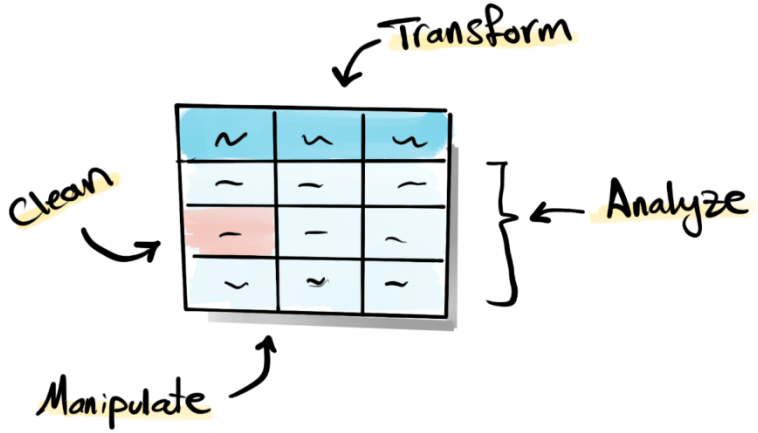
# SQL FUNCTIONS

Baraa Khatib Salkini
SQL Course | SQL Functions

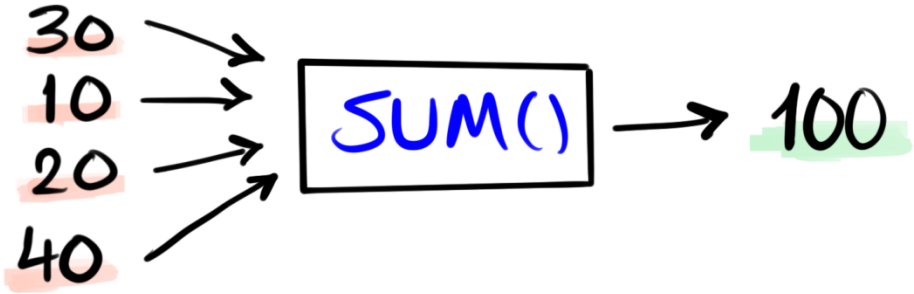
# What are Functions?



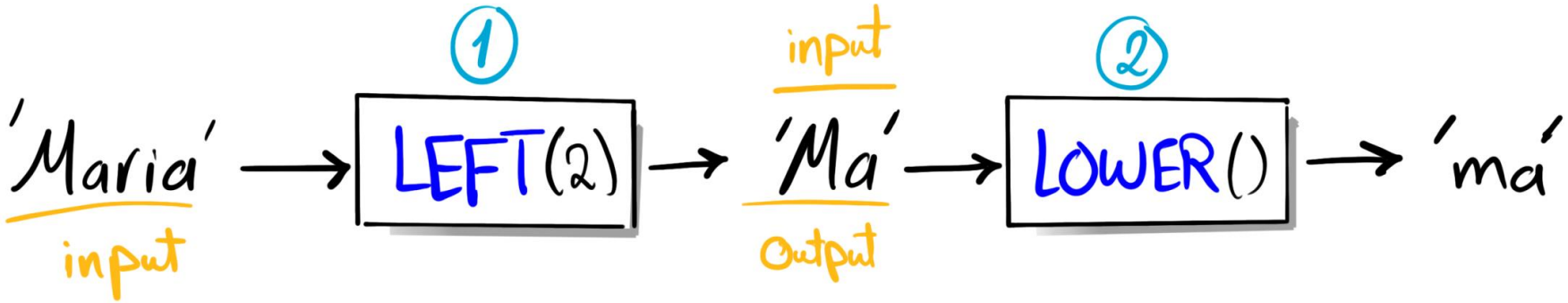


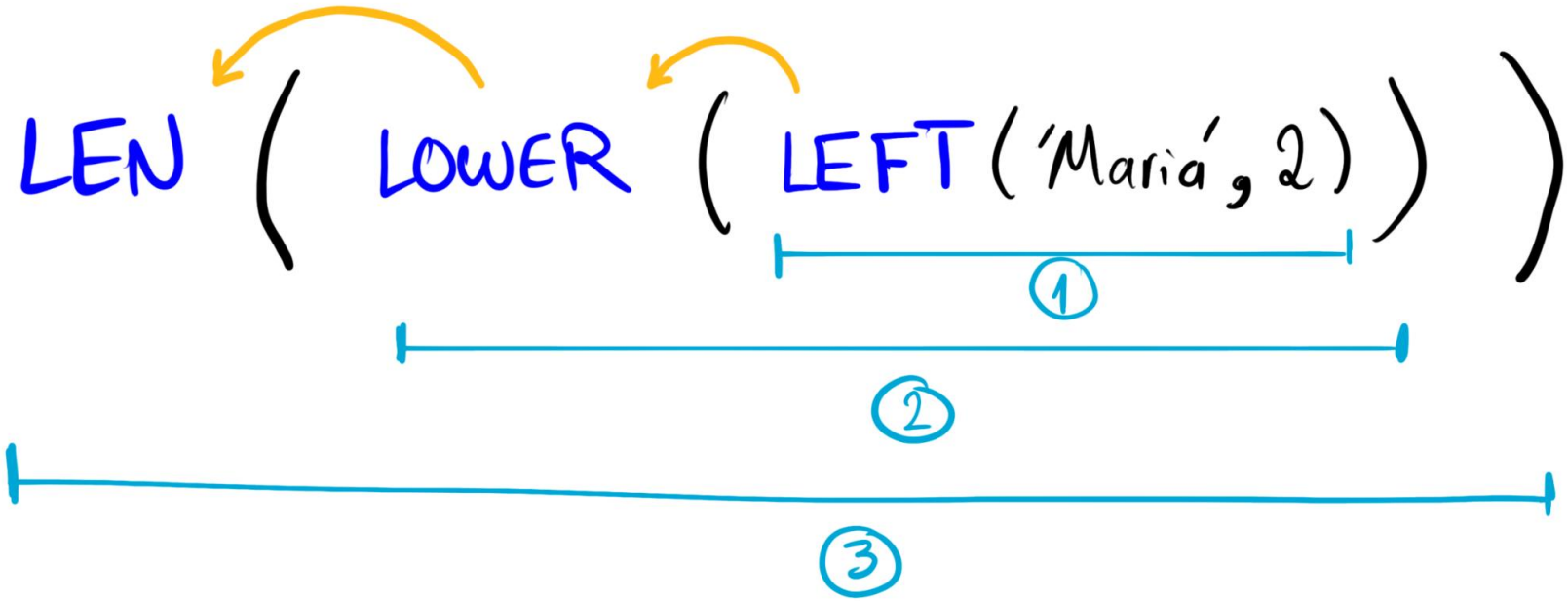
## [1] Single-Row Functions

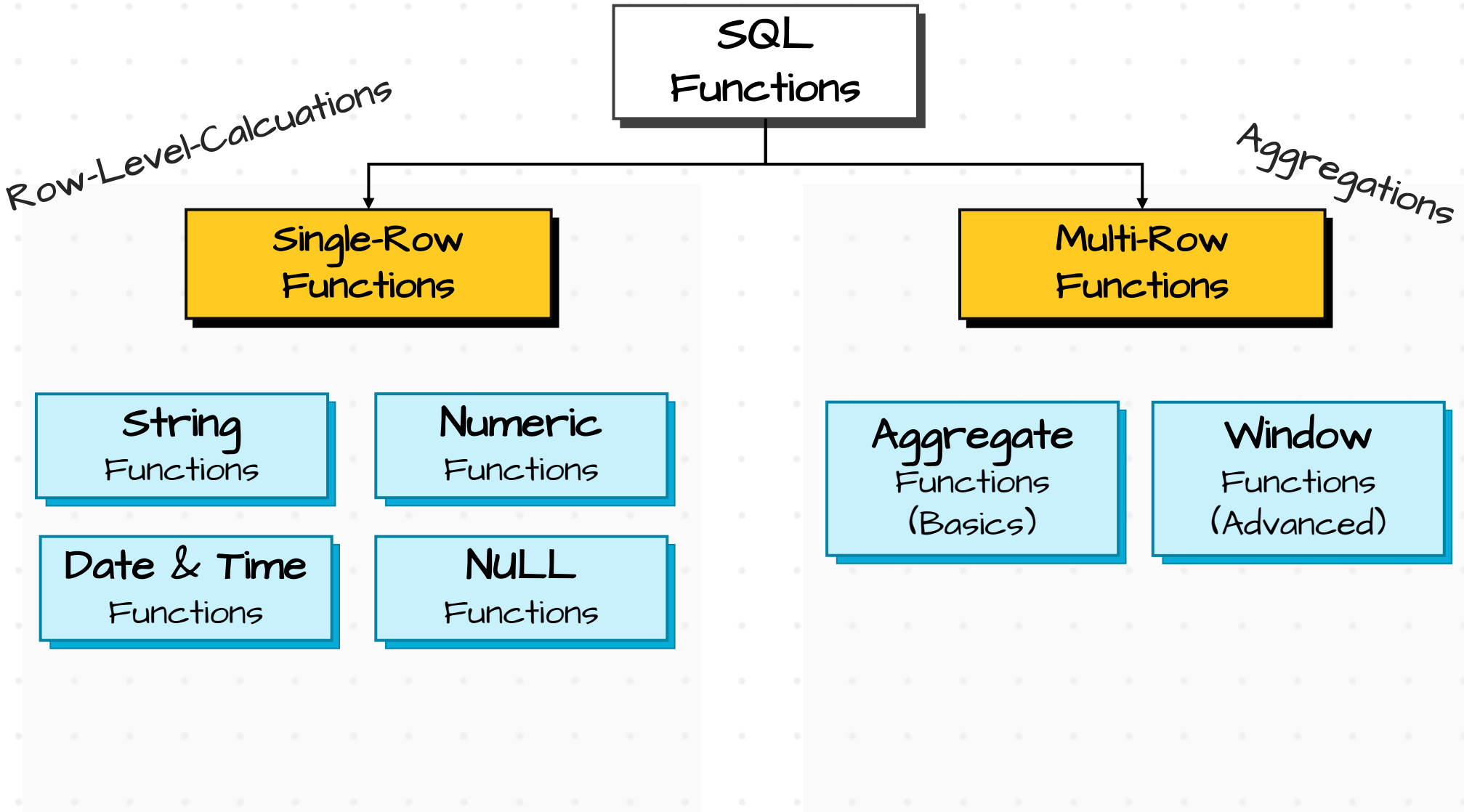

## [2] Multi-Row Functions

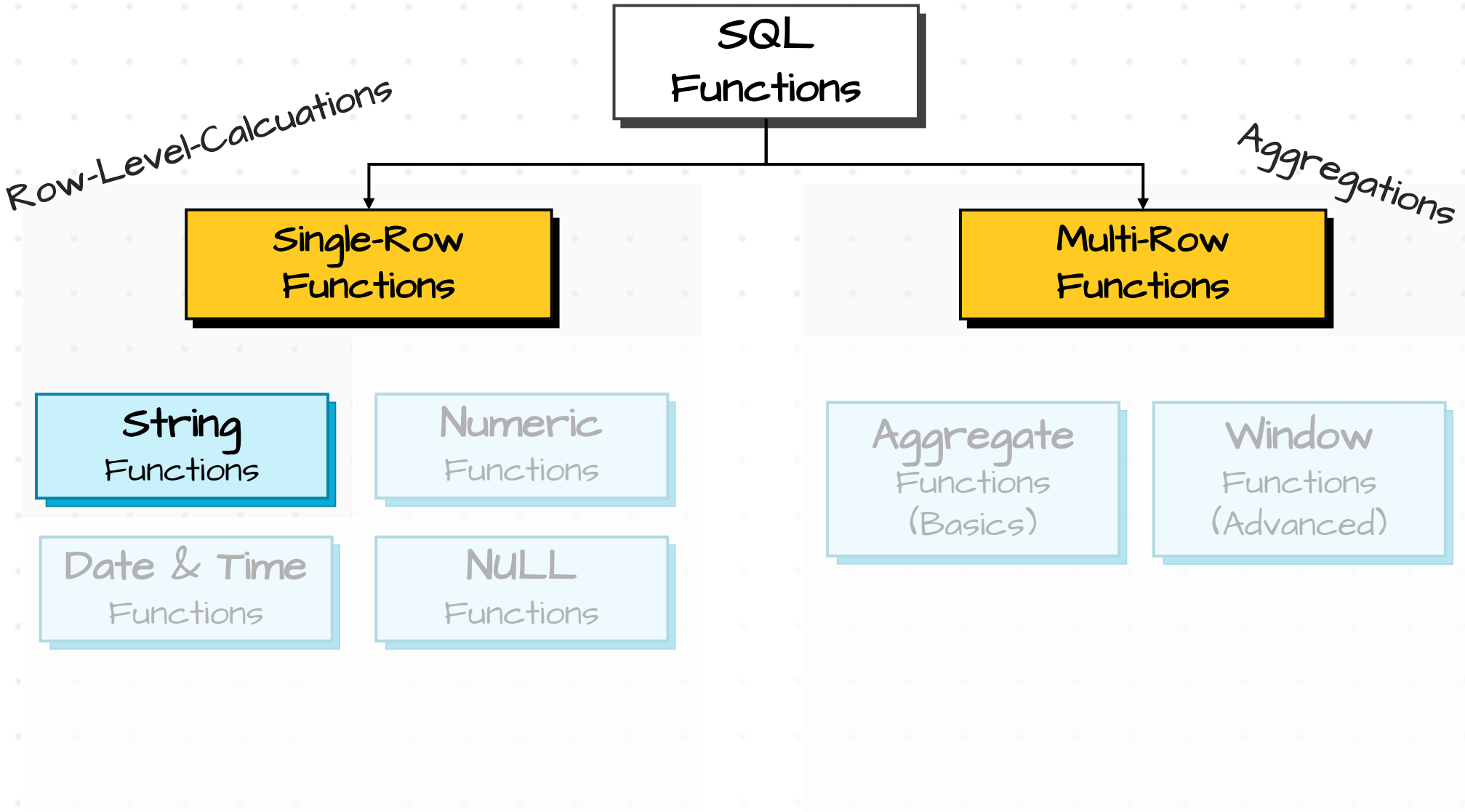


# Nested Function




SQL Functions
Row-Level-Calcuations
Aggregations
Single-Row Functions
Multi-Row Functions
String Functions
Numeric Functions
Date & Time Functions
NULL Functions
Aggregate Functions (Basics)
Window Functions (Advanced)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# STRING
# FUNCTIONS

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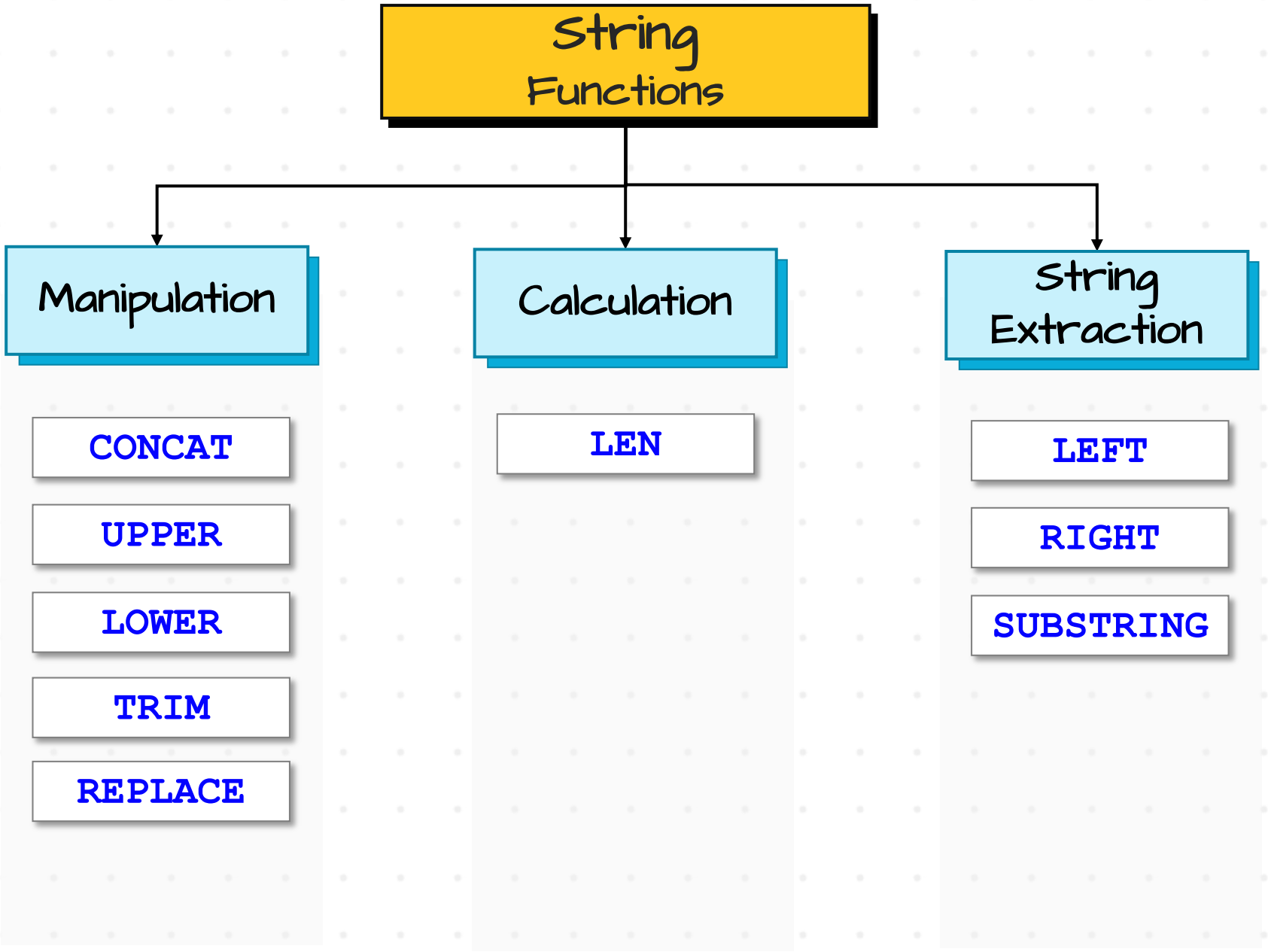
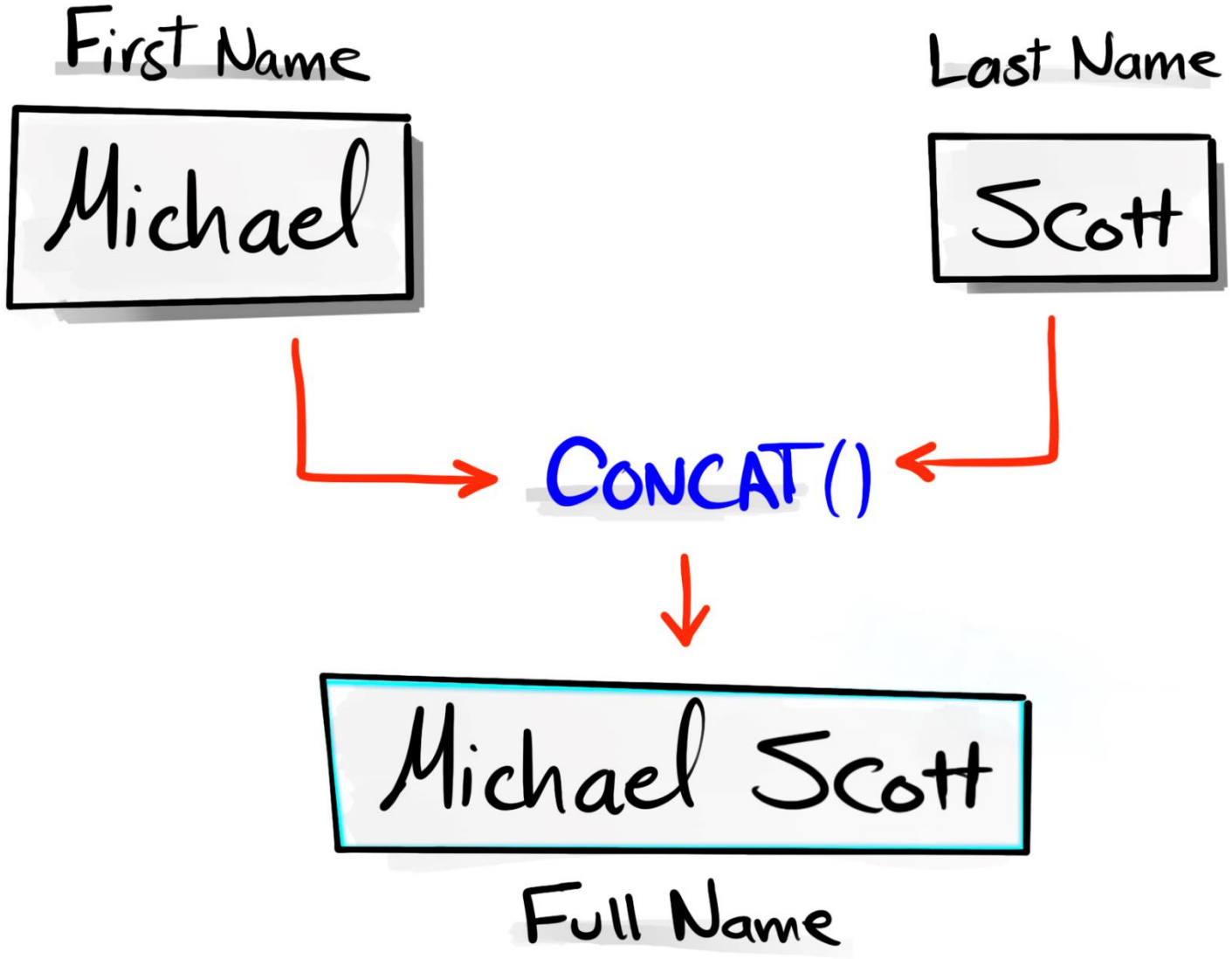
SQL Course | String Functions


String Functions
Manipulation
CONCAT
UPPER
LOWER
TRIM
REPLACE
Calculation
LEN
String Extraction
LEFT
RIGHT
SUBSTRING

