IF Statement Lab

ProductID	Product	Sales	Target	Region	Met Target
101	Product A	120	150	North	No
102	Product B	150	140	South	Yes
103	Product C	200	200	East	Yes
104	Product D	90	100	West	No
105	Product E	220	210	North	Yes
106	Product F	130	160	South	No

1. **Use the IF function to evaluate whether each product met its sales target.**

   Step 1: Create a new column for evaluation.
   Step 2: Use the IF function

   Formula   =IF(C2 >= D2, "Yes", "No")

   - C2 is the **Sales** value.
   - D2 is the **Target** value.
   - If the sales are greater than or equal to the target, it will return "Yes"; otherwise, it will return "No".

   Step 3: Apply the formula to the rest of the rows.

ProductID	Product	Sales	Target	Region	Met Target
101	Product A	120	150	North	No
102	Product B	150	140	South	Yes
103	Product C	200	200	East	Yes
104	Product D	90	100	West	No
105	Product E	220	210	North	Yes
106	Product F	130	160	South	No

2. **Use the IF function to determine if a product is eligible for a regional bonus. Products in the "North" region with sales over 200 are eligible.**

   Step 1: Add a new column for the **Bonus Eligibility.**

   Step 2: Use the IF function with multiple conditions

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- E2 is the **Region**.
- C2 is the **Sales**.
- AND(E2 = "North", C2 > 200) checks if both conditions are true (region is "North" and sales are greater than 200).

- If both conditions are met, it returns "Eligible";

In (for **Product A**), use the following **otherwise, it returns "Not Eligible** formula:

```
=IF(AND(E2 = "North", C2 > 200), "Eligible", "Not Eligible")
```

Step 3: Apply the formula to the rest of the rows

ProductID	Product	Sales	Target	Region	Met Target	Bonus Eligibility
101	Product A	120	150	North	No	Not Eligible
102	Product B	150	140	South	Yes	Not Eligible
103	Product C	200	200	East	Yes	Not Eligible
104	Product D	90	100	West	No	Not Eligible
105	Product E	220	210	North	Yes	Eligible
106	Product F	130	160	South	No	Not Eligible

3.Use nested IF functions to assign a commission rate based on sales. Sales >= 200 get a 10% commission, sales >= 150 get a 7% commission, and others get a 5% commission

Step 1: Add a new column for **Commission Rate**

1.1.1   Step 2: Use nested IF functions

In (for **Product A**), use the following formula:

```
=IF(C2 >= 200, 10%, IF(C2 >= 150, 7%, 5%))
```

- C2 is the **Sales** value.
- If **Sales** are greater than or equal to 200, the commission rate is 10%.
- If **Sales** are greater than or equal to 150 but less than 200, the commission rate is 7%.

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- For all other cases (Sales < 150), the commission rate is 5%.

1.1.2   Step 3: Apply the formula to the rest of the row

ProductID	Product	Sales	Target	Region	Met Target	Bonus Eligibility	Commission Rate
101	Product A	120	150	North	No	Not Eligible	5%
102	Product B	150	140	South	Yes	Not Eligible	7%
103	Product C	200	200	East	Yes	Not Eligible	10%
104	Product D	90	100	West	No	Not Eligible	5%
105	Product E	220	210	North	Yes	Eligible	10%
106	Product F	130	160	South	No	Not Eligible	5%

3. Use the IF function to calculate a bonus amount. If sales met or exceeded the target, the bonus is 10% of the sales; otherwise, it's 5%

Step 1: Add a new column for **Bonus Amount**.

Step 2: Use the IF function

In cell I2 (for **Product A**), use the following formula:

```
=IF(C2 >= D2, C2 * 10%, C2 * 5%)
```

- C2 is the **Sales** value.
- D2 is the **Target** value.
- If **Sales** are greater than or equal to **Target**, the bonus is 10% of **Sales**.
- Otherwise, the bonus is 5% of **Sales**.

Step 3: Apply the formula to the rest of the rows.

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ProductID	Product	Sales	Target	Region	Met Target	Bonus Eligibility	Commission Rate	Bonus Amount
101	Product A	120	150	North	No	Not Eligible	5%	6
102	Product B	150	140	South	Yes	Not Eligible	7%	15
103	Product C	200	200	East	Yes	Not Eligible	10%	20
104	Product D	90	100	West	No	Not Eligible	5%	4.5
105	Product E	220	210	North	Yes	Eligible	10%	22
106	Product F	130	160	South	No	Not Eligible	5%	6.5

4. Use the IF function to categorize sales performance as "Excellent" (>=200), "Good" (>=150), or "Needs Improvement" (<150).

Step 1: Add a new column for **Sales Performance**.

