**VLOOKUP LAB**

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Worksheet : Product

|  |  |  |
| --- | --- | --- |
| product id | 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: Order

|  |  |  |
| --- | --- | --- |
| OrderId | ProductId | Quantity |
|  |  |  |
| 1 | 101 | 2 |
| 2 | 102 | 1 |
| 3 | 103 | 4 |
| 4 | 104 | 3 |
| 5 | 105 | 5 |
| 6 | 106 | 6 |
| 7 | 107 |  |

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

**Steps:**

* In order table create new column next to product id called Product Name.
* Formula for column C (Product Name) in the **Orders** worksheet:

=VLOOKUP(D4,Products!$B$3:$D$8,2,0)

* + D4 is the ProductId.
  + Products!$B$3:$E8$ is the table range in the **Products** worksheet.
  + 2 indicates the second column (Product Name).
  + FALSE ensures an exact match.

|  |  |  |  |
| --- | --- | --- | --- |
| OrderId | ProductId | Product Name | Quantity |
| 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 |  |  |

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

**Steps:**

1. In worksheet 2,create a new column “price”.
   * Formula for column D (Price) in the **Orders** worksheet:

=VLOOKUP(D4,Products!$B$3:$D$8,3,FALSE)

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

=F4\*G4

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 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 |  |  |  |  |

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

**Steps:**

1. In worksheet2, create a new column called “Product id in product table”.

* Formula for column I (Product id in product table):

=IF(ISNA(VLOOKUP(D4,Products!$B$3:$E$8,1,FALSE),"Not Found",

“Found”)

**Resulting Orders Table:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| OrderId | ProductId | Product Name | Price | Quantity | Total Price | Product id in product table |
| 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 |  |  |  |  | Not Found |

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

**Steps:**

1. In worksheet2, create a new column called “Discounted Price”.
2. Apply a 10% discount formula:
   * Formula for column J (Discounted Price):

=F4\*(1-0.1)

**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 |  |  |  |  |  |

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

**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(H4:H9)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| OrderId | ProductId | Product Name | Price | Quantity | Total Price | Maximum Value |
| 1 | 101 | Product A | 120 | 2 | 240 | 880 |
| 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 |  |  |  |  |  |

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

**Steps:**

1. In worksheet2, create a new column called “Order Status”.

* Formula for column L (Ordered Status):

=IF(ISNA(VLOOKUP(D5,Product!$B$3:$D$8,1,FALSE),"Not Ordered","Ordered")

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

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

**Steps:**

1. Select the table and go to insert Tag.
2. Choose pivot table.

* Select the table range: ' order'!$C$3:$G$10.
* Click on a new worksheet.

1. Select the product Name and drag into “Row” then Total Quantity into “values”.

|  |  |
| --- | --- |
| Product Name | Total Quantity Sold |
| Product A | 2 |
| Product B | 5 |
| Product C | 1 |
| Product D | 6 |
| Product E | 4 |
| Product F | 3 |