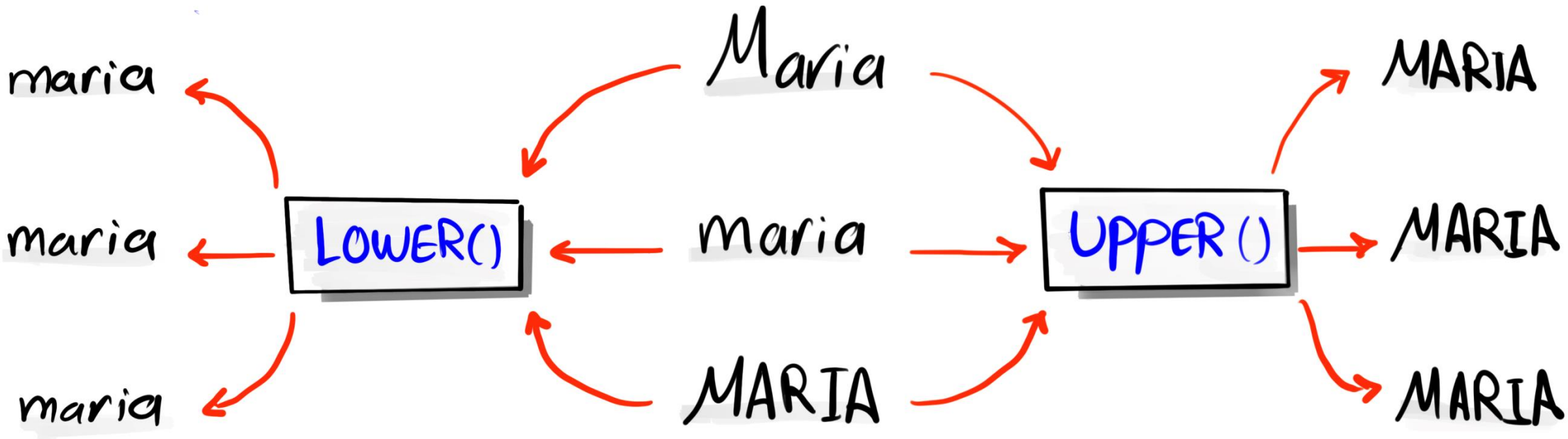
# String Functions

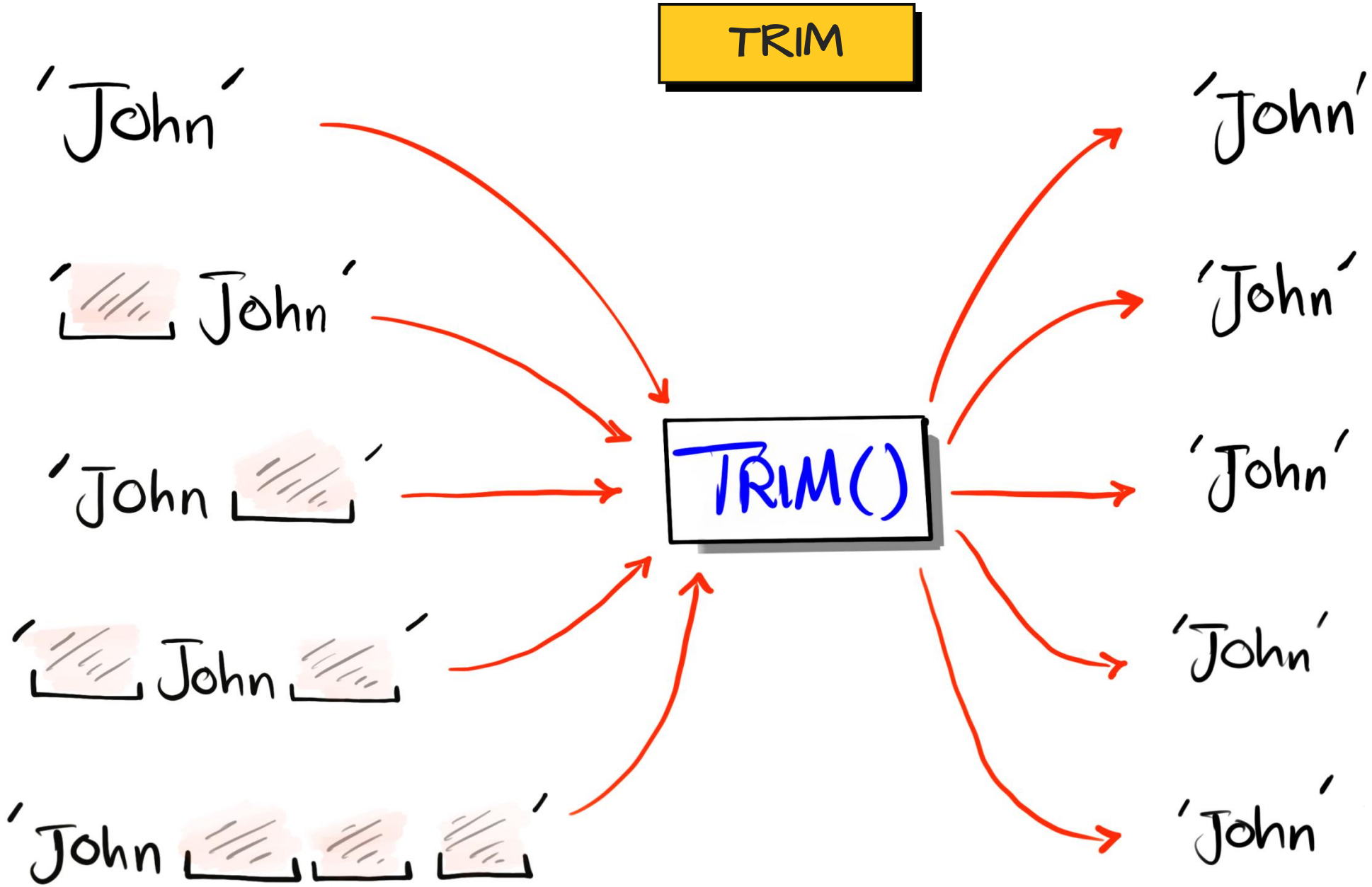
| | |
|---|---|
| CONCAT | Combines multiple strings into one |
| UPPER | Converts all characters to uppercase |
| LOWER | Converts all characters to lowercase |
| TRIM | Removes Leading and Trailing spaces |
| REPLACE | Replaces specific character with a new character |
| LEN | Counts how many characters |
| LEFT | Extracts specific Number of Characters from the start |
| RIGHT | Extracts specific Number of Characters from the End |
| Substring | Extracts a part of string at a specified position |

# CONCAT

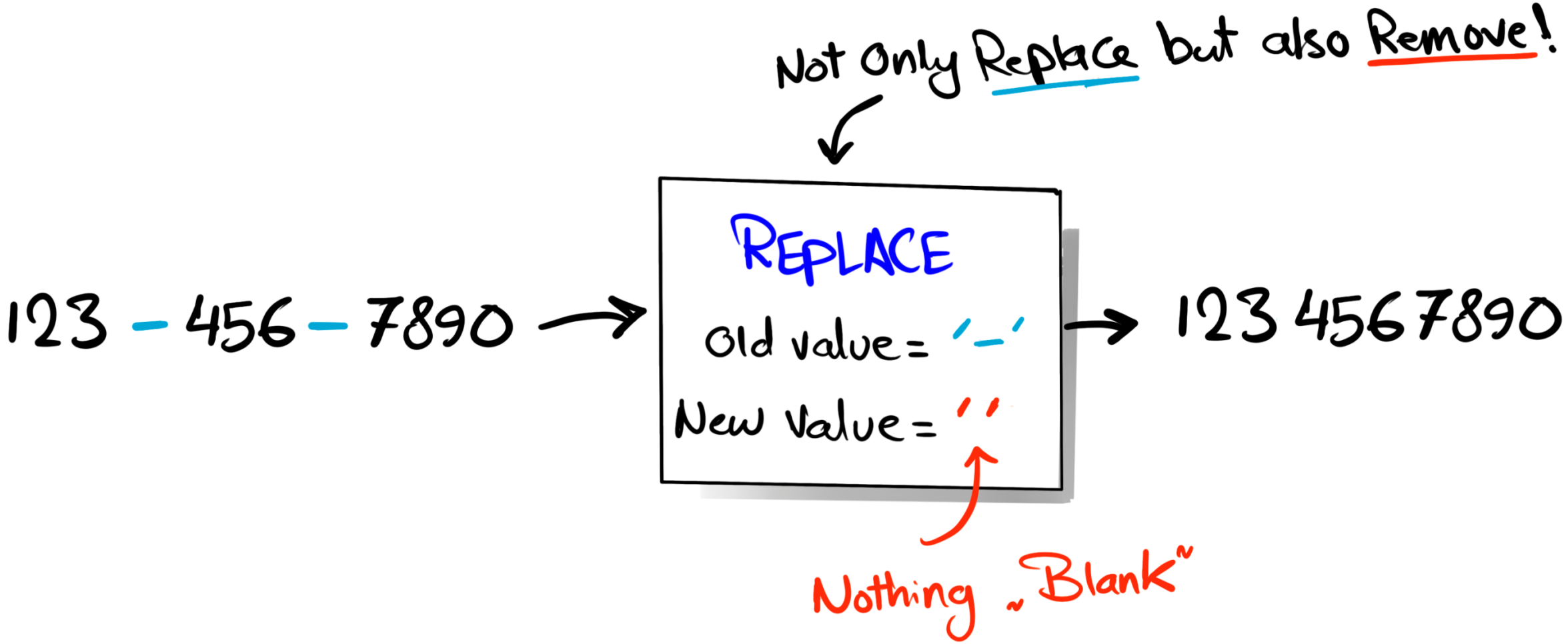

First Name
Michael
Last Name
Scott
CONCAT()
Michael Scott
Full Name

# LOWER & UPPER

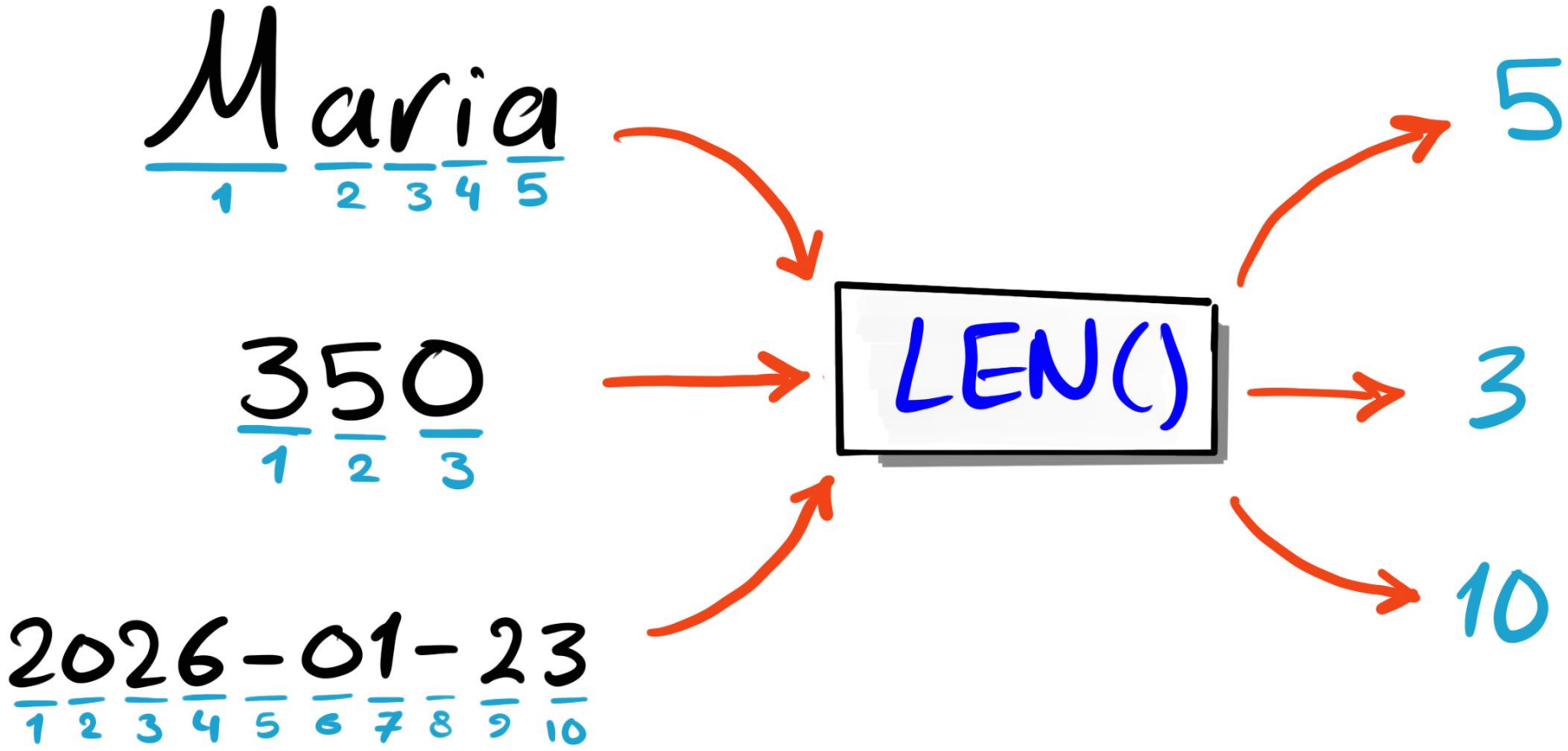

maria
maria
maria
LOWER()
Maria
maria
MARIA
UPPER()
MARIA
MARIA
MARIA


TRIM
'John'
' John'
'John '
' John '
'John
'John'
'John'
'John'
'John'
'John'

# REPLACE


Not Only Replace but also Remove!
123-456-7890
REPLACE
Old value = '-'
New value = ''
123456 7890
Nothing "Blank"

# LEN



# LEFT & RIGHT

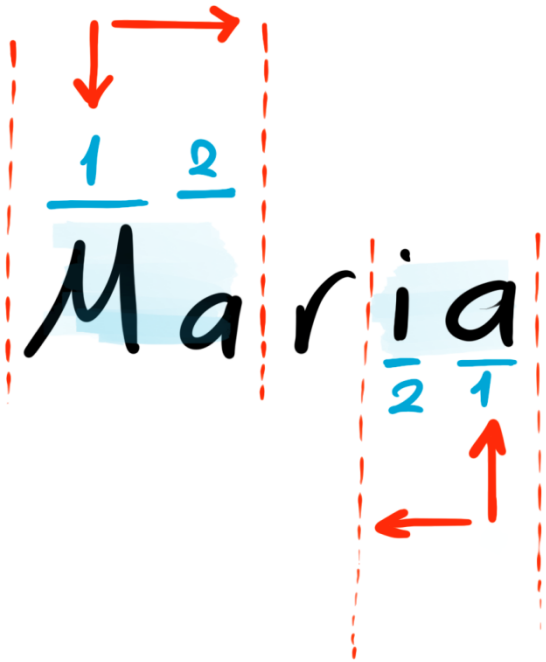
LEFT ( Value , Nr of Characters )

RIGHT ( Value , Nr of Characters )

Extract
First 2 Characters

LEFT = 2

Ma




Extract
Last 2 Characters

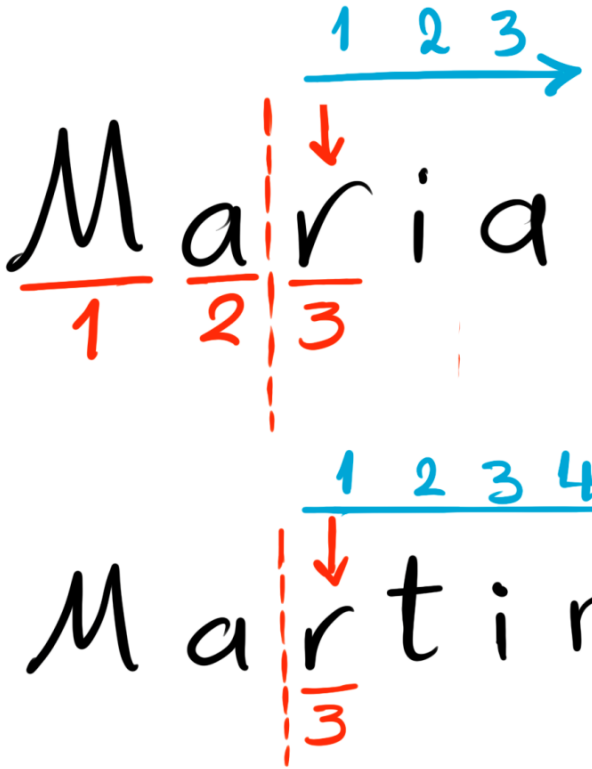
RIGHT = 2

ia

# SUBSTRING ( Value , Start , Length )

After the 2nd Character extract All Characters

**SUBSTRING**




Start
3

Length
← Dynamic
LEN()
5
6
10

# NUMERIC
# FUNCTIONS

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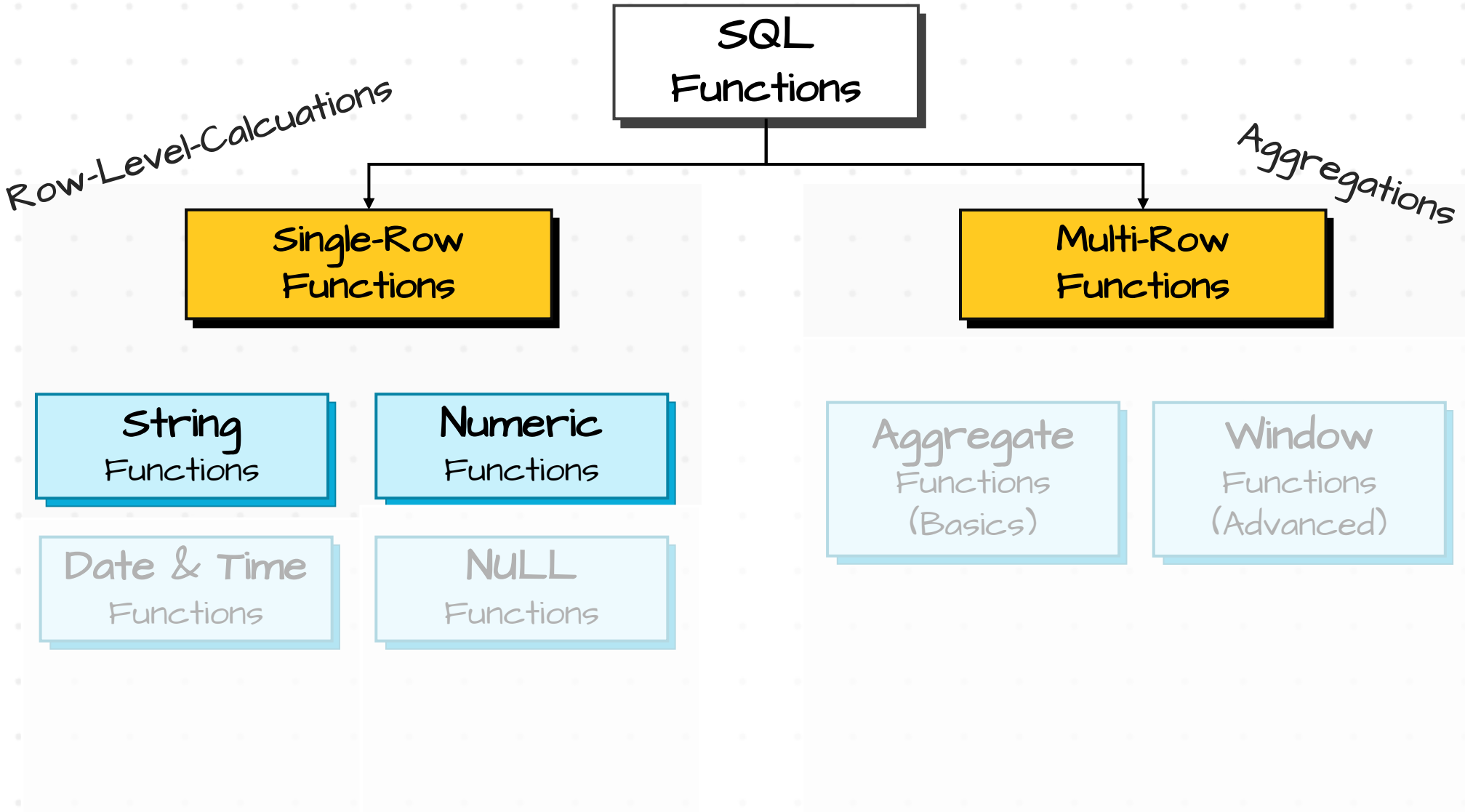
SQL Functions
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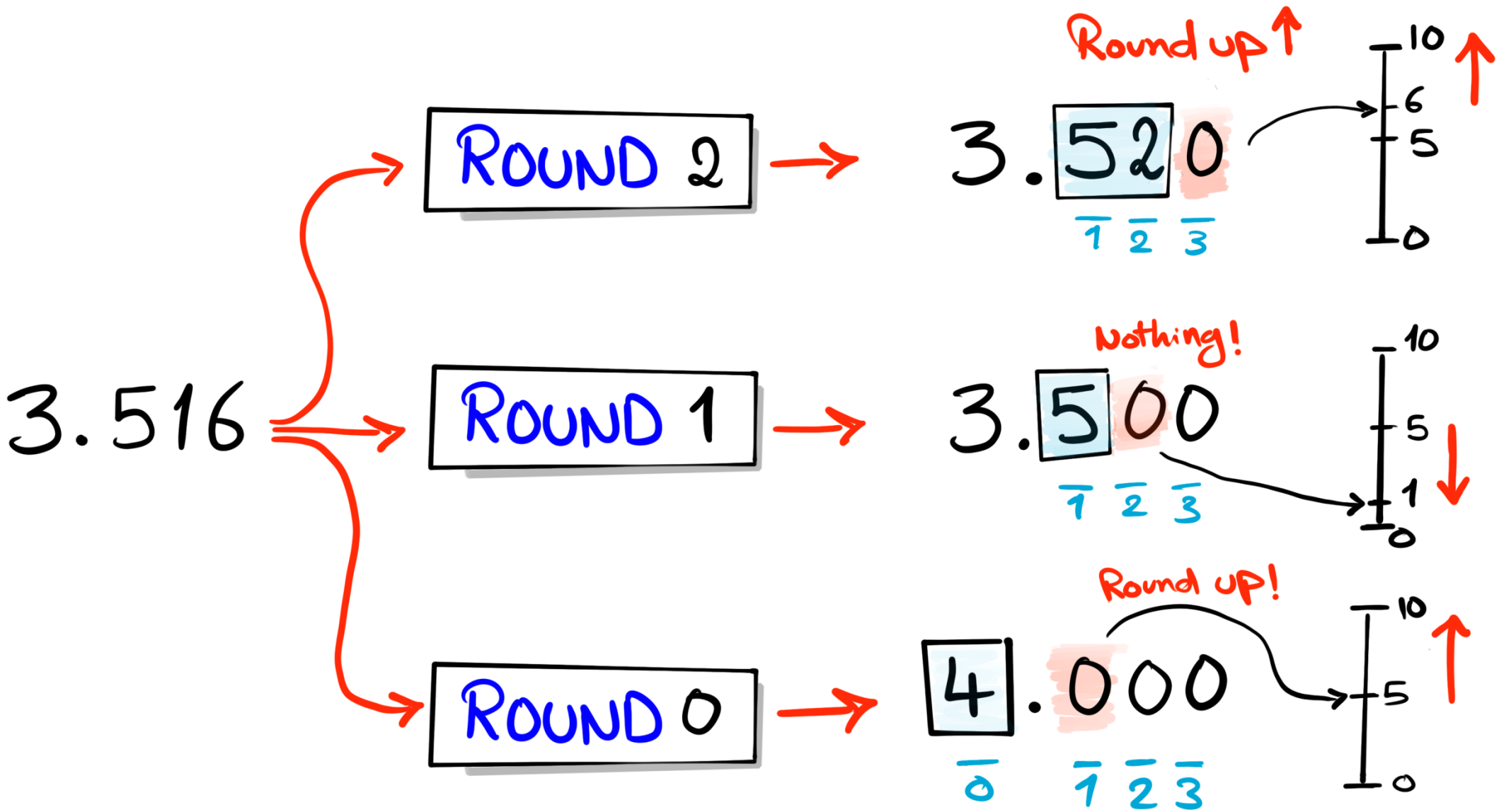
NULL Functions
Aggregate Functions (Basics)
Window Functions (Advanced)


