**VLOOKUP LAB**

**Name- Dhananjay pandit**

**1. Use VLOOKUP to find the product names for each ProductId in the Orders worksheet**

**Steps:**

* Use the VLOOKUP function to retrieve the Product Name from the **Products** worksheet based on the ProductId in the **Orders** worksheet.
* Formula for column C (Product Name) in the **Orders** worksheet:

=VLOOKUP(B4,Products!B3:E8,2,FALSE)

* + B4 is the ProductId.
  + Products!B3:E8 is the table range in the **Products** worksheet.
  + 2 indicates the second column (Product Name).
  + FALSE ensures an exact match.

**Resulting Orders Table:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| OrderId | ProductId | Product Name | Price | Quantity | Total Price |
| 1 | 101 | Product A |  | 2 |  |
| 2 | 102 | Product B |  | 1 |  |
| 3 | 103 | Product E |  | 4 |  |
| 4 | 104 | Product F |  | 3 |  |
| 5 | 105 | Product B |  | 5 |  |
| 6 | 106 | Product D |  | 6 |  |
| 7 | 107 | #N/A |  |  |  |

**2. Use VLOOKUP to find the price for each ProductId in the Orders worksheet, then calculate the Total Price**

**Steps:**

1. Use VLOOKUP to retrieve the price for each ProductId from the **Products** worksheet.
   * Formula for column D (Price) in the **Orders** worksheet:

=VLOOKUP(B4,Products!B3:E8,3,FALSE)

1. Calculate the Total Price by multiplying Price with Quantity.
   * Formula for column F (Total Price):

=D4\*E4

**Resulting Orders Table:**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| OrderId | ProductId | Product Name | Price | Quantity | Total Price |
|  |  |  |  |  |  |
| 1 | 101 | Product A | 120 | 2 | 240 |
| 2 | 102 | Product B | 150 | 1 | 150 |
| 3 | 103 | Product E | 220 | 4 | 880 |
| 4 | 104 | Product F | 130 | 3 | 390 |
| 5 | 105 | Product B | 150 | 5 | 750 |
| 6 | 106 | Product D | 90 | 6 | 540 |
| 7 | 107 | #N/A | #N/A |  |  |

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

**Steps:**

* Use VLOOKUP with IFNA to check if a ProductId is missing in the **Products** worksheet.
  + Formula for column G (Check Status):

=IFNA(VLOOKUP(B4,Products!B3:E8,1,FALSE),"Not Found")

**Resulting Orders Table:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| OrderId | ProductId | Product Name | Price | Quantity | Total Price | Check Status |
| 1 | 101 | Product A | 120 | 2 | 240 | Found |
| 2 | 102 | Product B | 150 | 1 | 150 | Found |
| 3 | 103 | Product E | 220 | 4 | 880 | Found |
| 4 | 104 | Product F | 130 | 3 | 390 | Found |
| 5 | 105 | Product B | 150 | 5 | 750 | Found |
| 6 | 106 | Product D | 90 | 6 | 540 | Found |
| 7 | 107 | #N/A | #N/A |  | Not Found |  |

**4. Calculate discounted price with a 10% discount**

**Steps:**

1. Use VLOOKUP to retrieve the original price for each ProductId.
2. Apply a 10% discount formula:
   * Formula for column H (Discounted Price):

=D4\*0.9

**Resulting Orders Table:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| OrderId | ProductId | Product Name | Price | Quantity | Total Price | Discounted Price |
| 1 | 101 | Product A | 120 | 2 | 240 | 108 |
| 2 | 102 | Product B | 150 | 1 | 150 | 135 |
| 3 | 103 | Product E | 220 | 4 | 880 | 198 |
| 4 | 104 | Product F | 130 | 3 | 390 | 117 |
| 5 | 105 | Product B | 150 | 5 | 750 | 135 |
| 6 | 106 | Product D | 90 | 6 | 540 | 81 |
| 7 | 107 | #N/A | #N/A |  |  | #N/A |

**5. Find the maximum order value**

**Steps:**

1. Calculate the order value (Total Price) using the formula from Step 2.
2. Use the MAX function to find the maximum value in the Total Price column:
   * Formula:

=MAX(F4:F10)

**Maximum Order Value:**

880

**6. Find products from the Products worksheet that have not been ordered**

**Steps:**

* Use VLOOKUP to check if each ProductId in the **Products** worksheet exists in the **Orders** worksheet.
  + Formula for column F (Ordered Status) in the **Products** worksheet:

=IFNA(VLOOKUP(B3,Orders!B4:B10,1,FALSE),"Not Ordered")

**Resulting Products Table:**

|  |  |  |  |
| --- | --- | --- | --- |
| ProductId | Product Name | Price | Ordered Status |
| 101 | Product A | 120 | Ordered |
| 102 | Product B | 150 | Ordered |
| 103 | Product C | 200 | Not Ordered |
| 104 | Product D | 90 | Ordered |
| 105 | Product E | 220 | Ordered |
| 106 | Product F | 130 | Ordered |

**7. Summarize the total quantity sold for each product**

**Steps:**

1. Use VLOOKUP to find the Product Name in the **Orders** worksheet.
2. Use SUMIF to calculate the total quantity sold for each product:

* Formula:

=SUMIF(C4:C10,"Product A",E4:E10)

**Summary Table:**

|  |  |
| --- | --- |
| Product Name | Total Quantity Sold |
| Product A | 2 |
| Product B | 6 |
| Product C | 0 |
| Product D | 6 |
| Product E | 4 |
| Product F | 3 |