Chapter-8 Working with HLOOKUP Function in MS Excel

The `HLOOKUP` function in Excel performs a **Horizontal Lookup**, searching for a value in the first row of a table or range and returning a value from a specified row within the same column.

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1. Syntax of HLOOKUP

Syntax:

```
=HLOOKUP(lookup_value, table_array, row_index_num, [range_lookup])
```

Argument	Description
`lookup_value`	The value to search for in the first row of the table.
`table_array`	The range of cells containing the data (must include the lookup row and result rows).
`row_index_num`	The row number (relative to the `table_array`) from which to retrieve the value.
`[range_lookup]`	Optional: `TRUE` for approximate match, `FALSE` for exact match. Defaults to `TRUE` if omitted.

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2. Example Usage

Example 1: Exact Match Lookup

- **Scenario**: Find the sales for Q2.
  Data:

	A	B	C	D	E
1	Quarter	Q1	Q2	Q3	Q4
2	Sales	1000	2000	1500	1800

- **Formula**:

  ```
  =HLOOKUP("Q2", A1:E2, 2, FALSE)
  ```

- **Result**:
  `2000`.

Example 2: Approximate Match Lookup

- **Scenario**: Assign a performance rating based on a sales target.
  Data:

	A	B	C	D	E
1	**Target**	**1000**	**2000**	**3000**	**4000**
2	Rating	Poor	Average	Good	Excellent

- **Formula**:

```
=HLOOKUP(2500, A1:E2, 2, TRUE)
```

- **Result**:
  `Average` (2500 falls between 2000 and 3000).

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3. Key Considerations

1. **Lookup Value in the First Row**:
   The `lookup_value` must exist in the first row of the `table_array`.
2. **Sorted Data for Approximate Match**:
   When using `TRUE` for `range_lookup`, the first row of the `table_array` must be sorted in ascending order.
3. **Case Insensitivity**:
   `HLOOKUP` is not case-sensitive (e.g., "Q2" and "q2" are treated the same).
4. **Error Handling**:
   If the `lookup_value` is not found, `HLOOKUP` returns `#N/A`. Use `IFERROR` to handle errors:

   ```
   =IFERROR(HLOOKUP("Q5", A1:E2, 2, FALSE), "Not Found")
   ```

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4. Using HLOOKUP with Wildcards

You can use wildcards (`*` for multiple characters, `?` for a single character) in `lookup_value`.

Example: Lookup with Wildcards

- **Scenario**: Search for a quarter starting with "Q".
  Formula:

```
=HLOOKUP("Q*", A1:E2, 2, FALSE)
```

- **Result**:
Returns the sales for the first quarter matching the wildcard.

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5. Advanced Examples

Example 1: Dynamic Row Selection

Use `MATCH` to dynamically determine the row index.

- **Scenario**: Retrieve sales for Q2 dynamically based on headers in the first column.
- **Formula**:

  ```
  =HLOOKUP("Q2", A1:E5, MATCH("Sales", A1:A5, 0), FALSE)
  ```

Example 2: Two-Way Lookup

Combine `HLOOKUP` with `VLOOKUP` or `INDEX` for more complex lookups.

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6. Limitations of HLOOKUP

1. **Fixed Row Index**:
   The `row_index_num` is static, making it less flexible for dynamic datasets.
2. **Only Searches Top-to-Bottom**:
   The `lookup_value` must always be in the first row. For more flexibility, use `INDEX` and `MATCH`.
3. **Case Insensitivity**:
   If case-sensitive lookups are required, use an alternative approach with array formulas or `XLOOKUP` (in newer Excel versions).

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7. Tips for Using HLOOKUP Effectively

1. **Switch to XLOOKUP (If Available)**:
   `XLOOKUP` can handle both horizontal and vertical lookups, overcoming most of HLOOKUP's limitations.

   ```
   =XLOOKUP("Q2", A1:E1, A2:E2, "Not Found")
   ```

2. **Use Named Ranges**:
   Assign a name to your `table_array` for easier reference:

```
=HLOOKUP("Q2", SalesTable, 2, FALSE)
```

3. **Combine with Data Validation**:
   Use dropdown menus for interactive selection of `lookup_value`.