3.516
ROUND 2
ROUND 1
ROUND 0
Round up
3.520
1 2 3
10
6
5
0
Nothing!
3.500
1 2 3
10
5
1
0
Round up!
4.000
0 1 2 3
10
5
0

# DATE & TIME

## FUNCTIONS

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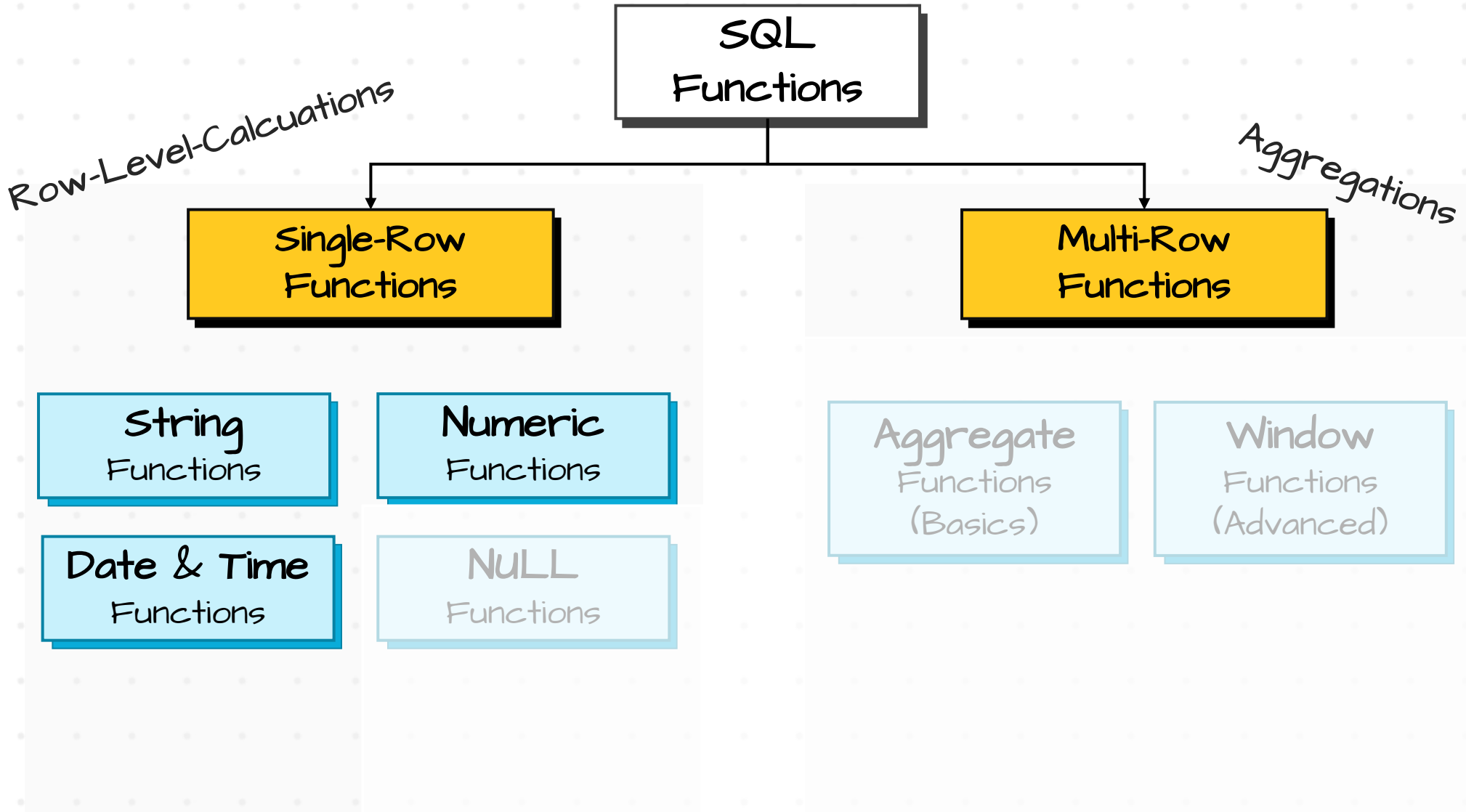
SQL Course | Date & Time Funcitons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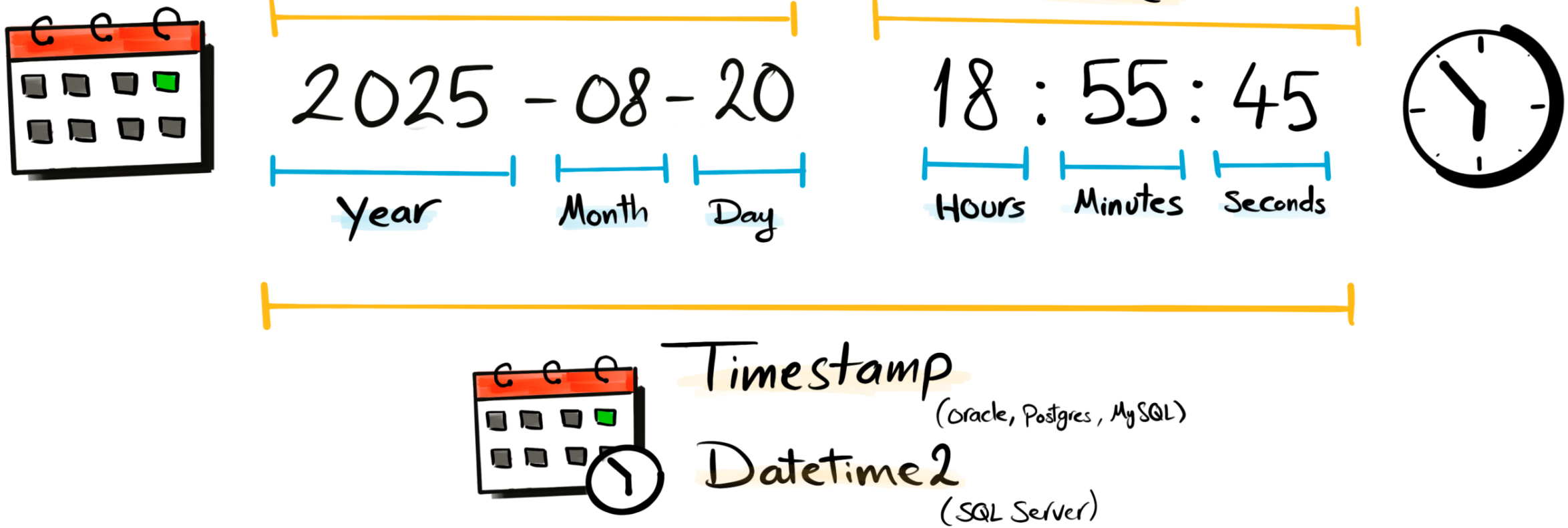
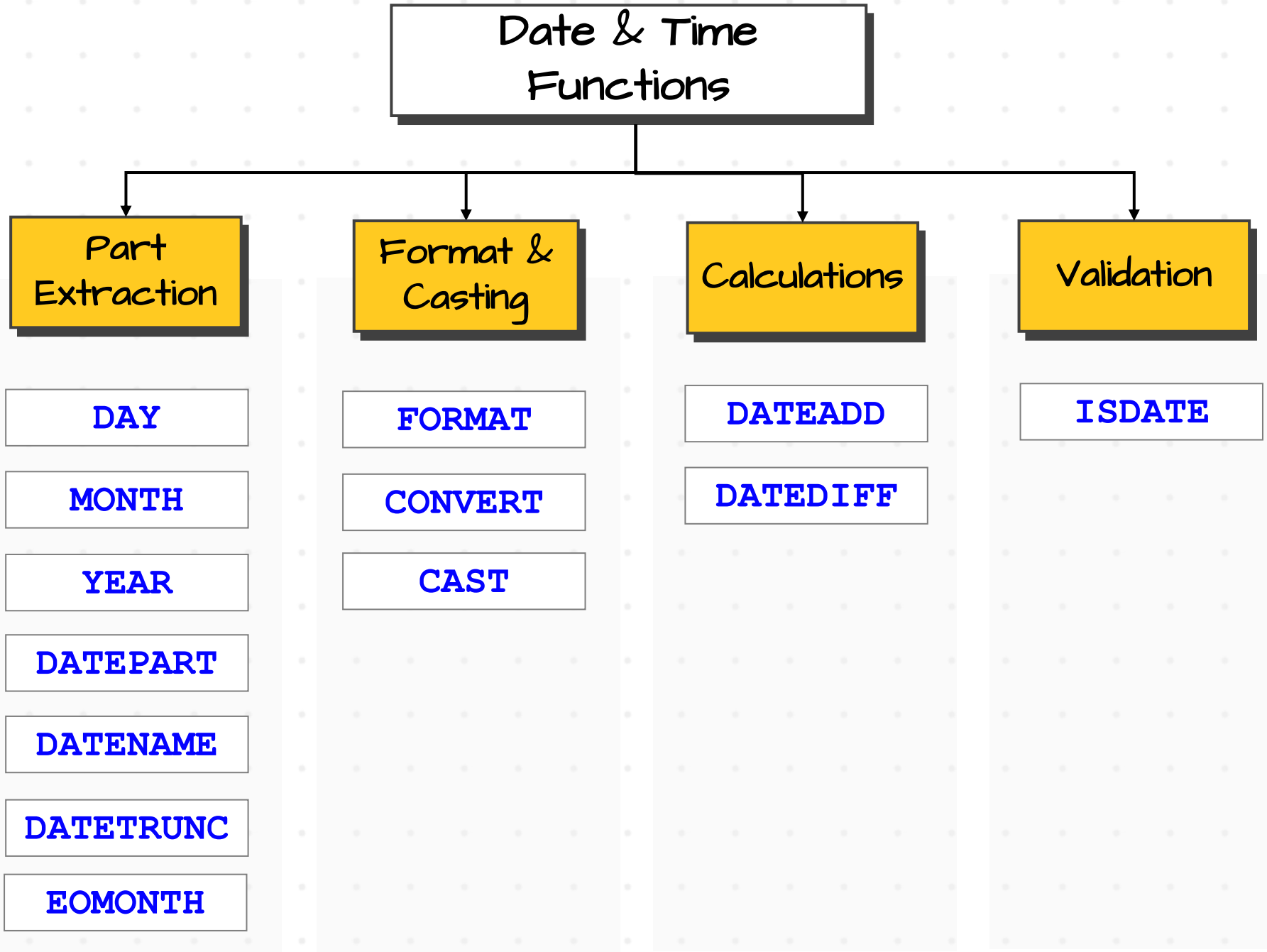
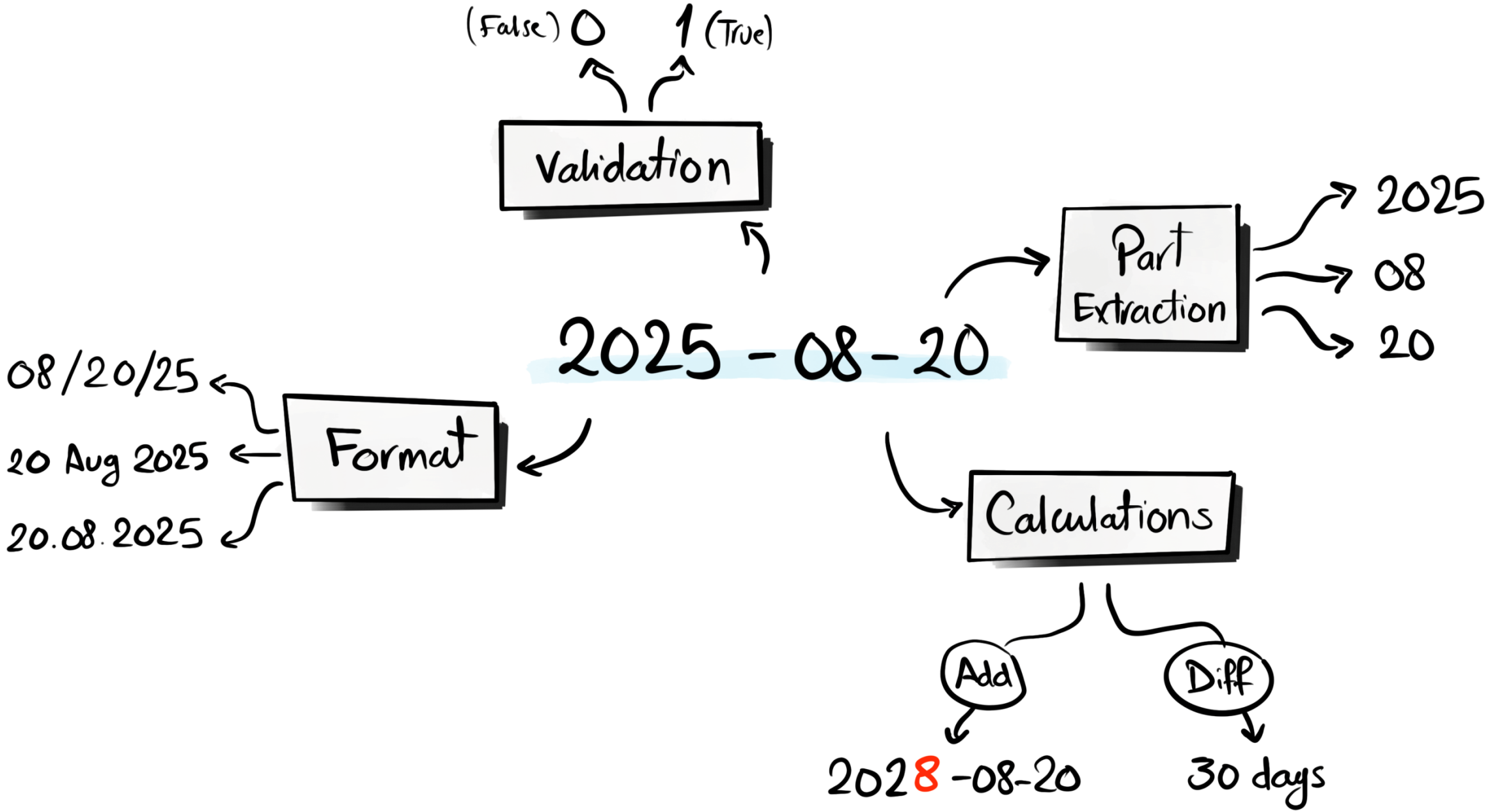

Date
Time
2025 - 08 - 20
18 : 55 : 45
Year
Month
Day
Hours
Minutes
Seconds
Timestamp
(Oracle, Postgres, MySQL)
Datetime2
(SQL Server)


Date & Time Functions
Part Extraction
Format & Casting
Calculations
Validation
DAY
MONTH
YEAR
DATEPART
DATENAME
DATETRUNC
EOMONTH
FORMAT
CONVERT
CAST
DATEADD
DATEDIFF
ISDATE


(False) 0
1 (True)
Validation
2025-08-20
Part Extraction
2025
08
20
08/20/25
20 Aug 2025
20.08.2025
Format
Calculations
Add
Diff
2028-08-20
30 days

# PARTS EXTRACTION

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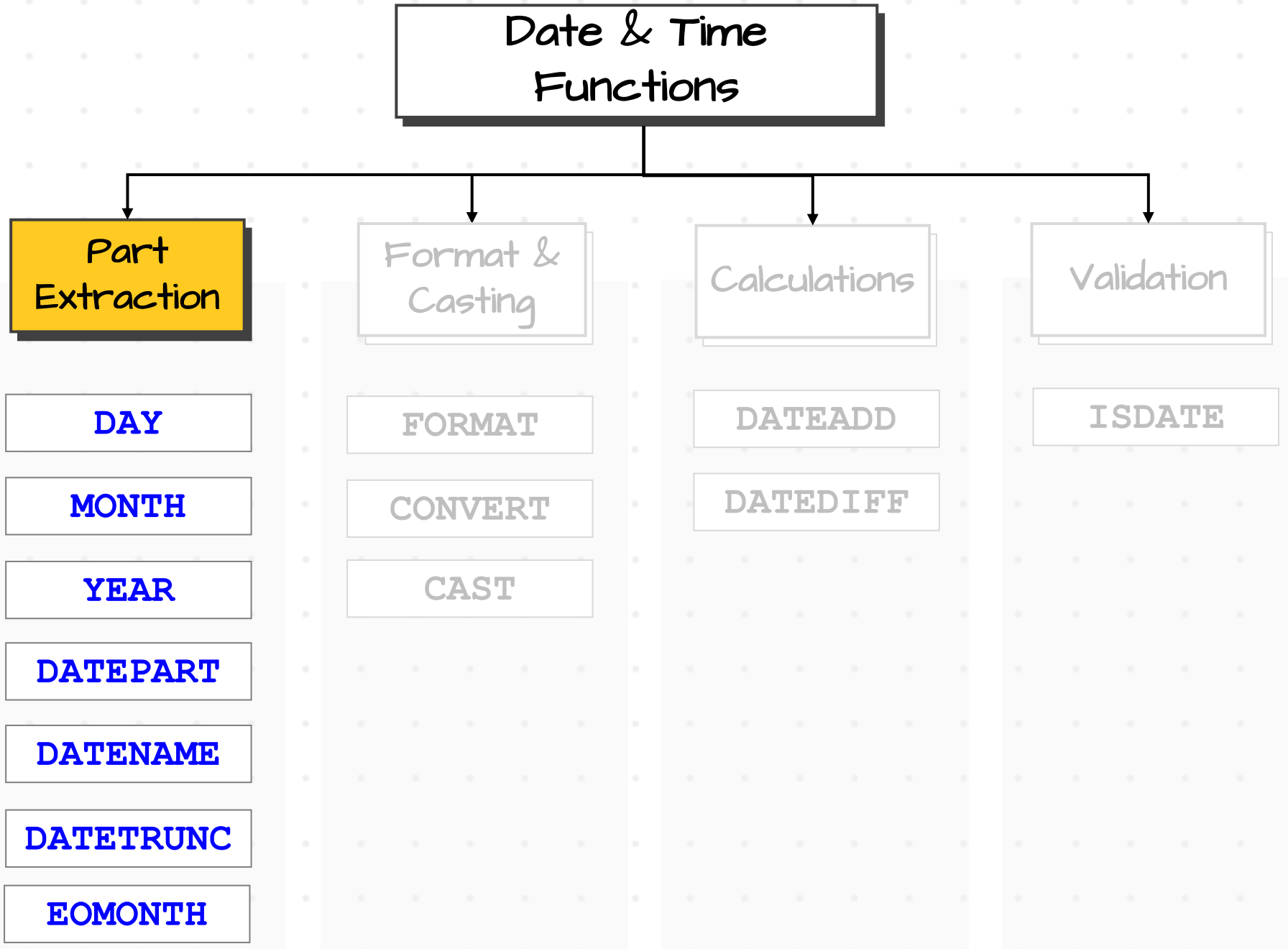
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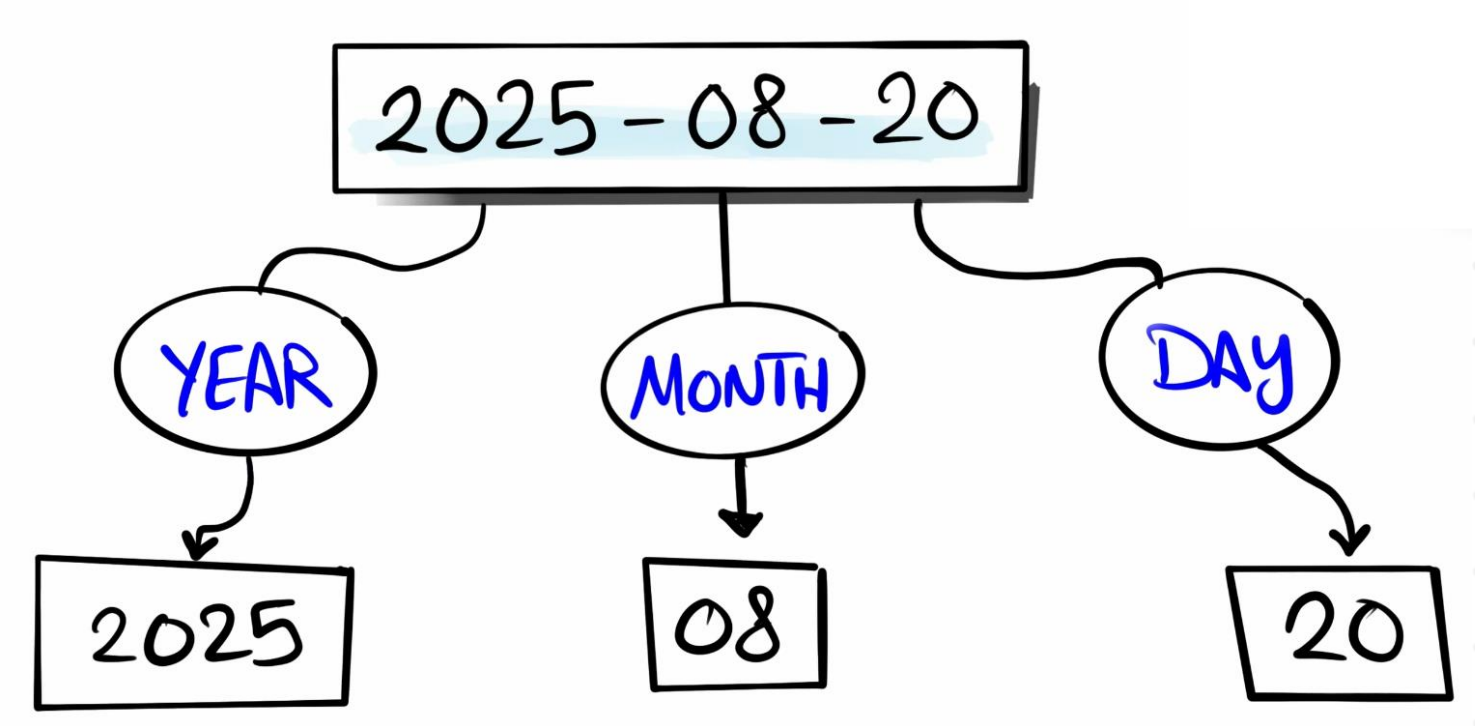
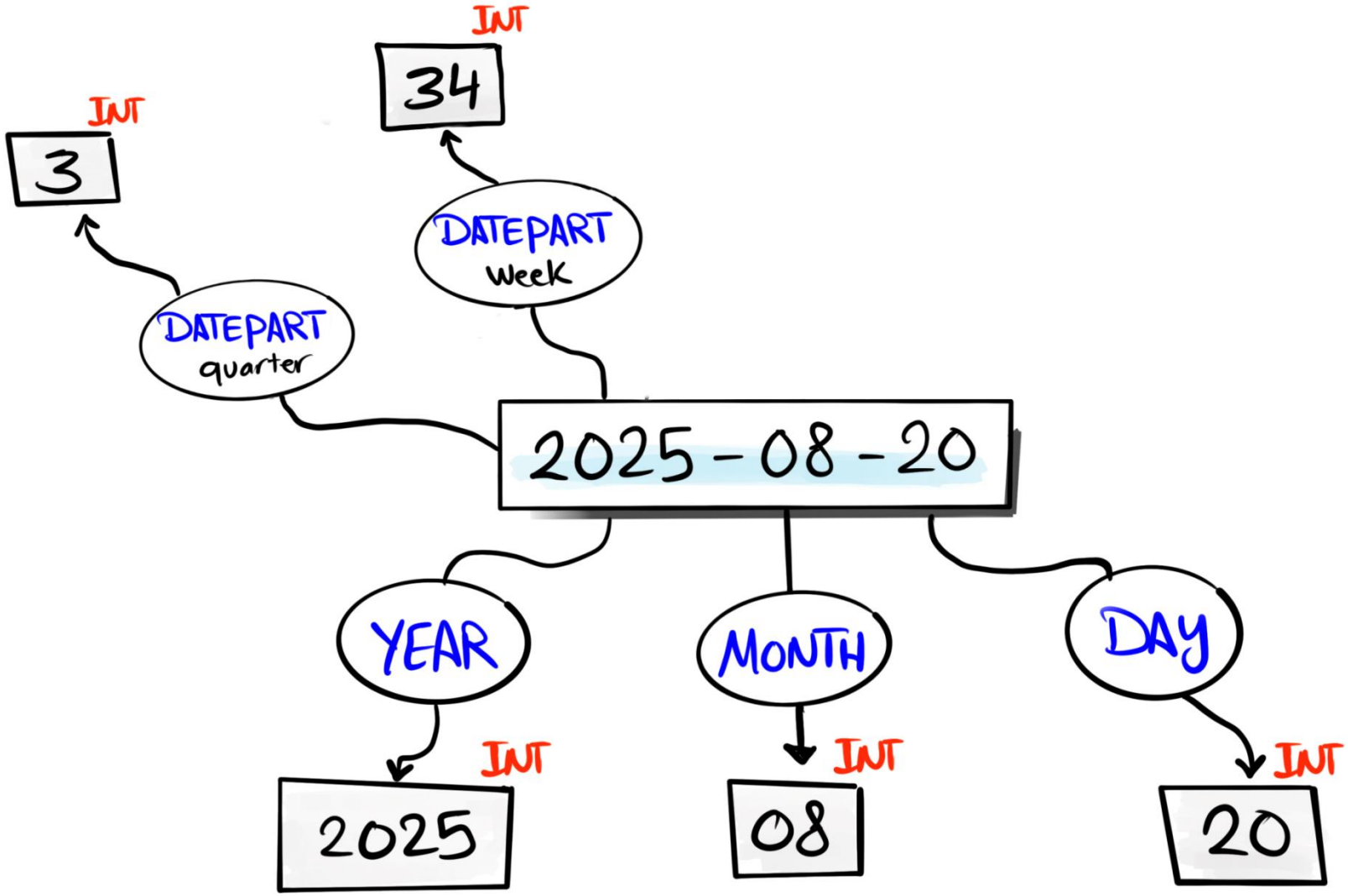
Validation
DAY
MONTH
YEAR
DATEPART
DATENAME
DATETRUNC
EOMONTH
FORMAT
CONVERT
CAST
DATEADD
DATEDIFF
ISDATE