Step 2: Use the IF function with multiple conditions

In cell `J2` (for **Product A**), use the following formula:

```
=IF(C2 >= 200, "Excellent", IF(C2 >= 150, "Good", "Needs
Improvement"))
```

- `C2` is the **Sales** value.
- If **Sales** are greater than or equal to 200, it will return **"Excellent"**.
- If **Sales** are greater than or equal to 150 but less than 200, it will return **"Good"**.
- For all other cases (Sales < 150), it will return **"Needs Improvement".**

Step 3: Apply the formula to the rest of the rows

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ProductID	Product	Sales	Target	Region	Met Target	Bonus Eligibility	Commission Rate	Bonus Amount	Sales Performance
101	Product A	120	150	North	No	Not Eligible	5%	6	Needs Improvement
102	Product B	150	140	South	Yes	Not Eligible	7%	15	Good
103	Product C	200	200	East	Yes	Not Eligible	10%	20	Excellent
104	Product D	90	100	West	No	Not Eligible	5%	4.5	Needs Improvement
105	Product E	220	210	North	Yes	Eligible	10%	22	Excellent
106	Product F	130	160	South	No	Not Eligible	5%	6.5	Needs Improvement

5. Use the IF function to assign a price tier based on the sales value. "High" for sales > 200, "Medium" for sales between 100 and 200, and "Low" for sales < 100.

Step 1: Add a new column for **Price Tier**.

Step 2: Use the IF function with multiple conditions

In cell K2 (for **Product A**), use the following formula:

```
=IF(C2 > 200, "High", IF(C2 >= 100, "Medium", "Low"))
```

Step 3: Apply the formula to the rest of the rows

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ProductID	Product	Sales	Target	Region	Met Target	Bonus Eligibility	Commission Rate	Bonus Amount	Sales Performance	Price Tier
101	Product A	120	150	North	No	Not Eligible	5%	6	Needs Improvement	Medium
102	Product B	150	140	South	Yes	Not Eligible	7%	15	Good	Medium
103	Product C	200	200	East	Yes	Not Eligible	10%	20	Excellent	Medium
104	Product D	90	100	West	No	Not Eligible	5%	4.5	Needs Improvement	Low
105	Product E	220	210	North	Yes	Eligible	10%	22	Excellent	High
106	Product F	130	160	South	No	Not Eligible	5%	6.5	Needs Improvement	Medium

6. Use the IF function to calculate the year-end bonus. If sales >= 150 and region is "North", the bonus is $500, otherwise, it's $300.
   Step 1: Add a new column for **Year-End Bonus.**

   Step 2: Use the IF function

In cell L2 (for **Product A**), use the following formula:

```
=IF(AND(C2 >= 150, E2 = "North"), 500, 300)
```

Step 3: Apply the formula to the rest of the rows

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ProductID	Product	Sales	Target	Region	Met Target	Bonus Eligibility	Commission Rate	Bonus Amount	Sales Performance	Price Tier	Year End Bonus
101	Product A	120	150	North	No	Not Eligible	5%	6	Needs Improvement	Medium	300
102	Product B	150	140	South	Yes	Not Eligible	7%	15	Good	Medium	300
103	Product C	200	200	East	Yes	Not Eligible	10%	20	Excellent	Medium	300
104	Product D	90	100	West	No	Not Eligible	5%	4.5	Needs Improvement	Low	300
105	Product E	220	210	North	Yes	Eligible	10%	22	Excellent	High	500
106	Product F	130	160	South	No	Not Eligible	5%	6.5	Needs Improvement	Medium	300

7. Use the IF function to mark high performers. A product is a high performer if its sales are in the top 25% of all sales.

Step 1: Determine the Sales Threshold

1. First, calculate the sales threshold for the top 25%.
2. You can use Excel's `PERCENTILE` function to find the value below which 75% of the sales fall, which represents the cutoff for the top 25%

Step 2: Add a New Column for **High Performer**

Step 3: Calculate the Sales Threshold.

Step 4: Use the IF function to mark high performers

In cell `M2` (for Product A), use the following formula:

```
=IF(C2 >= $N$1, "High Performer", "Not High Performer")
```

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Step 5: Apply the Formula to the Rest of the Rows

Product tID	Product	Sales	Target	Region	Met Target	Bonus Eligibility	Commission Rate	Bonus Amount	Sales Performance	Price Tier	Year-End Bonus	High Performer
101	Product A	120	150	North	No	Not Eligible	5%	6	Needs Improvement	Medium	300	Not High Performer
102	Product B	150	140	South	Yes	Not Eligible	7%	15	Good	Medium	300	Not High Performer
103	Product C	200	200	East	Yes	Not Eligible	10%	20	Excellent	Medium	300	High Performer
104	Product D	90	100	West	No	Not Eligible	5%	4.5	Needs Improvement	Low	300	Not High Performer
105	Product E	220	210	North	Yes	Eligible	10%	22	Excellent	High	500	High Performer
106	Product F	130	160	South	No	Not Eligible	5%	6.5	Needs Improvement	Medium	300	Not High Performer

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