

# Power Query M Language Reference Sheet

## Basic Structure

```
```m
let
    StepName = Expression,
    AnotherStep = Function(StepName)
in
    AnotherStep
```
```

## Data Types

| Type               | Example                 |
|--------------------|-------------------------|
| -----              | -----                   |
| <b>**Text**</b>    | `"Hello World"`         |
| <b>**Number**</b>  | `123`, `3.14`           |
| <b>**Boolean**</b> | `true`, `false`         |
| <b>**Date**</b>    | `#date(2024, 12, 25)`   |
| <b>**Time**</b>    | `#time(12, 30, 0)`      |
| <b>**List**</b>    | `{1, 2, 3}`             |
| <b>**Record**</b>  | `[Name="John", Age=30]` |
| <b>**Table**</b>   | Table literal           |
| <b>**Null**</b>    | `null`                  |

## Common Table Functions

| Function   | Description    |
|--|----------------|
| -----  | -----          |
| `Table.SelectRows(table, each condition)`                  | Filter rows    |
| `Table.AddColumn(table, "NewCol", each expression)`        | Add column     |
| `Table.RemoveColumns(table, {"Col1", "Col2"})`             | Remove columns |
| `Table.RenameColumns(table, {"Old", "New"})`               | Rename columns |
| `Table.Combine({table1, table2})`                          | Append tables  |
| `Table.Join(table1, "Col", table2, "Col", JoinKind.Inner)` | Join tables    |

## Text Functions

| Function                        | Example |
|---------------------------------|---------|
| -----                           | -----   |
| `Text.Upper("abc")`             | `"ABC"` |
| `Text.Lower("ABC")`             | `"abc"` |
| `Text.Length("Power")`          | `5`     |
| `Text.Replace("cat", "c", "h")` | `"hat"` |
| `Text.Contains("hello", "lo")`  | `true`  |

## Date & Time Functions

| Function                     | Example           |
|------------------------------|-------------------|
| -----                        | -----             |
| `DateTime.LocalNow()`        | Current date/time |
| `Date.Year(#date(2024,1,1))` | `2024`            |

```
| `Date.AddDays(DateTime.Date(DateTime.LocalNow()), 5)` | Today + 5 days |
```

## ## List Functions

```
Function	Example
`List.Sum({1,2,3})`	`6`
`List.Max({5,3,9})`	`9`
`List.Contains({1,2,3}, 2)`	`true`
`List.Transform({1,2,3}, each _ * 10)`	`{10, 20, 30}`
```

## ## Record Functions

```
Function	Example
`Record.FieldNames([Name="Joe", Age=25])`	`{"Name", "Age"}`
`Record.FieldValues(...)`	Values of a record
`Record.ToTable(...)`	Converts a record to a table
```

## ## Error Handling

```
```m
try Expression otherwise DefaultValue
```
```

Example:

```
```m
try [Amount] / [Quantity] otherwise 0
```
```

## ## Conditional Statements

```
```m
if [Sales] > 1000 then "High" else "Low"
```
```

## ## Useful Constants

```
Constant	Description
`null`	No value
`true`	Boolean true
`false`	Boolean false
```

## ## Example: Clean and Filter Table

```
```m
let
    Source = Excel.Workbook(File.Contents("C:\data\Sales.xlsx"), null, true),
    Sheet = Source{[Name="Sales"]}[Data],
    Filtered = Table.SelectRows(Sheet, each [Region] = "West"),
    Cleaned = Table.RemoveColumns(Filtered, {"UnneededColumn"}),
    AddedColumn = Table.AddColumn(Cleaned, "Total", each [Qty] * [Price])
in
    AddedColumn
```