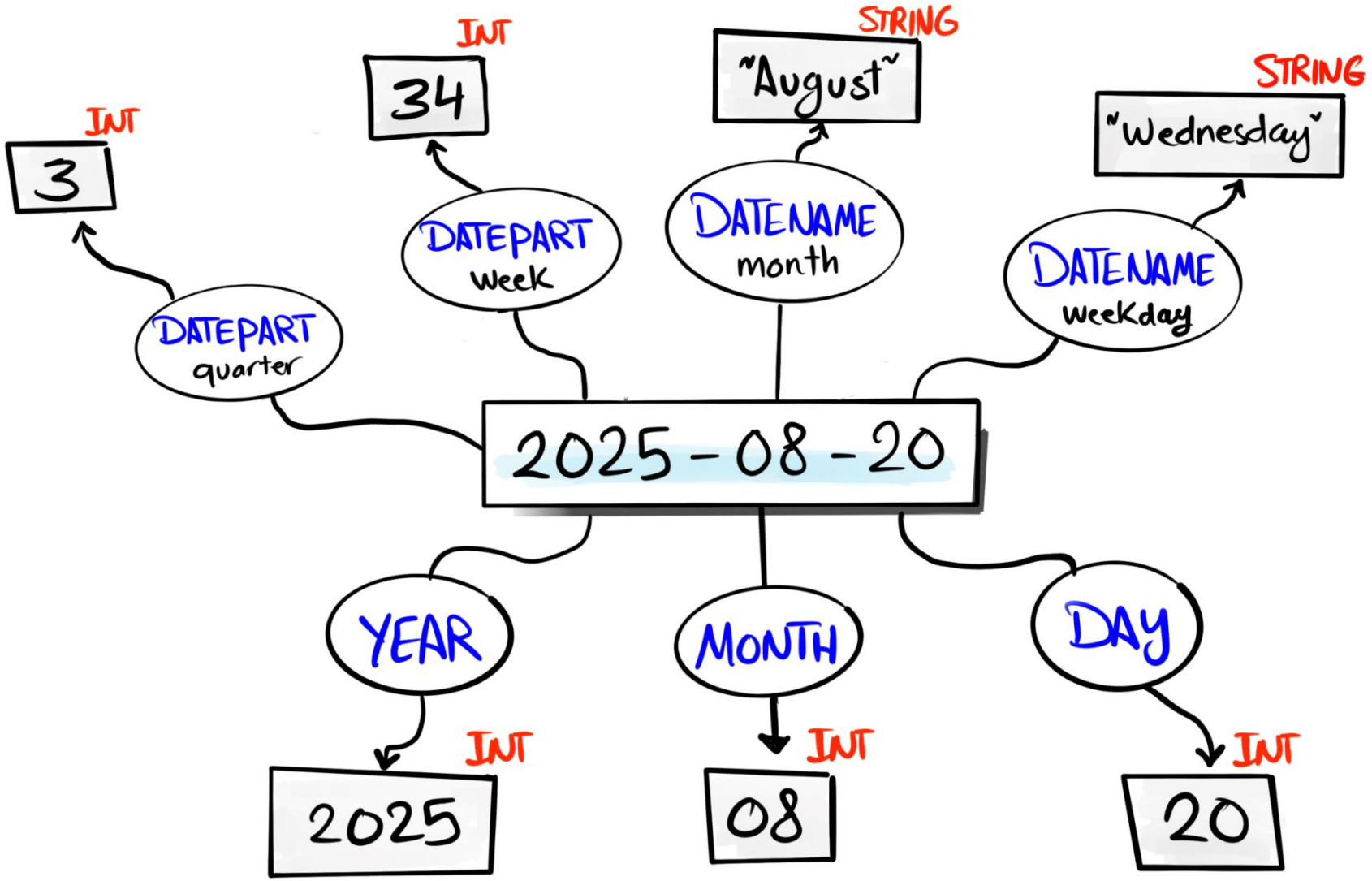
# Quick Functions
# YEAR, MONTH, DAY



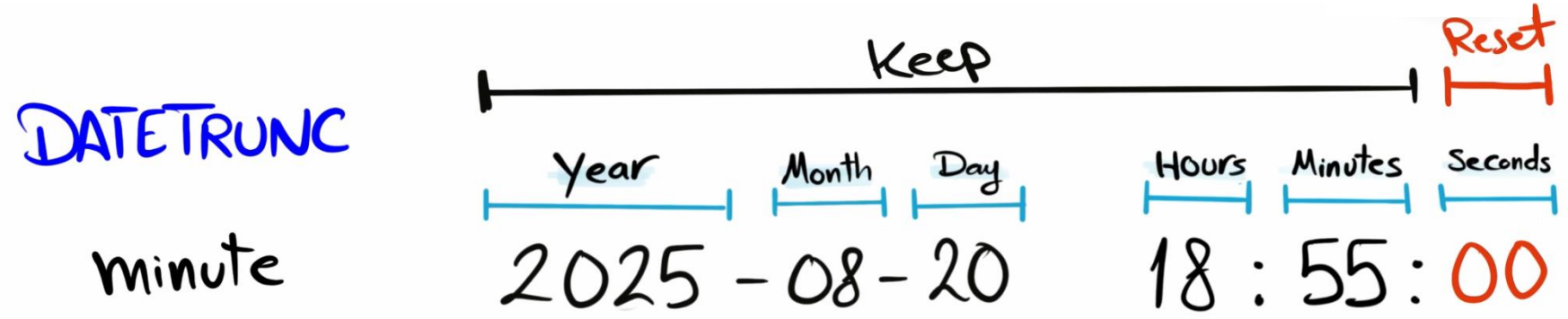
# DATEPART

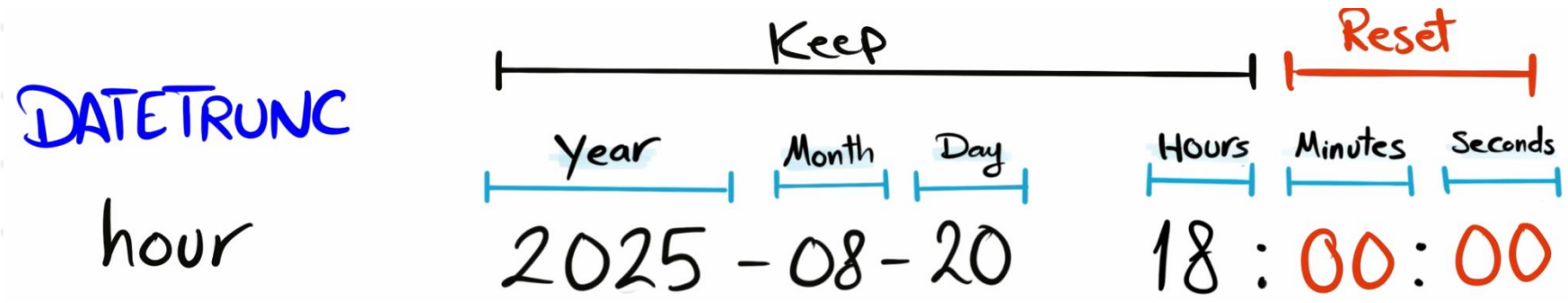

INT
34
INT
3
DATEPART
week
DATEPART
quarter
2025-08-20
YEAR
MONTH
DAY
INT
2025
INT
08
INT
20

# DATENAME

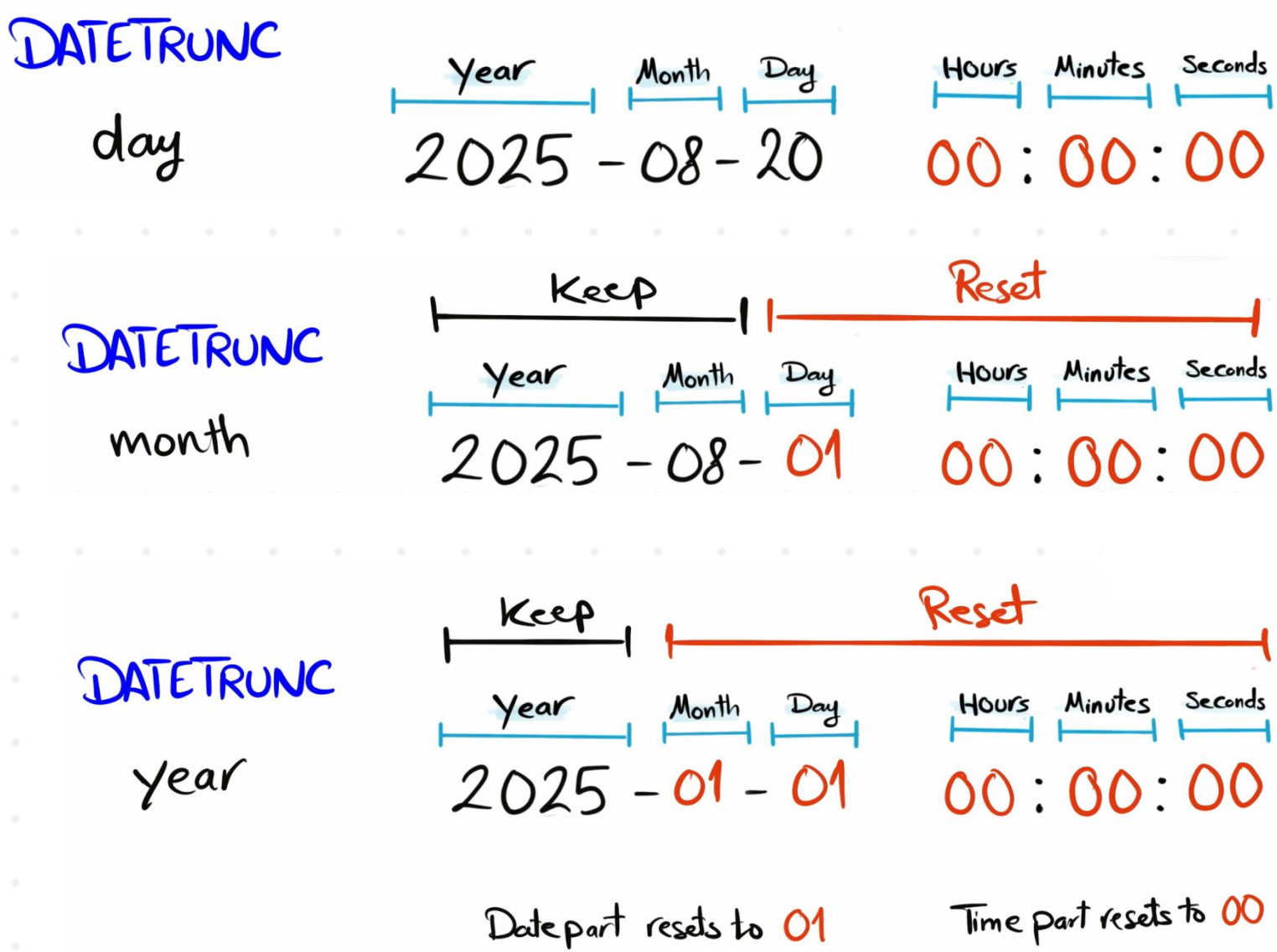

INT
34
STRING
"August"
STRING
"Wednesday"
INT
3
DATEPART
week
DATENAME
month
DATENAME
weekday
DATEPART
quarter
2025-08-20
YEAR
MONTH
DAY
INT
2025
INT
08
INT
20

# DATETRUNC


DATETRUNC
minute
Keep
Reset
Year
Month
Day
Hours
Minutes
Seconds
2025 - 08 - 20
18 : 55 : 00


DATETRUNC
hour
Keep
Reset
Year
Month
Day
Hours
Minutes
Seconds
2025 - 08 - 20
18 : 00 : 00

# DATETRUNC


DATETRUNC
day
Year
Month
Day
Hours
Minutes
Seconds
2025 - 08 - 20
00 : 00 : 00
DATETRUNC
month
Keep
Reset
Year
Month
Day
Hours
Minutes
Seconds
2025 - 08 - 01
00 : 00 : 00
DATETRUNC
year
Keep
Reset
Year
Month
Day
Hours
Minutes
Seconds
2025 - 01 - 01
00 : 00 : 00
Datepart resets to 01
Time part resets to 00

# EOMONTH

EOMONTH()

Year | Month | Day

2025 - 08 - 31

2025 - 02 - 28

2025 - 03 - 31

} DATE

# PART EXTRACTION
## Syntax

```
DAY(date)
```

```
MONTH(date)
```

```
YEAR(date)
```

```
EOMONTH(date)
```

```
DATEPART(part, date)
```

```
DATENAME(part, date)
```

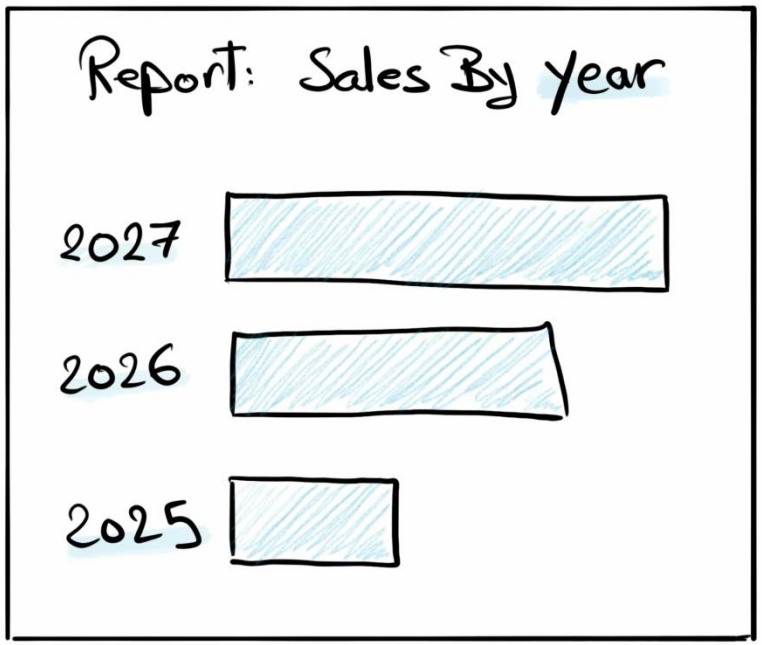
```
DATETRUNC(part, date)
```

# DATA TYPES

| | DATA TYPE |
|---|---|
| DAY, MONTH, YEAR, DATEPART | INT |
| DATENAME | STRING |
| DATETRUNC | DATETIME |
| EOMONTH | DATE |

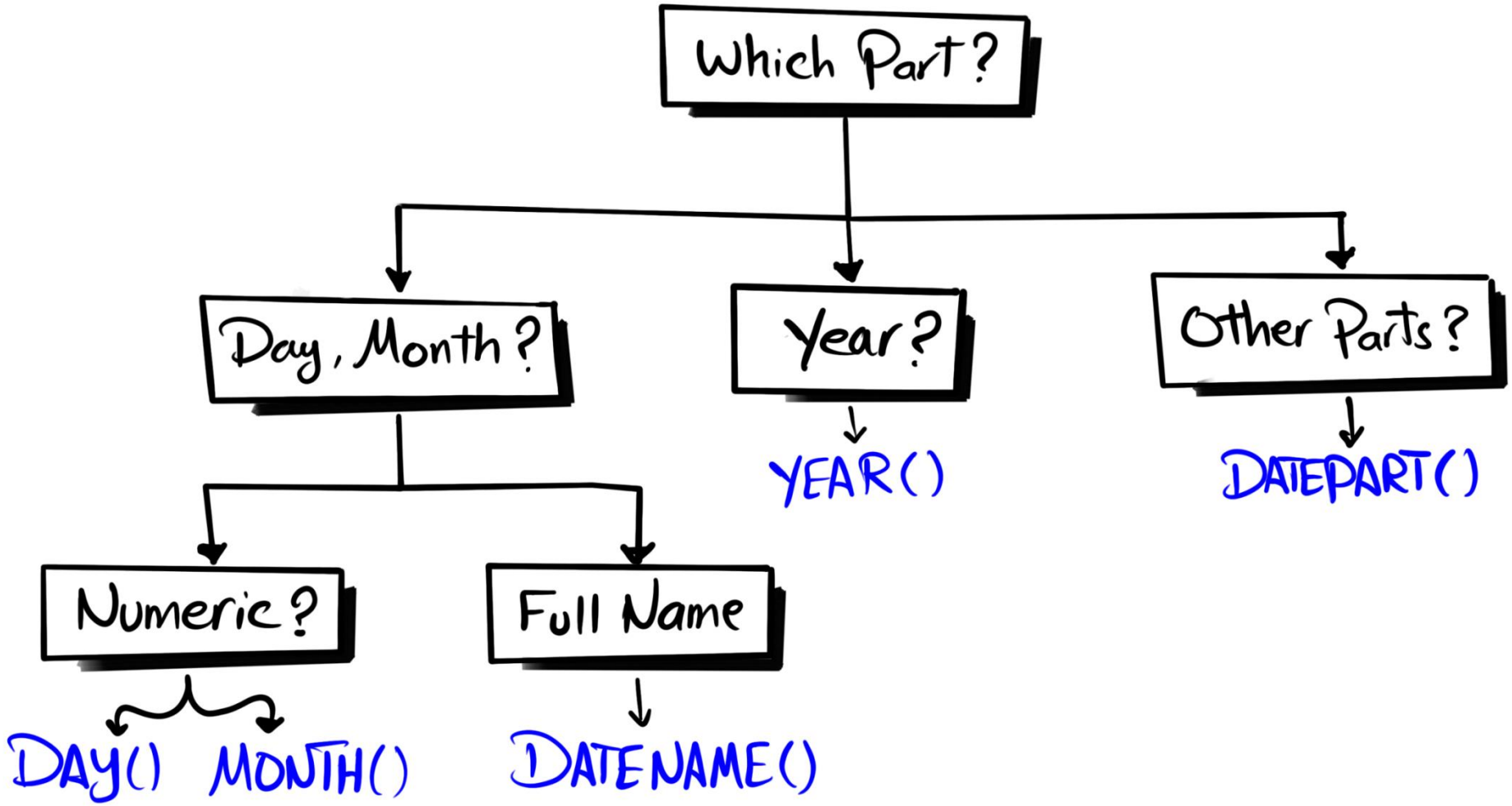
# DATE PARTS

Date parts help to aggregate data at different levels of granularity (year, month, day, etc.).





# How to Choose the Right Function?



2025-08-20
09:38:54.840

# Date Parts

DATEPART

DATENAME

DATETUNC

| | | INT | String | Datetime2 |
|---|---|---|---|---|
| Part | Abbre. | DATEPART | DATENMAME | DATETRUNC |
| year | yy, yyyy | 2025 | 2025 | 2025-01-01 00:00:00 |
| quarter | qq,q | 3 | 3 | 2025-07-01 00:00:00 |
| month | mm,m | 8 | August | 2025-08-01 00:00:00 |
| dayofyear | dy,y | 232 | 232 | 2025-08-20 00:00:00 |
| day | dd, d | 20 | 20 | 2025-08-20 00:00:00 |
| weekday | dw | 4 | Wednesday | Not supported |
| week | wk,ww | 34 | 34 | 2025-08-17 00:00:00 |
| iso_week | ns | 34 | 34 | 2025-08-18 00:00:00 |
| hour | hh | 9 | 9 | 2025-08-20 09:00:00 |
| minute | mi,n | 45 | 45 | 2025-08-20 09:45:00 |
| second | ss,s | 21 | 21 | 2025-08-20 09:45:21 |
| millisecond | ms | 0 | 0 | 2025-08-20 09:45:21 |
| microsecond | msc | 0 | 0 | 2025-08-20 09:45:21 |
| nanosecond | ns | 0 | 0 | Not supported |
| iso_week | isowk, isoww | 0 | +00:00 | Not supported |

