1	Q2	Q3
3	**Order ID**	**Product ID**	**Quantity**	**Product Name**	**Total Price**	**ID Exists?**
4	1	101	2	Product A	240	Exists
5	5	102	5	Product B	750	Exists
6	2	103	1	Product C	200	Exists
7	6	104	6	Product D	540	Exists
8	3	105	4	Product E	880	Exists
9	4	106	3	Product F	390	Exists

Q4. Assume a discount of 10% is given on all products. Use VLOOKUP to find the original price and then calculate the discounted price.

Ans. First, we find the Original Price using Vlookup function, then calculate the discount in another column for simplicity.

Formula Used: Original Price =VLOOKUP(B4,Products!A3:C10,3,FALSE) ;

Discounted Price =G4-(0.1*G4)

Output Obtained: Original Price, Discounted Price(10%)

	A	B	C	D	E	F	G	H
1	Orders							
2				Q1	Q2	Q3	Q4	
3	**Order ID**	**Product ID**	**Quantity**	**Product Name**	**Total Price**	**ID Exists?**	**Original Price**	**Discounted Price(10%)**
4	1	101	2	Product A	240	Exists	120	108
5	5	102	5	Product B	750	Exists	150	135
6	2	103	1	Product C	200	Exists	200	180
7	6	104	6	Product D	540	Exists	90	81
8	3	105	4	Product E	880	Exists	220	198
9	4	106	3	Product F	390	Exists	130	117

Q5. Use VLOOKUP to find the price for each ProductID and then calculate the order value. Find the maximum order value from the list.

Ans. Assuming order value means the total order amount, we can do so by finding the price of each product using Vlookup function then multiplying it with the quantities.

Formula Used: =VLOOKUP(B4,Products!A3:C10,3,FALSE)*C4
For maximum: =MAX(I4:I9)
Output Obtained: Order Value

	A	B	C	D	E	F	G	H	I
1	Orders								
2				Q1	Q2	Q3	Q4		Q5
3	**Order ID**	**Product ID**	**Quantity**	**Product Name**	**Total Price**	**ID Exists?**	**Original Price**	**Discounted Price(10%)**	**Order Value**
4	1	101	2	Product A	240	Exists	120	108	240
5	5	102	5	Product B	750	Exists	150	135	750
6	2	103	1	Product C	200	Exists	200	180	200
7	6	104	6	Product D	540	Exists	90	81	540
8	3	105	4	Product E	880	Exists	220	198	880
9	4	106	3	Product F	390	Exists	130	117	390
10									
11								Max Order	880

Q6. Use VLOOKUP to find out which products from the Products worksheet have not been ordered.

Ans. Here, we can simply check for the product ID in both the tables. If they match, then they must've ordered, otherwise they didn't. In this case, all of them ordered.

Formula Used: =IF(VLOOKUP(B4,Products!A3:C10,1,FALSE)=Orders1!B4,"Ordered", "Not Ordered")
Output Obtained: Ordered?

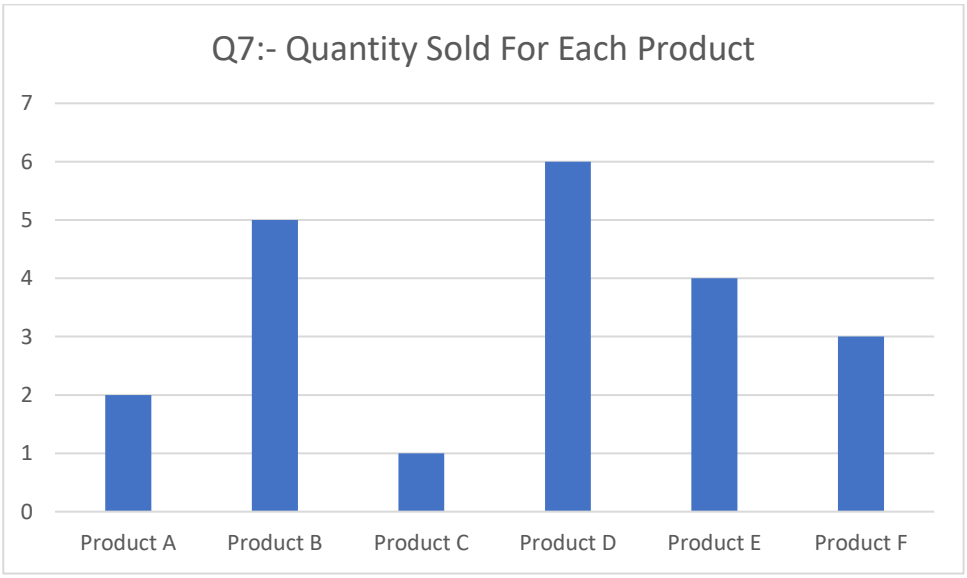
	A	B	C	D	E	F	G	H	I	J
1	Orders									
2				Q1	Q2	Q3	Q4		Q5	Q6
3	**Order ID**	**Product ID**	**Quantity**	**Product Name**	**Total Price**	**ID Exists?**	**Original Price**	**Discounted Price(10%)**	**Order Value**	**Ordered?**
4	1	101	2	Product A	240	Exists	120	108	240	Ordered
5	5	102	5	Product B	750	Exists	150	135	750	Ordered
6	2	103	1	Product C	200	Exists	200	180	200	Ordered
7	6	104	6	Product D	540	Exists	90	81	540	Ordered
8	3	105	4	Product E	880	Exists	220	198	880	Ordered
9	4	106	3	Product F	390	Exists	130	117	390	Ordered

Q7. Use VLOOKUP to find the Product name and summarize the total quantity sold for each product.

Ans. Here, we fetch the product names based on the product ID using Vlookup function again. Quantities of these products were already provided to us in the dataset. Therefore, to visually summarize the quantities sold for each product, we can create a bar graph.

Formula Used: =VLOOKUP(B4,Products!A3:C10,2,FALSE)
Output Obtained: Product Name, Quantity Sold

	A	B	C	D	E	F	G	H	I	J	K	L
1	Orders											
2				Q1	Q2	Q3	Q4		Q5	Q6	Q7	
3	**Order ID**	**Product ID**	**Quantity**	**Product Name**	**Total Price**	**ID Exists?**	**Original Price**	**Discounted Price(10%)**	**Order Value**	**Ordered?**	**Product Name**	**Quantity Sold**
4	1	101	2	Product A	240	Exists	120	108	240	Ordered	Product A	2
5	5	102	5	Product B	750	Exists	150	135	750	Ordered	Product B	5
6	2	103	1	Product C	200	Exists	200	180	200	Ordered	Product C	1
7	6	104	6	Product D	540	Exists	90	81	540	Ordered	Product D	6
8	3	105	4	Product E	880	Exists	220	198	880	Ordered	Product E	4
9	4	106	3	Product F	390	Exists	130	117	390	Ordered	Product F	3



Corresponding graph plotted between Quantities and Products