# DATE FORMATS

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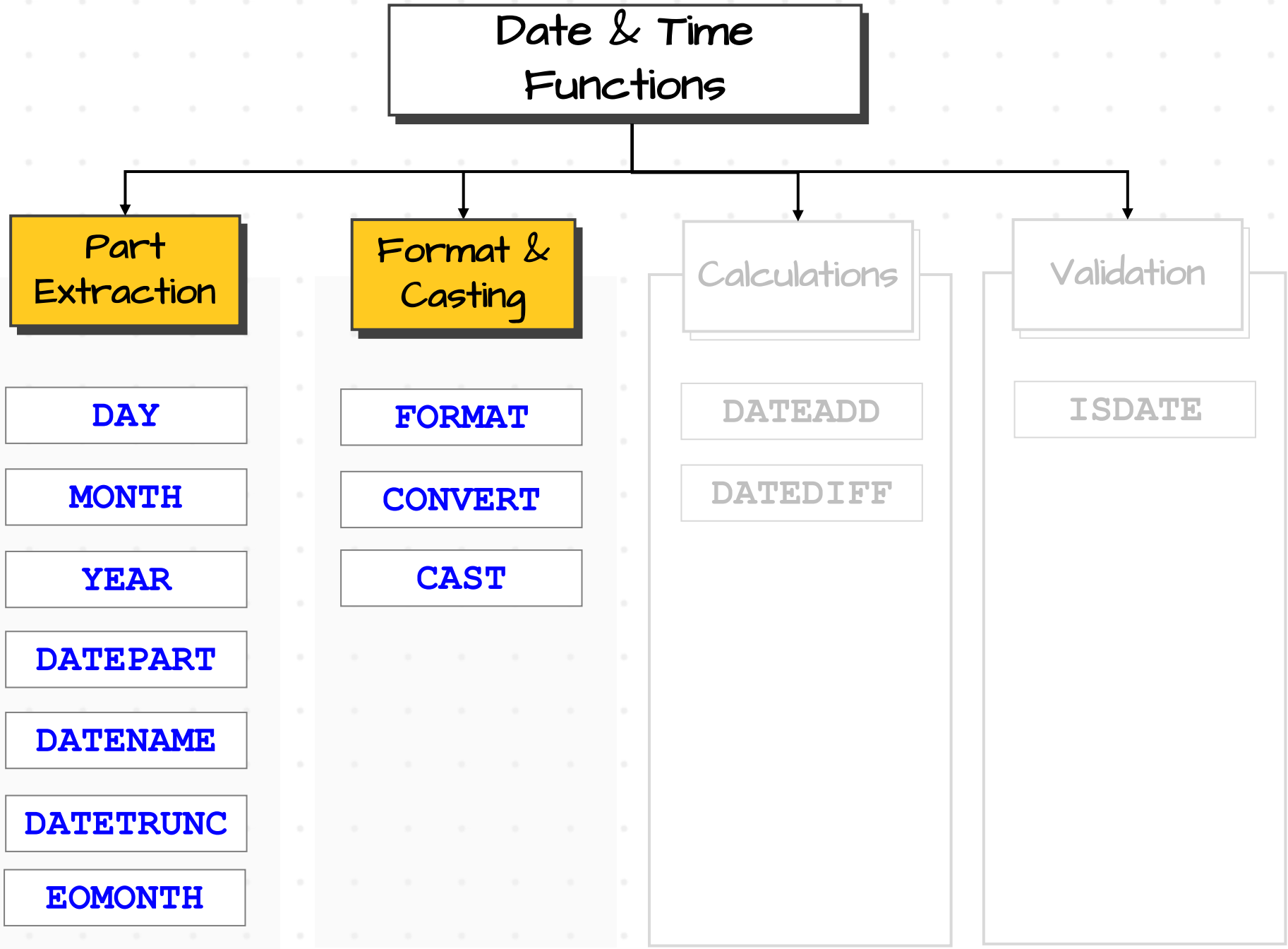
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MONTH
YEAR
DATEPART
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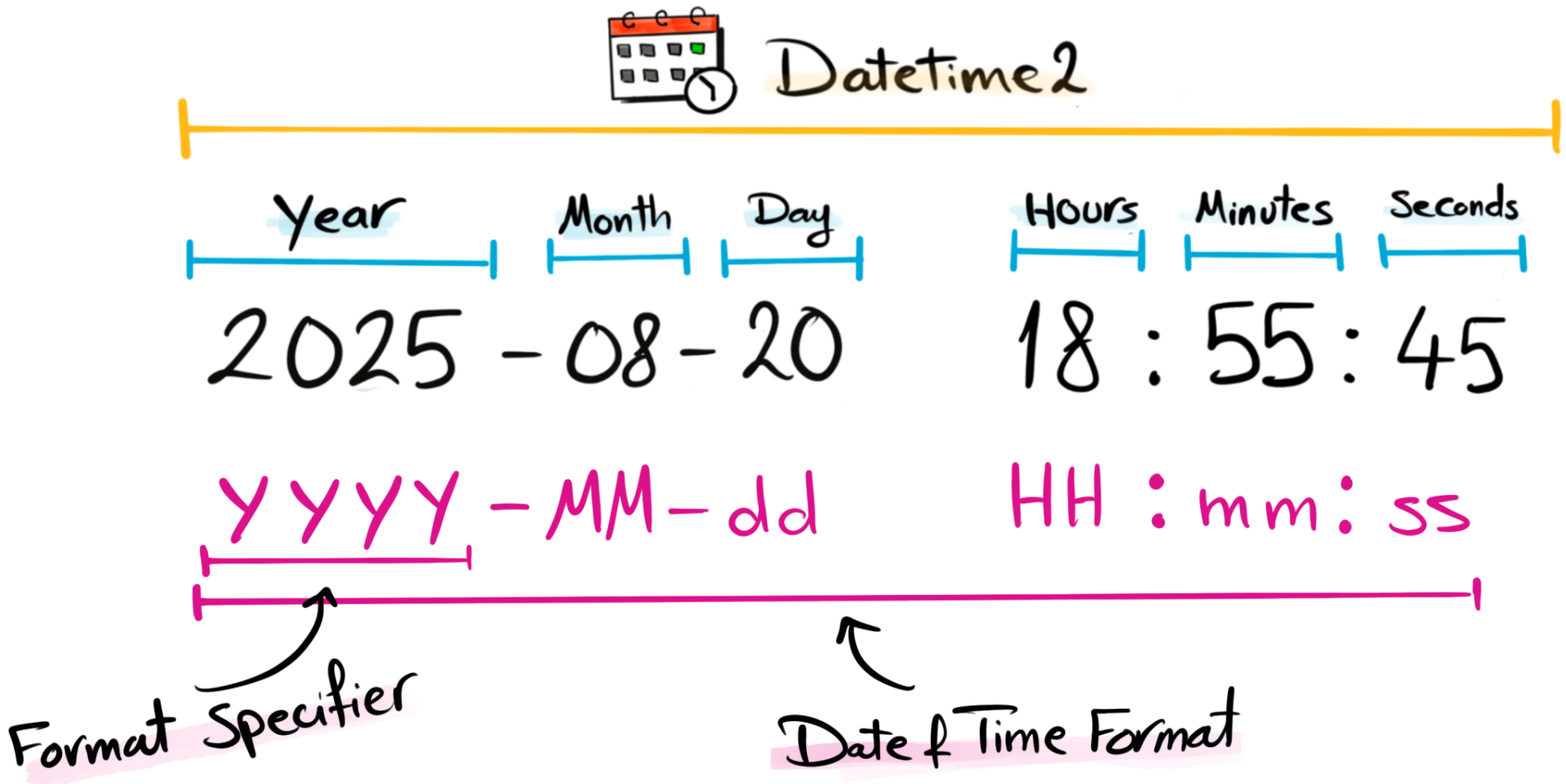
DATETRUNC
EOMONTH
Format & Casting
FORMAT
CONVERT
CAST
Calculations
DATEADD
DATEDIFF
Validation
ISDATE

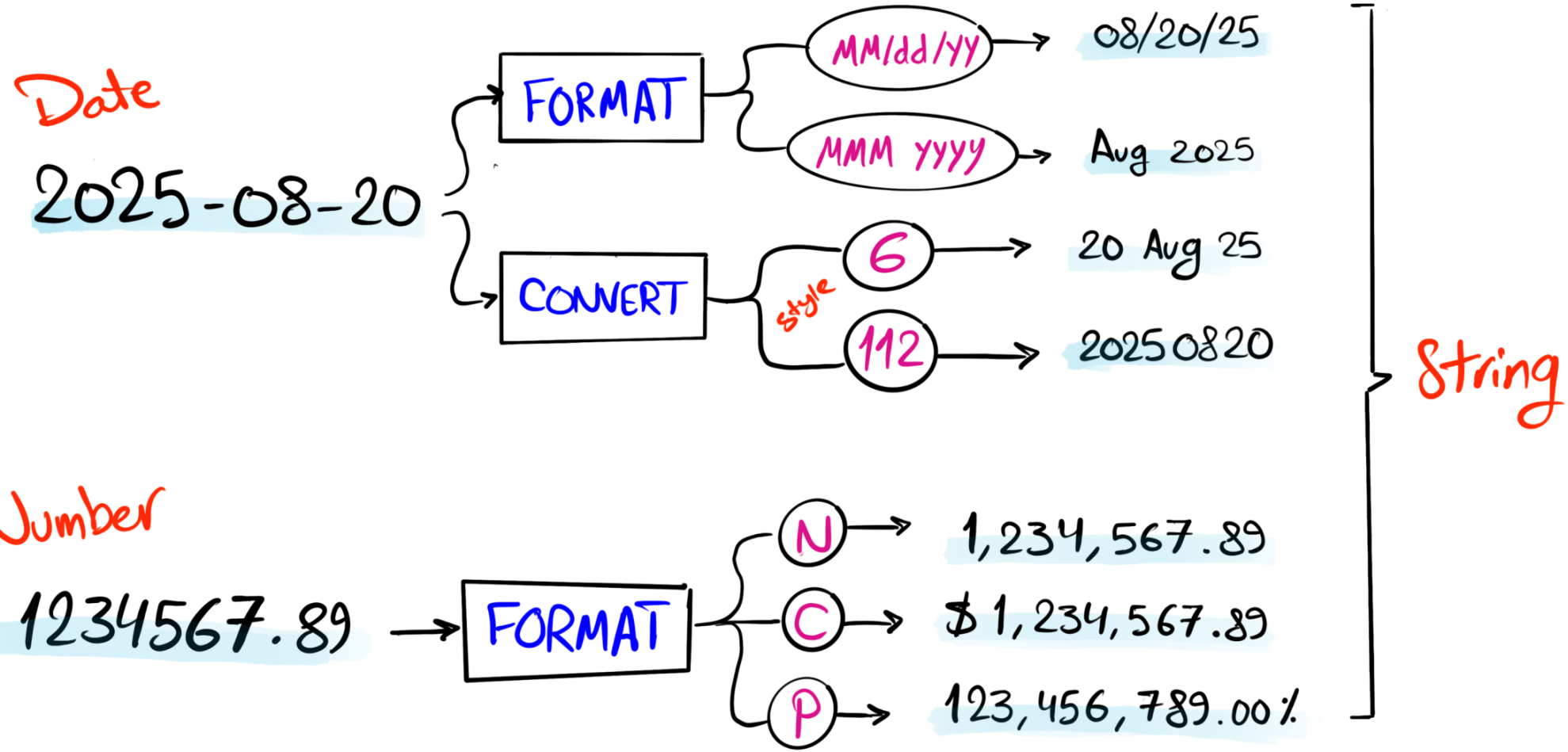

Datetime2
Year
Month
Day
Hours
Minutes
Seconds
2025-08-20
18:55:45
YYYY-MM-dd
HH:mm:ss
Format Specifier
Date & Time Format


2025-08-20
YYYY-MM-dd
} International Standard (Iso 8601)

08-20-2025
MM-dd-YYYY
} USA Standard

20-08-2025
dd-MM-YYYY
} European Standard

# FORMATING


Date
2025-08-20
FORMAT
MM/dd/yy
08/20/25
MMM yyyy
Aug 2025
CONVERT
style
6
20 Aug 25
112
20250820
Number
1234567.89
FORMAT
N
1,234,567.89
C
$1,234,567.89
P
123,456,789.00%
String

CAST()
CONVERT()

# CASTING

"Change Data Types"

String '123' → 123 Number

Date 2025-08-20 → '2025-08-20' String

String '2025-08-20' → 2025-08-20 Date

# FORMAT Syntax

## Syntax

```
FORMAT(value, format [,culture])
```

Optional

## Examples

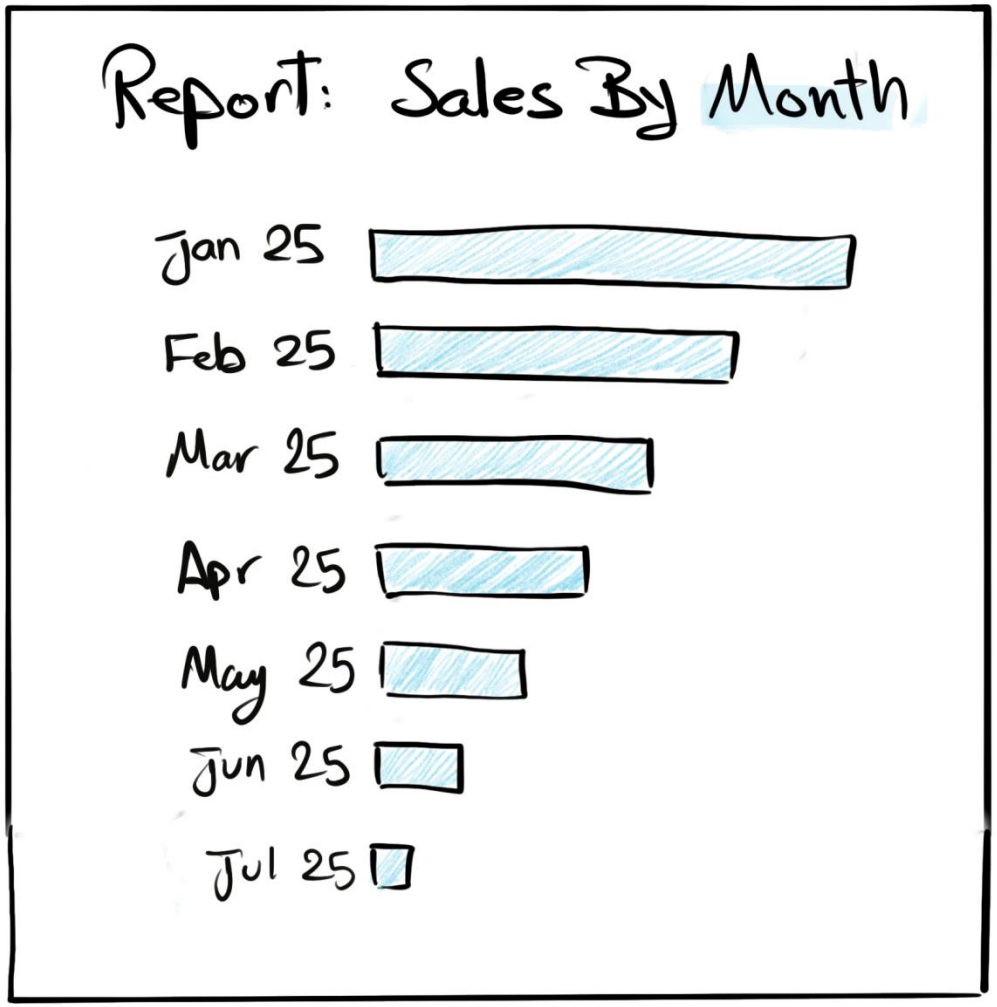
```
FORMAT(OrderDate,'dd/MM/yyyy')
```

```
FORMAT(OrderDate,'dd/MM/yyyy','ja-JP')
```

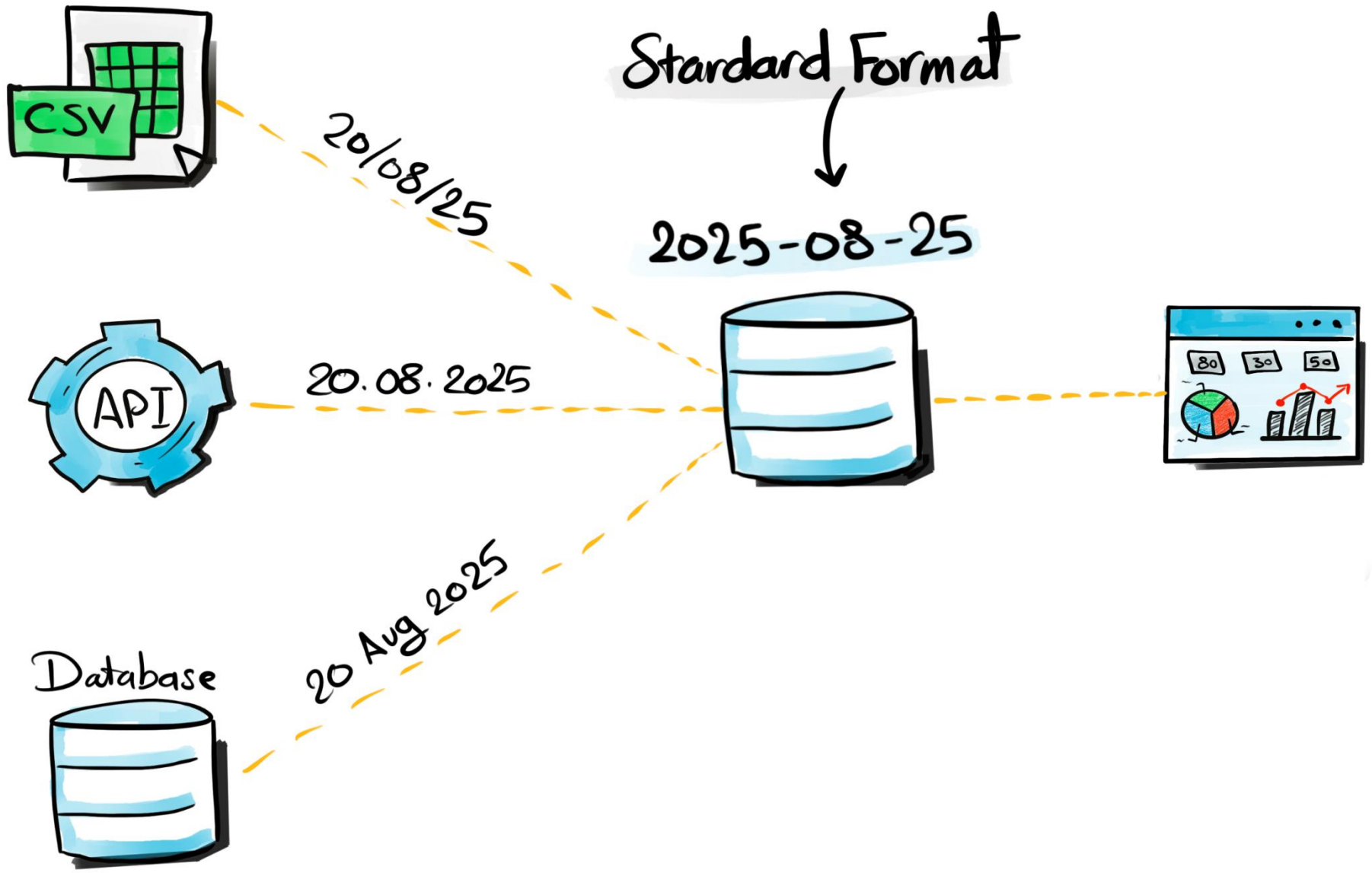
```
FORMAT(1234.56, 'D' ,'fr-FR')
```

Default Cultuer = 'en-US'

# FORMAT
## Use Case



# FORMAT
## Use Case



2025-08-20
18:55:45

# Date & Time Format Speicifiers

FORMAT

| Format | Description | Result |
|---|---|---|
| **D** | Full day name | |
| **d** | Day of the month | 8/20/2025 |
| **dd** | Day of the month (two-digit) | 20 |
| **ddd** | Abbreviated day name | Wed |
| **dddd** | Full day name | Wednesday |
| **M** | Month number | 44044 |
| **MM** | Month number (two-digit) | 8 |
| **MMM** | Abbreviated month name | Aug |
| **MMMM** | Full month name | August |
| **yy** | Year (two-digit) | 25 |
| **yyyy** | Year (four-digit) | 2025 |
| **hh** | Hour (12-hour format, two-digit) | 06 |
| **HH** | Hour (24-hour format, two-digit) | 18 |
| **m** | Minutes | August 20 |
| **mm** | Minutes (two-digit) | 55 |
| **s** | Seconds | 2025-08-20T18:55:45 |
| **ss** | Seconds (two-digit) | 45 |
| **f** | Fractional seconds (one digit) | Wednesday, August 20, 2025 6:55 PM |
| **ff** | Fractional seconds (two digits) | 00 |
| **fff** | Fractional seconds (three digits) | 000 |
| **tt** | AM/PM designator | PM |

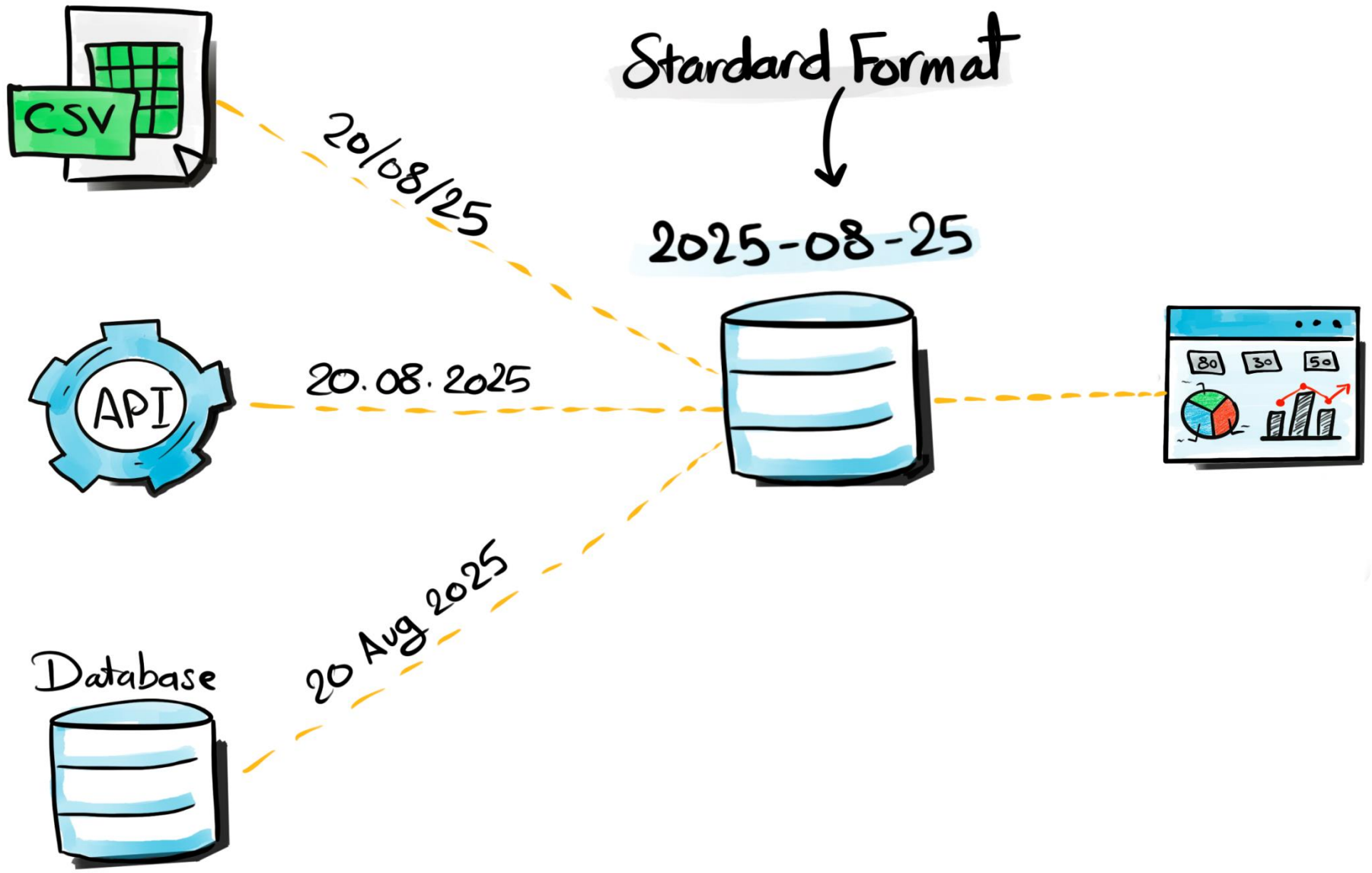
2025-08-20
18:55:45

# Number Format Speicifiers

FORMAT

| Format | Description | Query | Result |
|---|---|---|---|
| **N** | Numeric default | SELECT FORMAT(1234.56, 'N') | 1,234.56 |
| **P** | Percentage | SELECT FORMAT(1234.56, 'P') | 123,456.00 % |
| **C** | Currency | SELECT FORMAT(1234.56, 'C') | $1,234.56 |
| **E** | Scientific notation | SELECT FORMAT(1234.56, 'E') | 1,23E+09 |
| **F** | Fixed-point | SELECT FORMAT(1234.56, 'F') | 1234.56 |
| **N0** | Numeric no decimals | SELECT FORMAT(1234.56, 'N0') | 1,235 |
| **N1** | Numeric one decimal | SELECT FORMAT(1234.56, 'N1') | 1,234.6 |
| **N2** | Numeric two decimals | SELECT FORMAT(1234.56, 'N2') | 1,234.56 |
| **N , de_DE** | Numeric (German) | SELECT FORMAT(1234.56, 'N', 'de-DE') | 1.234,56 |
| **N, en_US** | Numeric (US) | SELECT FORMAT(1234.56, 'N', 'en-US') | 1,234.56 |

# FORMAT
## Use Case



# CONVERT

Syntax

```
CONVERT(data_type, value [,style])
```

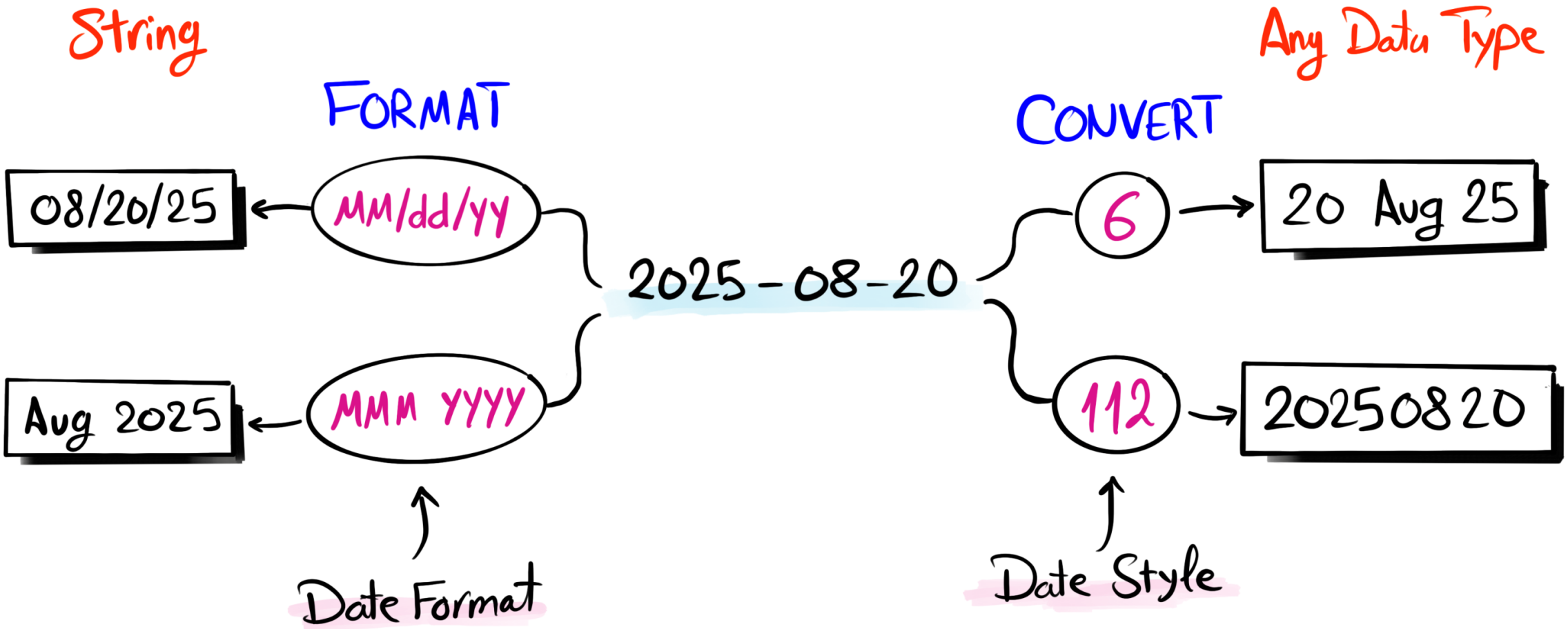
Optional

Examples

```
CONVERT(INT, '124')
```

```
CONVERT(VARCHAR, OrderDate, '34')
```

Default Style = 0


String
Any Data Type
FORMAT
CONVERT
08/20/25
MM/dd/yy
Aug 2025
MMM yyyy
2025-08-20
6
20 Aug 25
112
20250820
Date Format
Date Style

# Date

| # | Format | Example |
|---|---|---|
| 1 | mm/dd/yy | 12/30/25 |
| 2 | yy.mm.dd | 25.12.30 |
| 3 | dd/mm/yy | 30/12/2025 |
| 4 | dd.mm.yy | 30.12.25 |
| 5 | dd-mm-yy | 30/12/2025 |
| 6 | dd-Mon-yy | 30-Dec-25 |
| 7 | Mon dd, yy | Dec 30, 25 |
| 10 | mm-dd-yy | 12-30-25 |
| 11 | yy/mm/dd | 25/12/1930 |
| 12 | yymmdd | 251230 |
| 23 | yyyy-mm-dd | 30/12/2025 |
| 31 | yyyy-dd-mm | 2025-30-12 |
| 32 | mm-dd-yyyy | 12-30-2025 |
| 33 | mm-yyyy-dd | 12-2025-30 |
| 34 | dd-mm-yyyy | 30/12/2025 |
| 35 | dd-yyyy-mm | 30-2025-12 |
| 101 | mm/dd/yyyy | 12/30/2025 |
| 102 | yyyy.mm.dd | 2025.12.30 |
| 103 | dd/mm/yyyy | 30/12/2025 |
| 104 | dd.mm.yyyy | 30.12.2025 |
| 105 | dd-mm-yyyy | 30/12/2025 |
| 106 | dd Mon yyyy | 30-Dec-25 |
| 107 | Mon dd, yyyy | Dec 30, 2025 |
| 110 | mm-dd-yyyy | 12-30-2025 |
| 111 | yyyy/mm/dd | 30/12/2025 |
| 112 | yyyymmdd | 20251230 |

# Time

| # | Format | Example |
|---|---|---|
| 8 | hh:mm:ss | 00:38:54 |
| 14 | hh:mm:ss:nnn | 00:38:54:840 |
| 24 | hh:mm:ss | 00:38:54 |
| 108 | hh:mm:ss | 00:38:54 |
| 114 | hh:mm:ss:nnn | 00:38:54:840 |

# Date & Time Styles

**CONVERT**

# Datetime2

| # | Format | Example |
|---|---|---|
| 0 | Mon dd yyyy hh:mm AM/PM | Dec 30 2025 12:38AM |
| 9 | Mon dd yyyy hh:mm:ss:nnn AM/PM | Dec 30 2025 12:38:54:840AM |
| 13 | dd Mon yyyy hh:mm:ss:nnn AM/PM | 30 Dec 2025 00:38:54:840AM |
| 20 | yyyy-mm-dd hh:mm:ss | 2025-12-30 00:38:54 |
| 21 | yyyy-mm-dd hh:mm:ss:nnn | 2025-12-30 00:38:54.840 |
| 22 | mm/dd/yy hh:mm:ss AM/PM | 12/30/25 12:38:54 AM |
| 25 | yyyy-mm-dd hh:mm:ss:nnn | 2025-12-30 00:38:54.840 |
| 26 | yyyy-dd-mm hh:mm:ss:nnn | 2025-30-12 00:38:54.840 |
| 27 | mm-dd-yyyy hh:mm:ss:nnn | 12-30-2025 00:38:54.840 |
| 28 | mm-yyyy-dd hh:mm:ss:nnn | 12-2025-30 00:38:54.840 |
| 29 | dd-mm-yyyy hh:mm:ss:nnn | 30-12-2025 00:38:54.840 |
| 30 | dd-yyyy-mm hh:mm:ss:nnn | 30-2025-12 00:38:54.840 |
| 100 | Mon dd yyyy hh:mm AM/PM | Dec 30 2025 12:38AM |
| 109 | Mon dd yyyy hh:mm:ss:nnn AM/PM | Dec 30 2025 12:38:54:840AM |
| 113 | dd Mon yyyy hh:mm:ss:nnn | 30 Dec 2025 00:38:54:840 |
| 120 | yyyy-mm-dd hh:mm:ss | 2025-12-30 00:38:54 |
| 121 | yyyy-mm-dd hh:mm:ss:nnn | 2025-12-30 00:38:54.840 |
| 126 | yyyy-mm-dd T hh:mm:ss:nnn | 2025-12-30T00:38:54.840 |
| 127 | yyyy-mm-dd T hh:mm:ss:nnn | 2025-12-30T00:38:54.840 |

```
2025-08-20
18:55:45.840
```

# CAST

Syntax

```
CAST(value AS data_type)
```

Examples

```
CAST('123' AS INT)
```

```
CAST('2025-08-20' AS DATE)
```

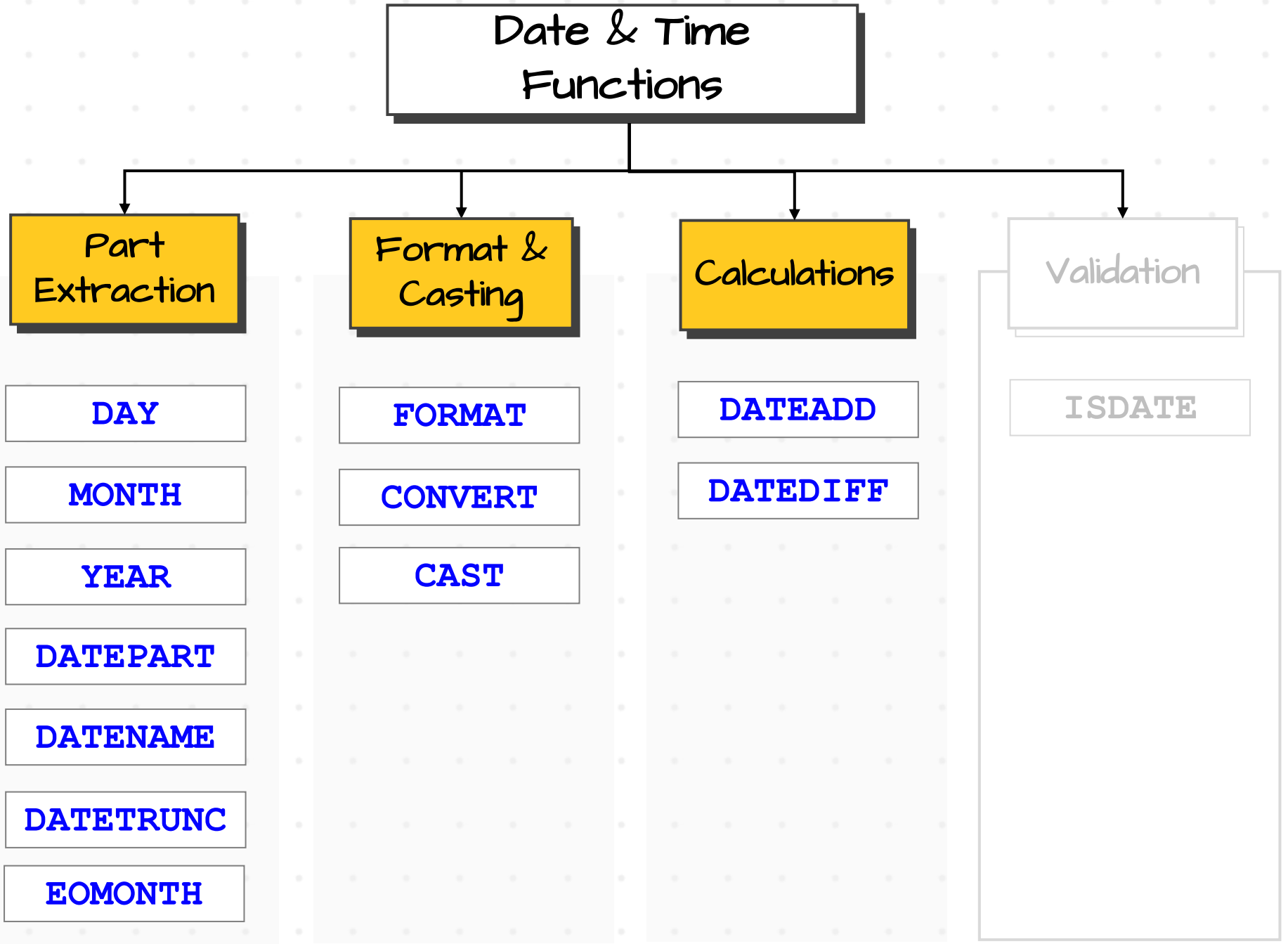
No format can be specified

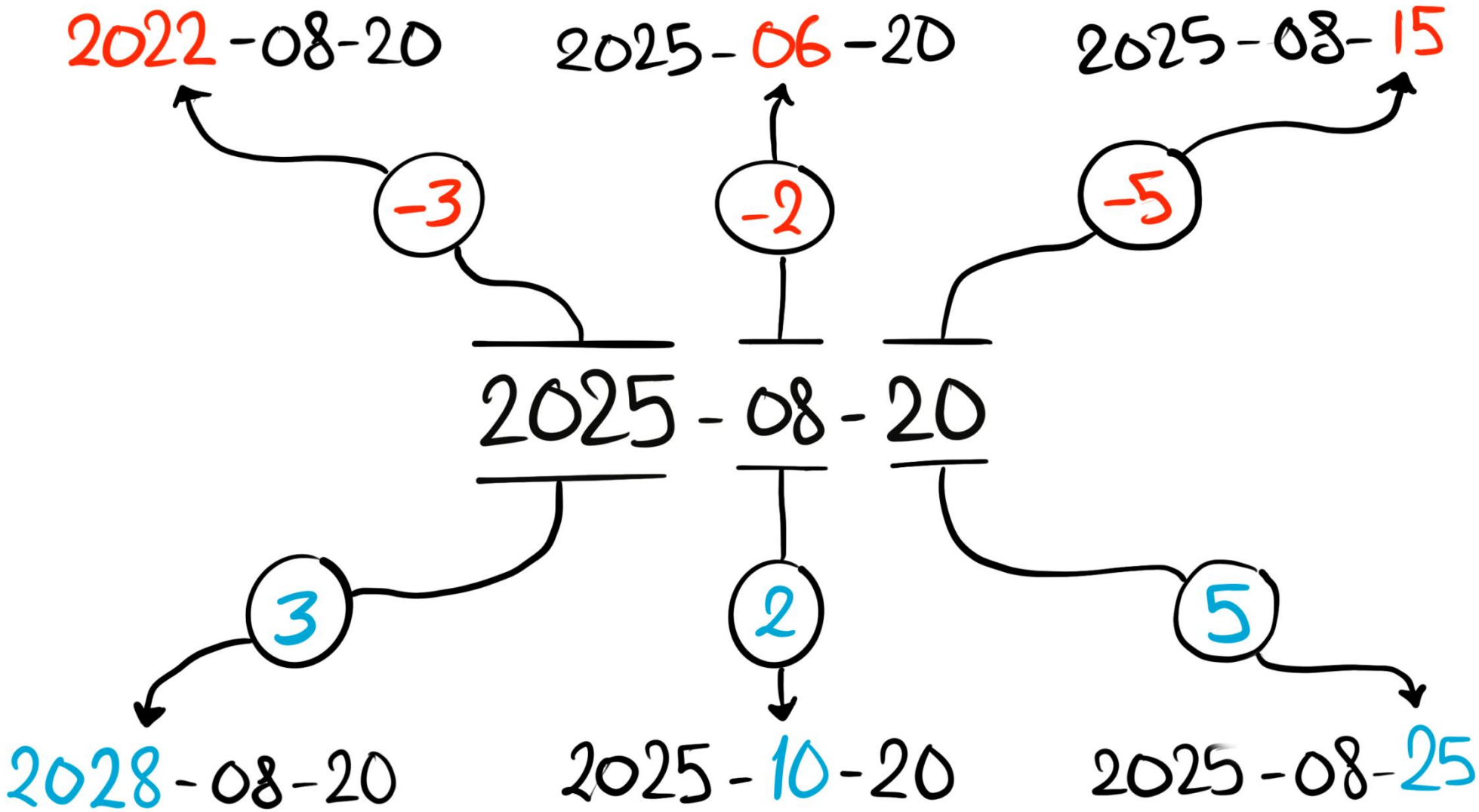
| | CASTING | FORMATING |
| --- | --- | --- |
| CAST | Any Type to Any Type | X No Formating |
| CONVERT | Any Type to Any Type | Formates only Date & Time |
| FORMAT | Any Type to Only String | Formates < Date & Time, Numbers |

# DATE CALCULATIONS

Baraa Khatib Salkini

SQL Course | Date & Time Funcitons


Date & Time Functions
Part Extraction
DAY
MONTH
YEAR
DATEPART
DATENAME
DATETRUNC
EOMONTH
Format & Casting
FORMAT
CONVERT
CAST
Calculations
DATEADD
DATEDIFF
Validation
ISDATE


2022-08-20
2025-06-20
2025-08-15
-3
-2
-5
2025-08-20
3
2
5
2028-08-20
2025-10-20
2025-08-25

# DATEADD

## Syntax

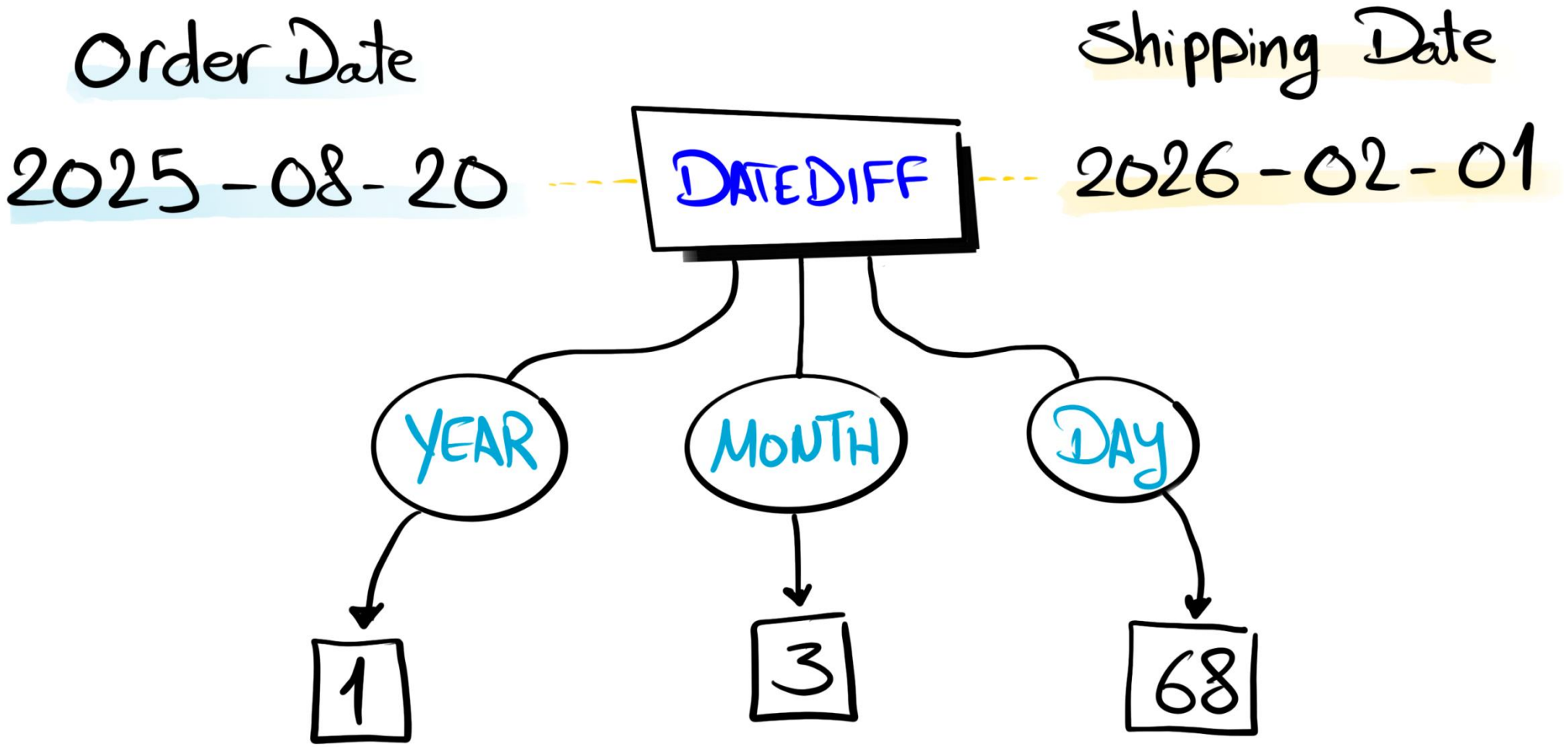
```
DATEADD(part, interval, date)
```

## Examples

```
DATEADD(year, 2, OrderDate)
```

```
DATEADD(month, -4, OrderDate)
```

# DATEDIFF


Order Date
2025-08-20
DATEDIFF
Shipping Date
2026-02-01
YEAR
MONTH
DAY
1
3
68

# DATEDIFF

Syntax

```
DATEDIFF(part, start_date, end_date)
```

Examples

```
DATEDIFF(year, OrderDate, ShipDate)
```

```
DATEDIFF(day, OrderDate, ShipDate)
```

# ISDATE

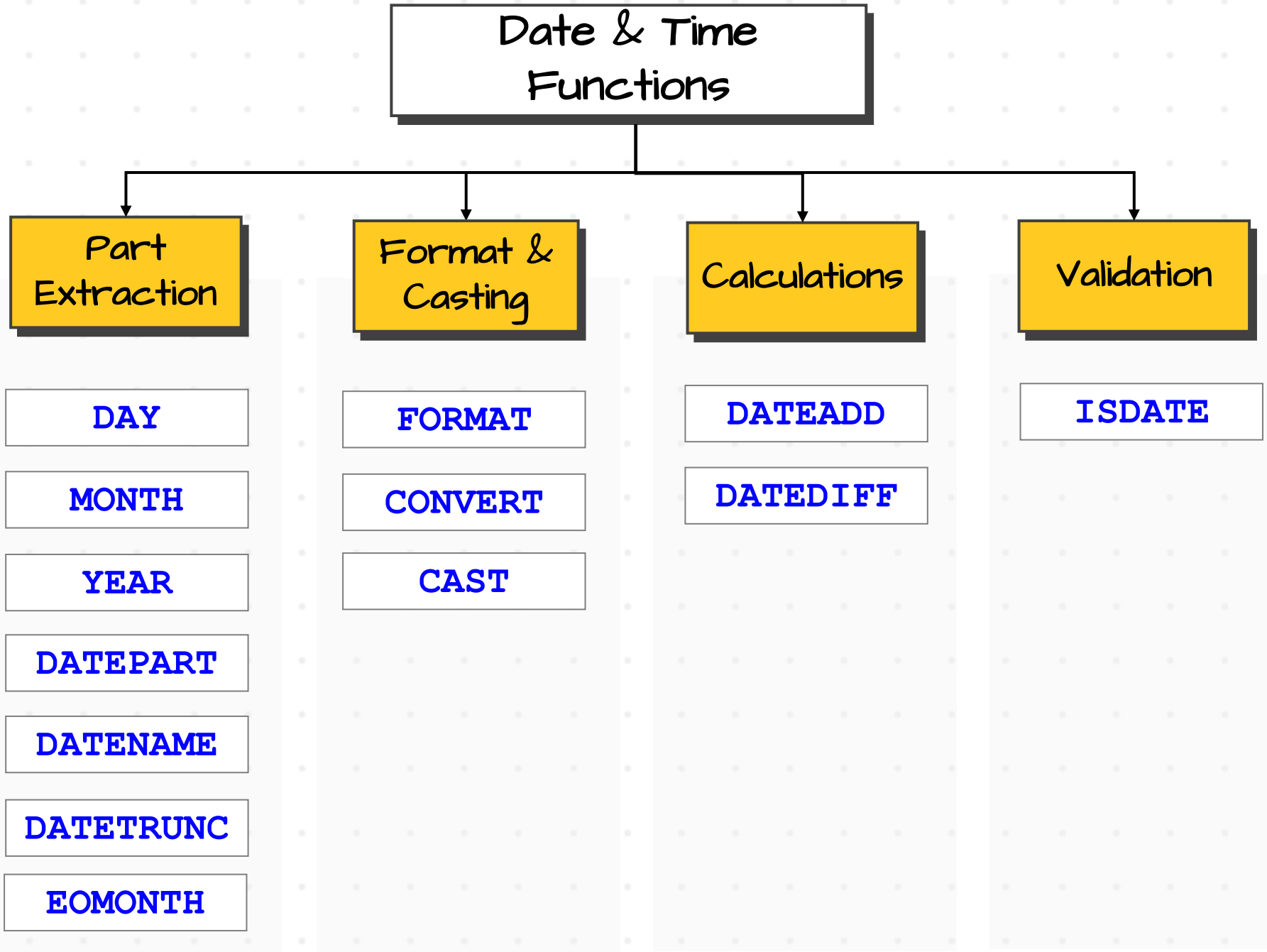
Check if a value is a date
Returns 1 if the string value is a valid date

## Syntax

```
ISDATE(value)
```

```
ISDATE('2025-08-20')
```

```
ISDATE(2025)
```


Date & Time Functions
Part Extraction
Format & Casting
Calculations
Validation
DAY
MONTH
YEAR
DATEPART
DATENAME
DATETRUNC
EOMONTH
FORMAT
CONVERT
CAST
DATEADD
DATEDIFF
ISDATE

# NULL FUNCTIONS

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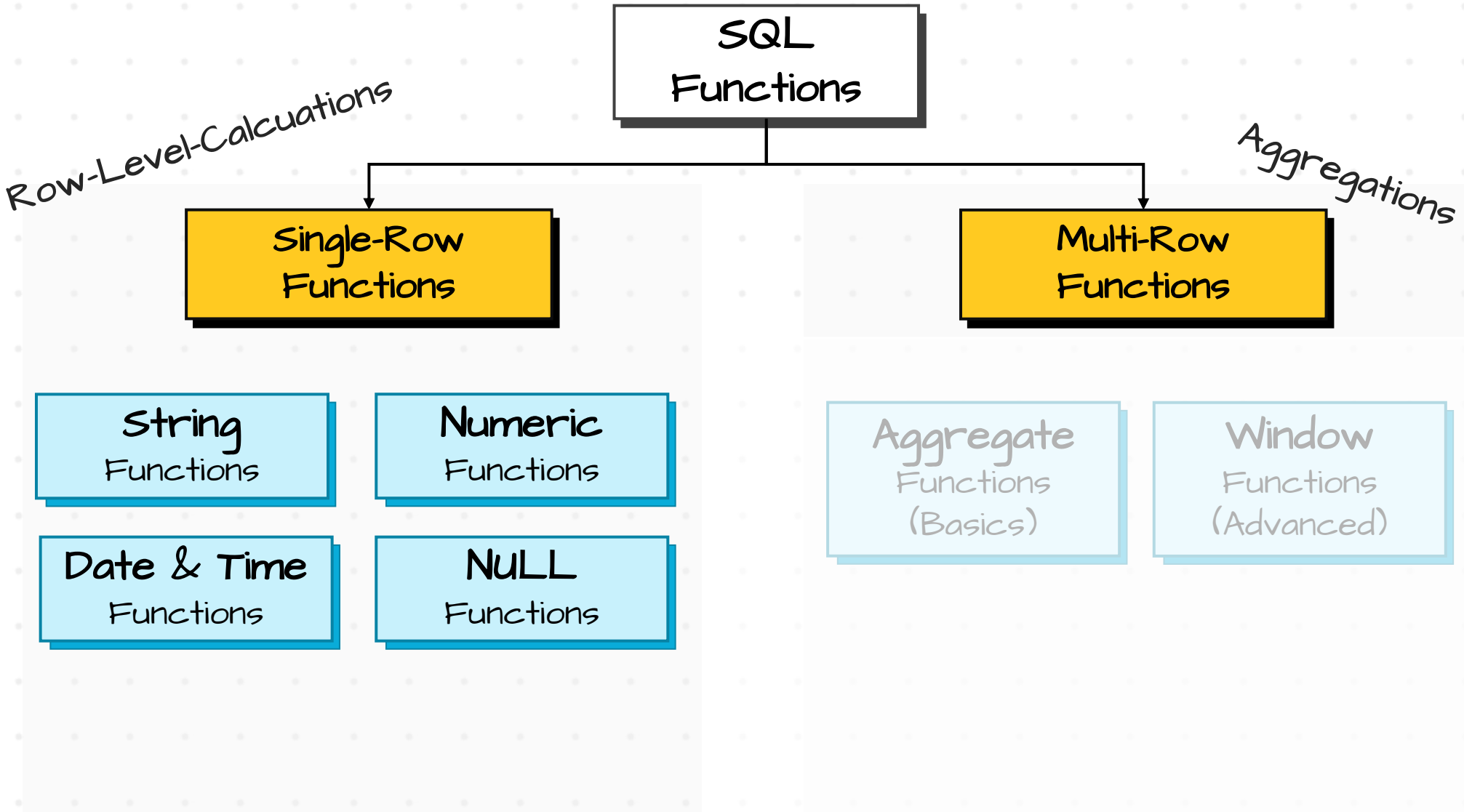
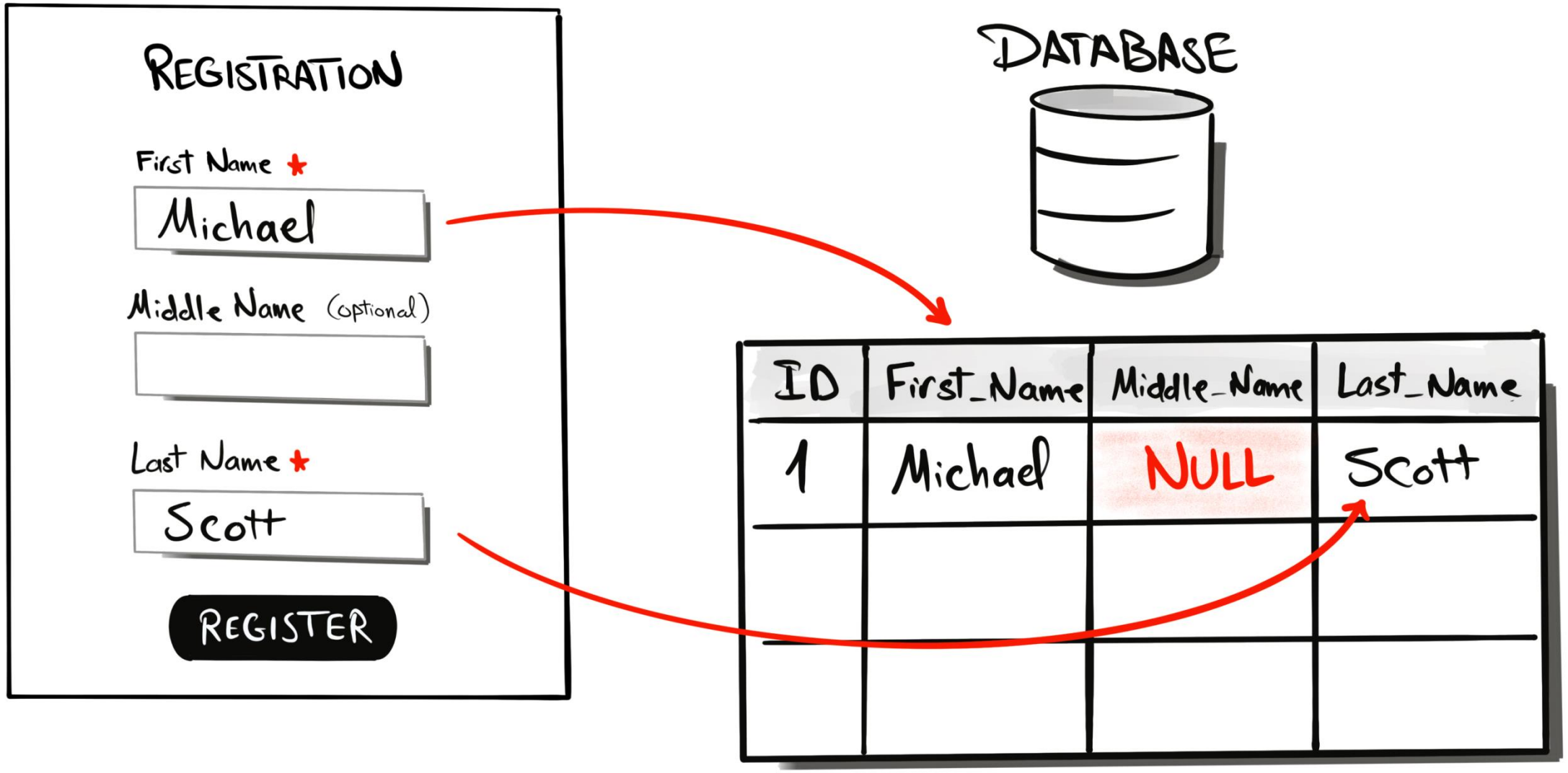
SQL Course | NULL Funcitons


SQL Functions
Row-Level-Calcuations
Aggregations
Single-Row Functions
Multi-Row Functions
String Functions
Numeric Functions
Date & Time Functions
NULL Functions
Aggregate Functions (Basics)
Window Functions (Advanced)

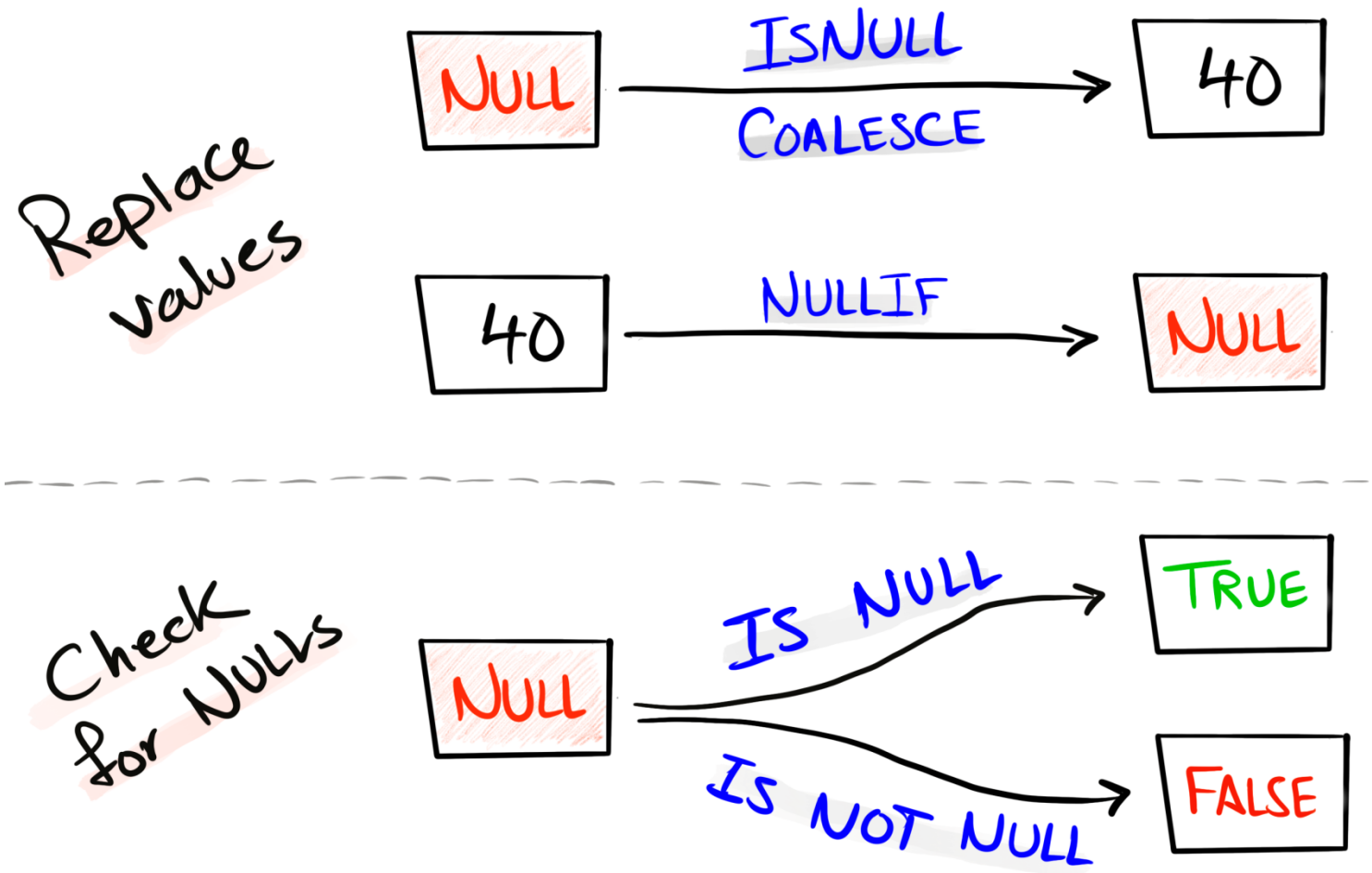
# What are NULLS?

| ID | Name | Country | Score |
|---|---|---|---|
| 1 | Maria | NULL | 300 |
| 2 | NULL | DE | NULL |
| 3 | John | NULL | 800 |

# Where NULLS Come From?



# NULL FUNCTIONS



| ISNULL | COALESCE |
| --- | --- |
| Limited to two values | Unlimited |
| Fast | Slow |
| SQL Server → ISNULL<br>Oracle → NVL<br>MySQL → IFNULL | Available in All Databases |

# ISNULL

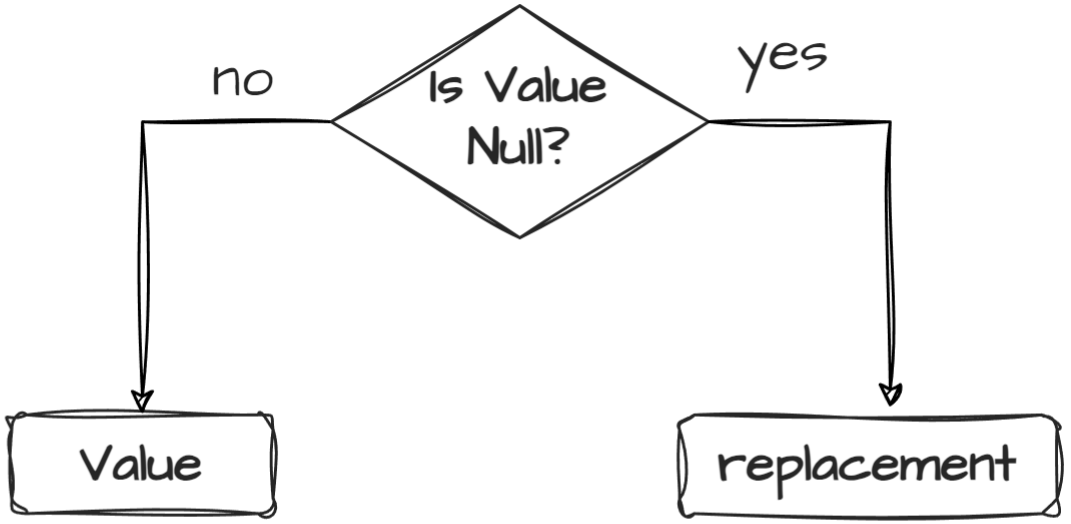
replaces NULL with the specified replacement value.

## SYNTAX

```
ISNULL(value, replacement)
```

```
ISNULL(ShippingAddress, 'N/A')
```

| OrderID | Shipment Address | ISNULL |
|---|---|---|
| 1 | A | A |
| 2 | NULL | N/A |



# ISNULL

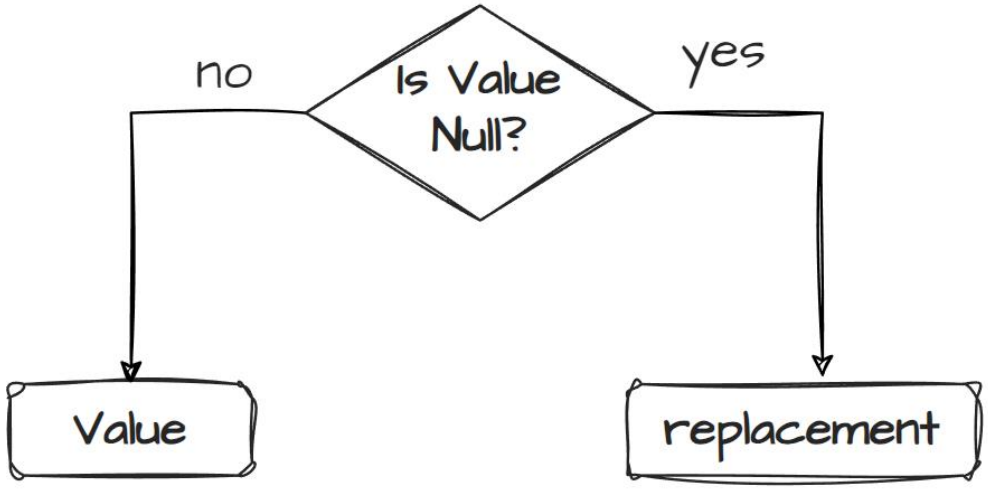
replaces NULL with the specified replacement value.

SYNTAX

```
ISNULL(value, replacement)
```

```
ISNULL(ShippingAddress, BillingAddress)
```

| OrderID | Shipment Address | Billing Address | ISNULL |
|---|---|---|---|
| 1 | A | B | A |
| 2 | NULL | C | C |
| 3 | NULL | NULL | NULL |



# COALESCE

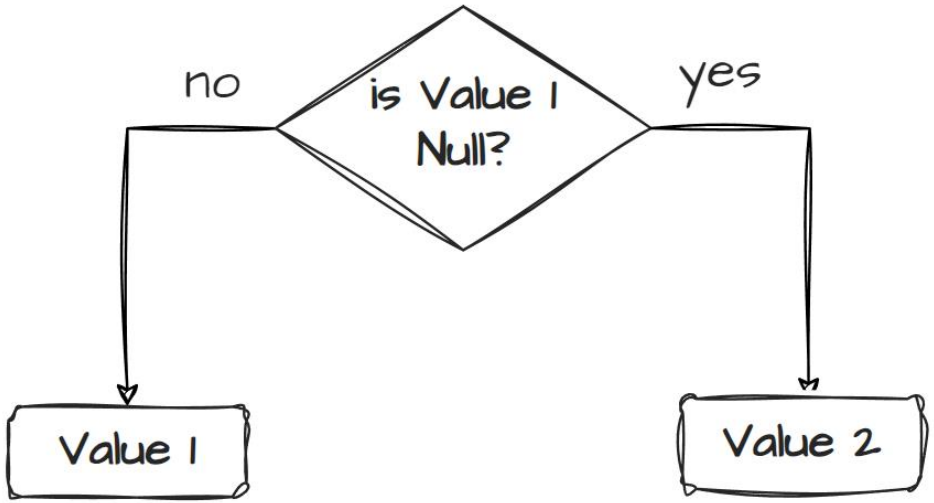
returns the first non-NULL value from the given expressions.

SYNTAX

```
COALESCE(value1, value2, value3)
```

```
COALESCE(ShippingAddress, BillingAddress)
```

| OrderID | Shipment Address | Billing Address | COALESCE |
|---|---|---|---|
| 1 | A | B | A |
| 2 | NULL | C | C |
| 3 | NULL | NULL | NULL |



# COALESCE

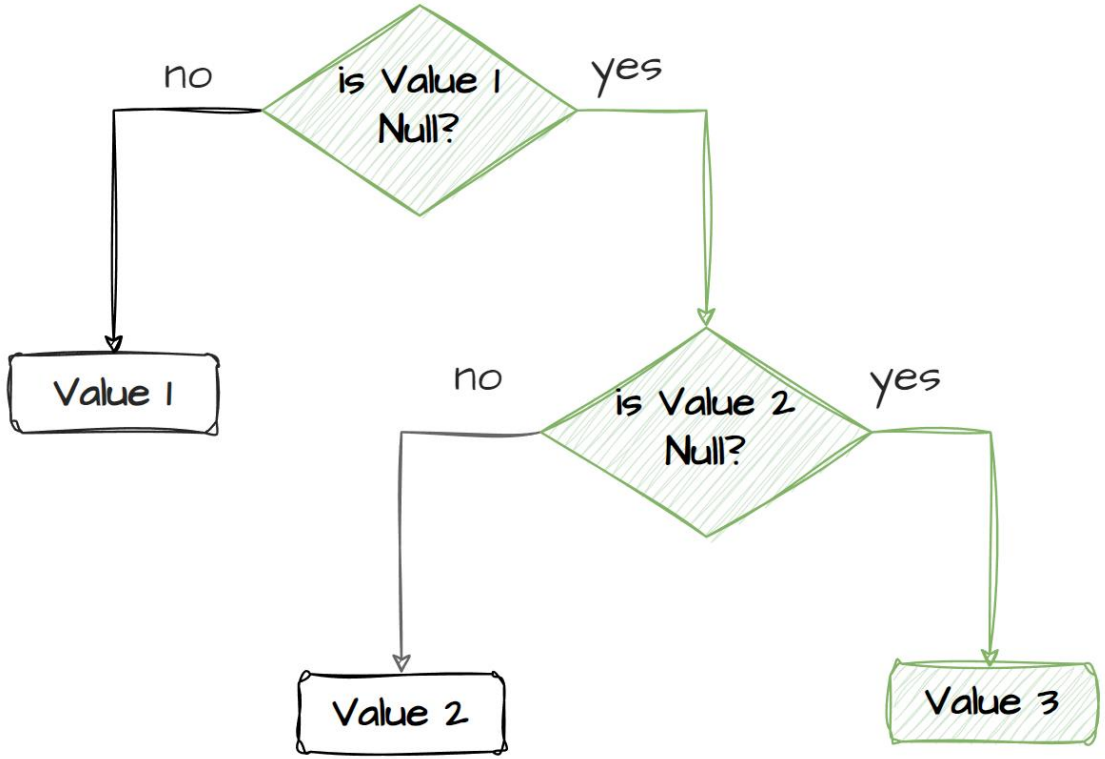
returns the first non-NULL value from the given expressions.

SYNTAX

```
COALESCE(value1, value2, value3)
```

```
COALESCE(ShippingAddress, BillingAddress, 'N/A')
```

| OrderID | Shipment Address | Billing Address | COALESCE |
|---|---|---|---|
| 1 | A | B | A |
| 2 | NULL | C | C |
| 3 | NULL | NULL | N/A |



# NULLIF

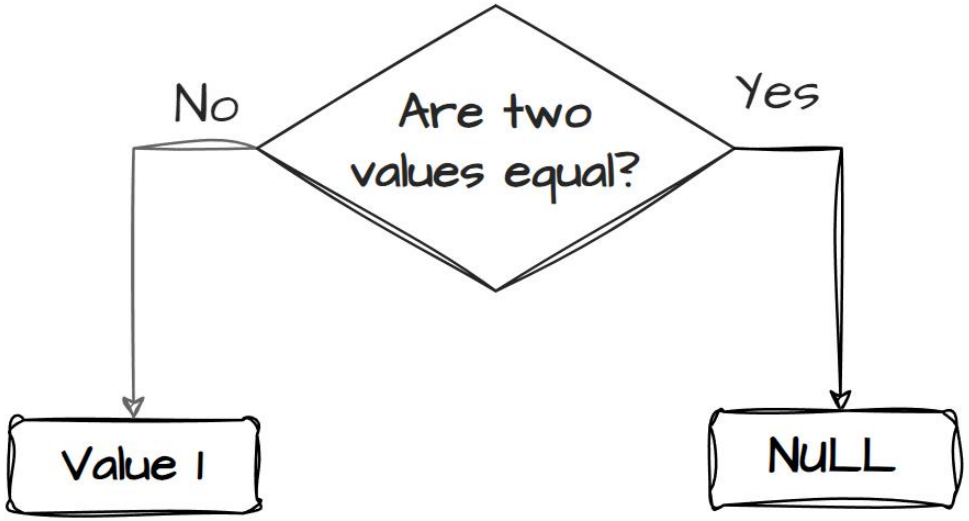
returns NULL if both values are equal; otherwise, it returns first value.

SYNTAX

```
NULLIF(value1, value2)
```

```
NULLIF(Original_Price, Discount_Price)
```

| OrderID | Original_Price | Discount_Price | NULLIF |
|---|---|---|---|
| 1 | 150 | 50 | 150 |
| 2 | 250 | 250 | NULL |

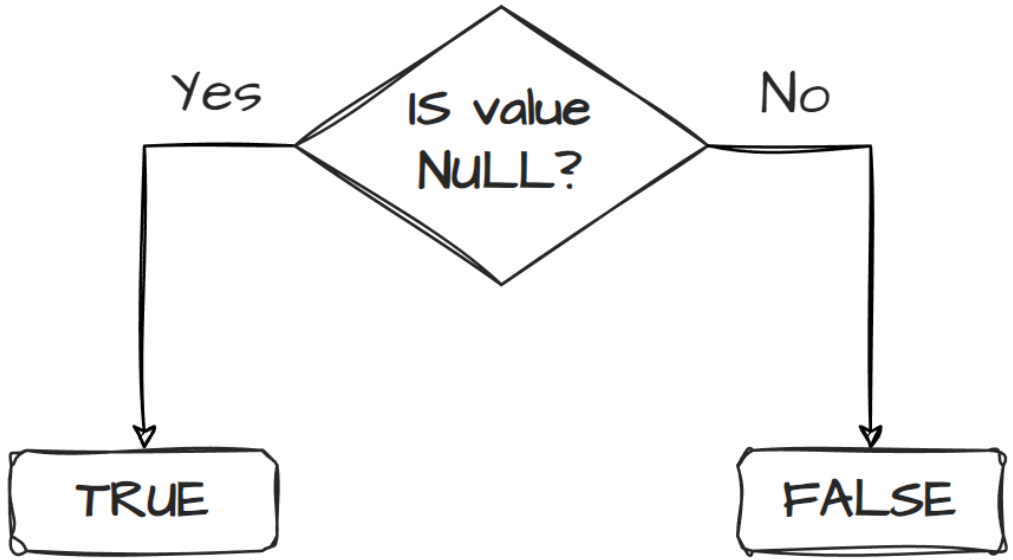


# IS NULL

check if a value is NULL.

```
Price IS NULL
```

| OrderID | Price | IS NULL | IS NOT NULL |
|---|---|---|---|
| 1 | 90 | FALSE | TRUE |
| 2 | NULL | TRUE | FALSE |



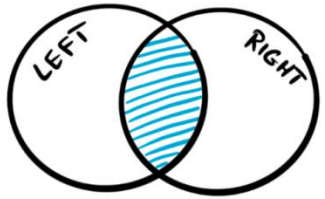
# IS NULL

In SQL, use IS NULL instead of = NULL to correctly filter rows with NULL values.

# JOINS & IS NULL

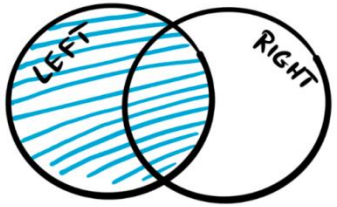
## Inner Join

Only matching Rows

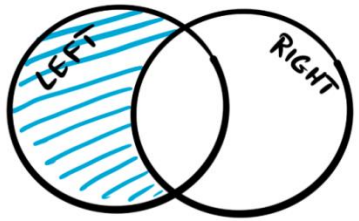



## Left Join

All Rows from Left and matching rows




## Left Anti Join

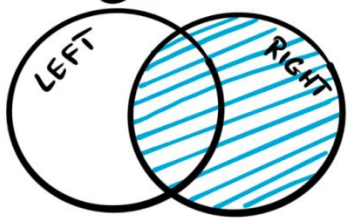



All Rows from Left without matching rows

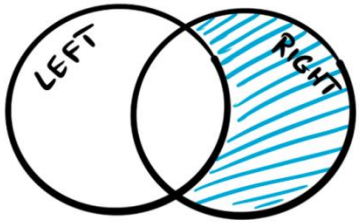
(Left Join + Is NULL)

## Right Join

All Rows from right and matching rows




## Right Anti Join

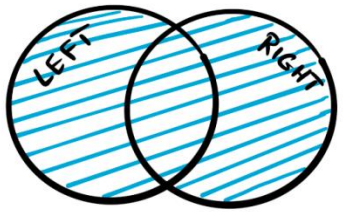



All Rows from Right without matching rows

(Right Join + Is NULL)

## Full Join

All Rows



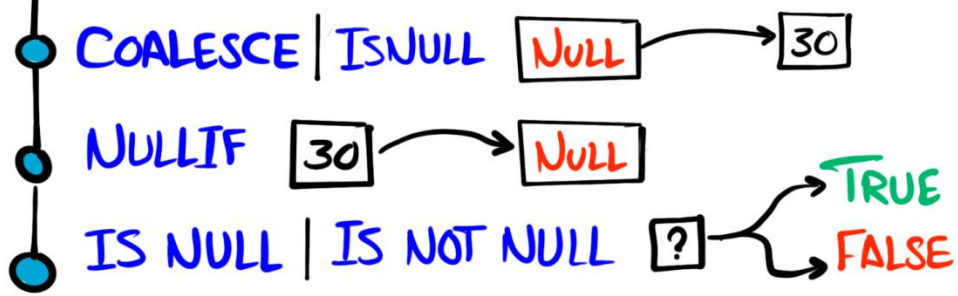
# NULL vs Empty vs Blank

| | NULL | Empty String | Blank Space |
|---|---|---|---|
| Representation | NULL | '' | ' ' |
| Meaning | unknown | Known, Empty Value | Known, Space Value |
| Data Type | Special Marker | String (0) | String (1 or more) |
| Storage | Very minimal | occupies memory | occupies memory (each space) |
| Performance | Best | Fast | Slow |
| Comparison | IS NULL | = '' | = ' ' |

# NULL Functions

- Nulls special markers means missing value.
- Using Nulls can optimize storage and performance.

## Functions




## USE CASES

- Handle Nulls - Data Aggregation
- Handle Nulls - Mathematical operations
- Handle Nulls - Joining Tables
- Handle Nulls - Sorting Data
- Finding unmatched data - Left Anti Join
- Data Policies → Nulls, Default Value

# CASE STATEMENT

## CASE WHEN

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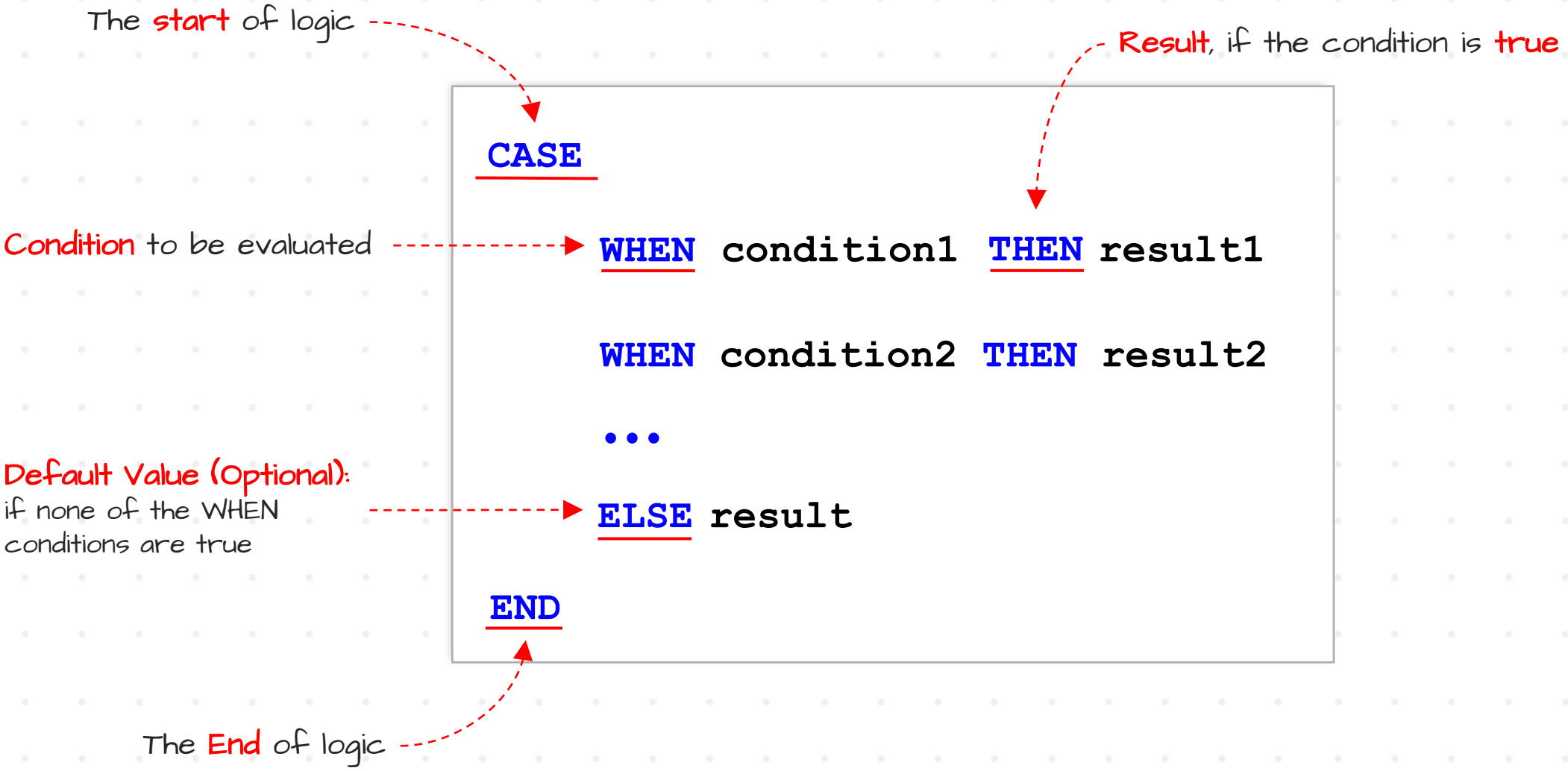
SQL Course | Case Statement

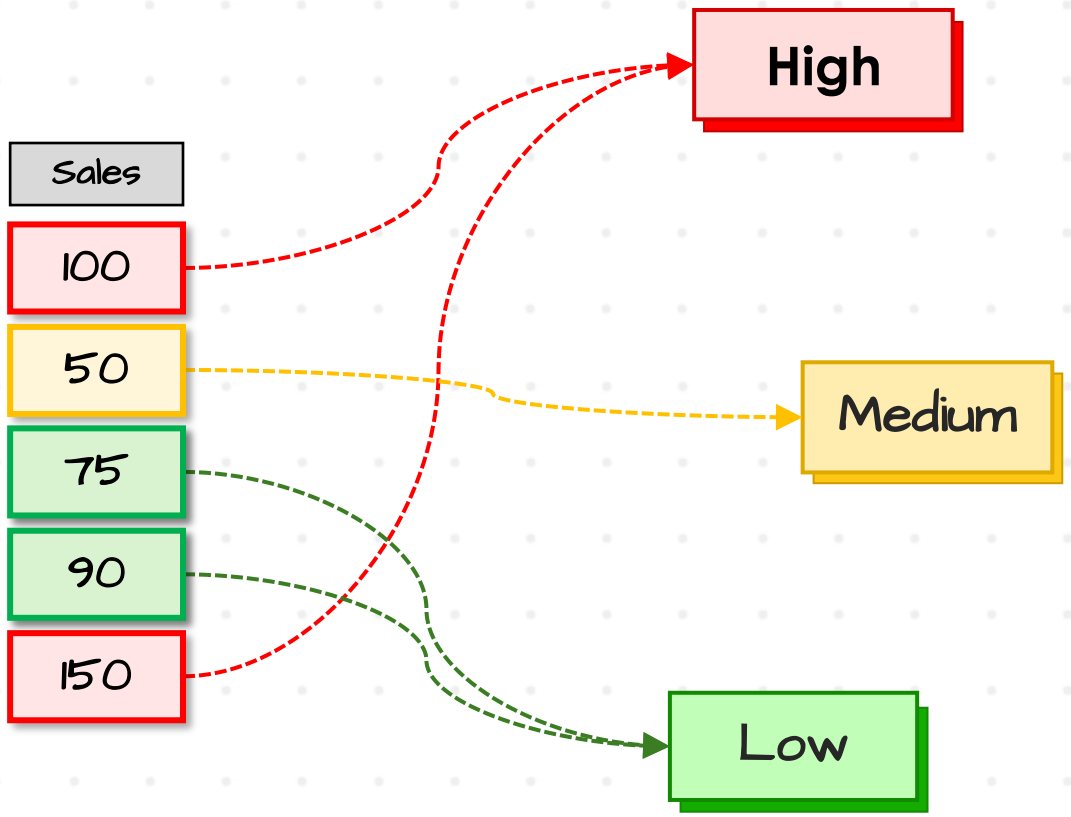
# CASE STATEMENT
## Syntax



# Use Case: Derive New Columns

The CASE statement in SQL categorizes values based on conditions

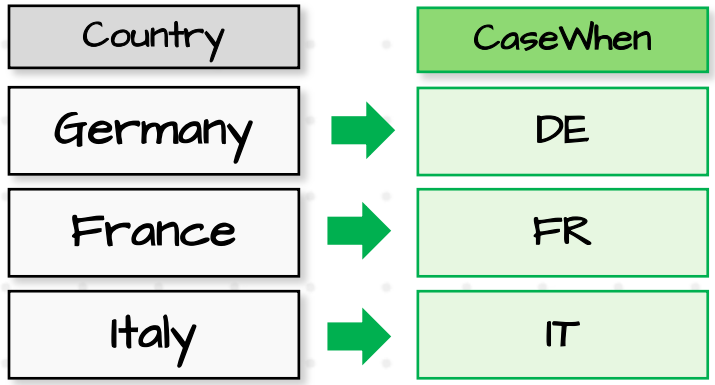
```
CASE
     WHEN Sales >= 100 THEN 'High'
     WHEN Sales >= 50 THEN 'Medium'
     ELSE 'Low'
END
```



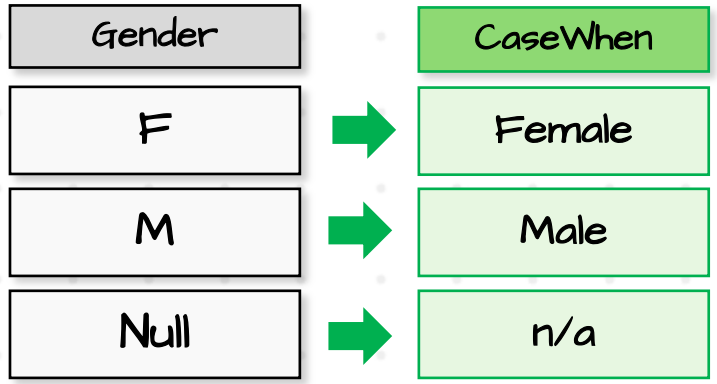
# Transformation & Standardization

The CASE statement in SQL is used for data transformation and standardization by mapping specific values to standardized formats.

```sql
CASE
    WHEN Country = 'Germany' THEN 'DE'
    WHEN Country = 'France'  THEN 'FR'
    WHEN Country = 'Italy'   THEN 'IT'
ELSE 'n/a'
END
```




```sql
CASE
    WHEN Country = 'F'  THEN 'Female'
    WHEN Country = 'M'  THEN 'Male'
ELSE 'n/a'
END
```



Column Name
to be evaluated (Only One)

Column Value
To be compared

```sql
CASE
    WHEN Country = 'Germany' THEN 'DE'
    WHEN Country = 'India'   THEN 'IN'
    WHEN Country = 'United States' THEN 'US'
    WHEN Country = 'France'  THEN 'FR'
    WHEN Country = 'Italy'   THEN 'IT'
    ELSE 'n/a'
END
```

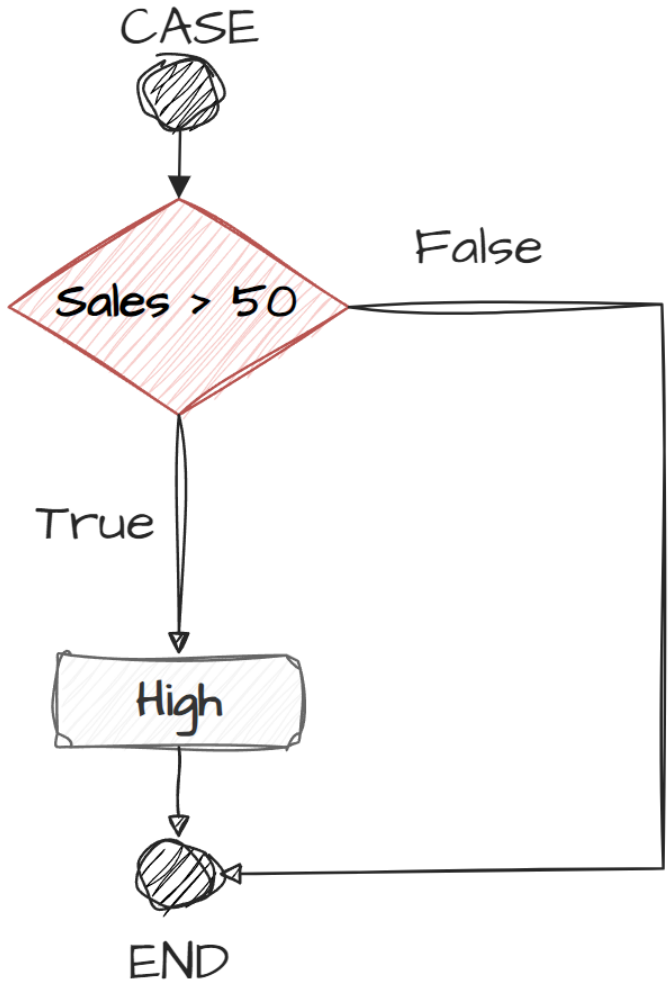
Full Form

```sql
CASE Country
    WHEN 'Germany' THEN 'DE'
    WHEN 'India'   THEN 'IN'
    WHEN 'United States' THEN 'US'
    WHEN 'France'  THEN 'FR'
    WHEN 'Italy'   THEN 'IT'
    ELSE 'n/a'
END
```

Quick Form

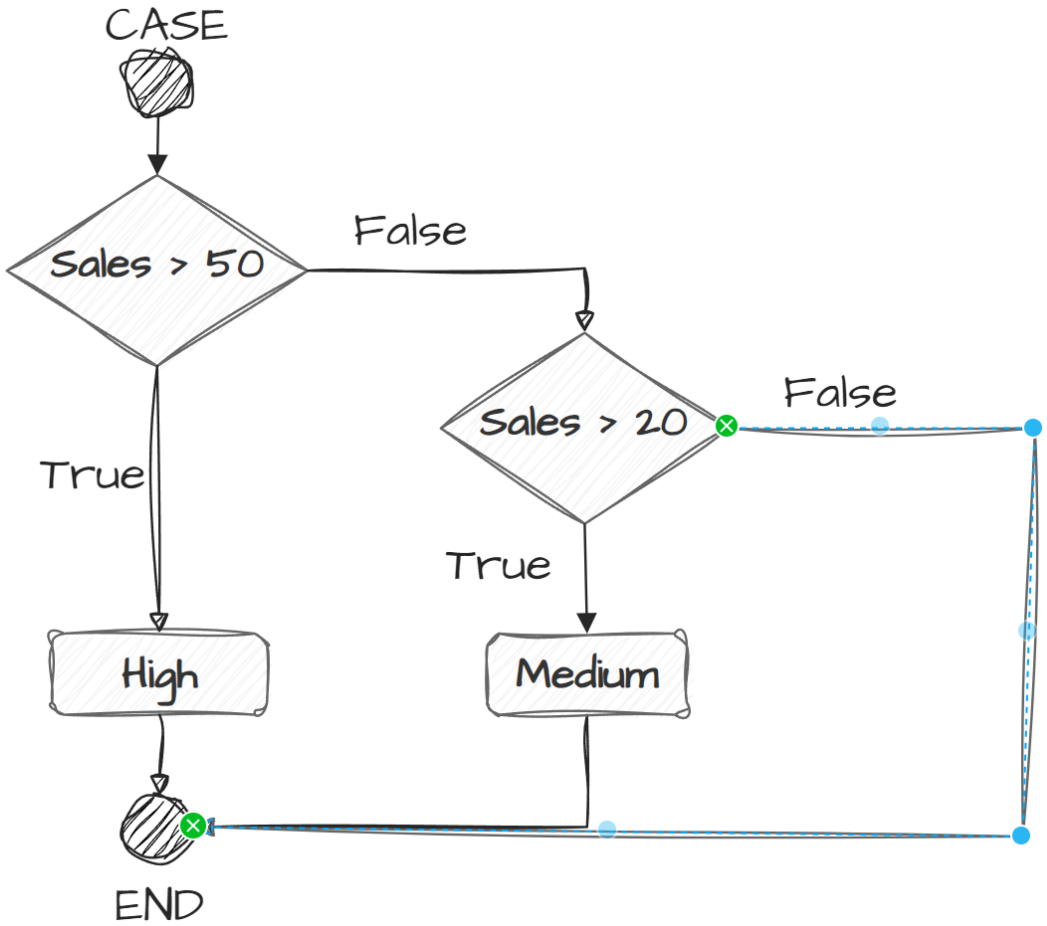
```sql
CASE

  WHEN Sales > 50 THEN 'High'

END
```

| Sales | CASE |
|---|---|
| 60 | High |
| 30 | NULL |
| 15 | NULL |
| NULL | NULL |



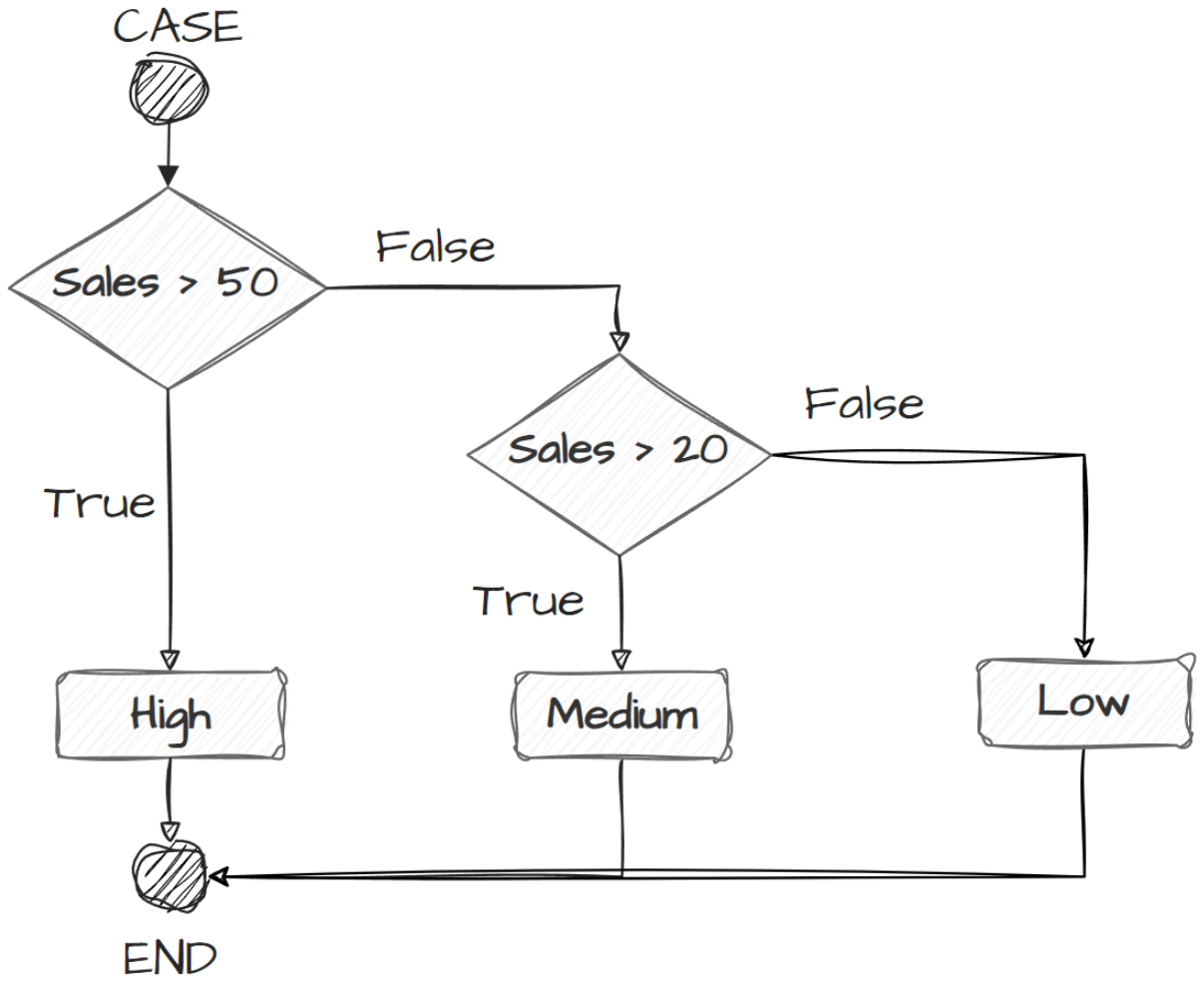
```sql
CASE

  WHEN Sales > 50 THEN 'High'

  WHEN Sales > 20 THEN 'Medium'

END
```

| Sales | CASE |
|---|---|
| 60 | High |
| 30 | Medium |
| 15 | NULL |
| NULL | NULL |



```sql
CASE

  WHEN Sales > 50 THEN 'High'

  WHEN Sales > 20 THEN 'Medium'

  ELSE 'Low'

END
```

| Sales | CASE |
|---|---|
| 60 | High |
| 30 | Medium |
| 15 | Low |
| NULL | Low |



# CASE STATEMENT

Evaluates a list of conditions and returns a value when the first Condition is met.

**Rules** The data type of the results must be matching

**USE CASES**

- Derive New Information
  - Categorizing Data
  - Mapping Values
  - Handling NULLs
  - Conditional Aggregations