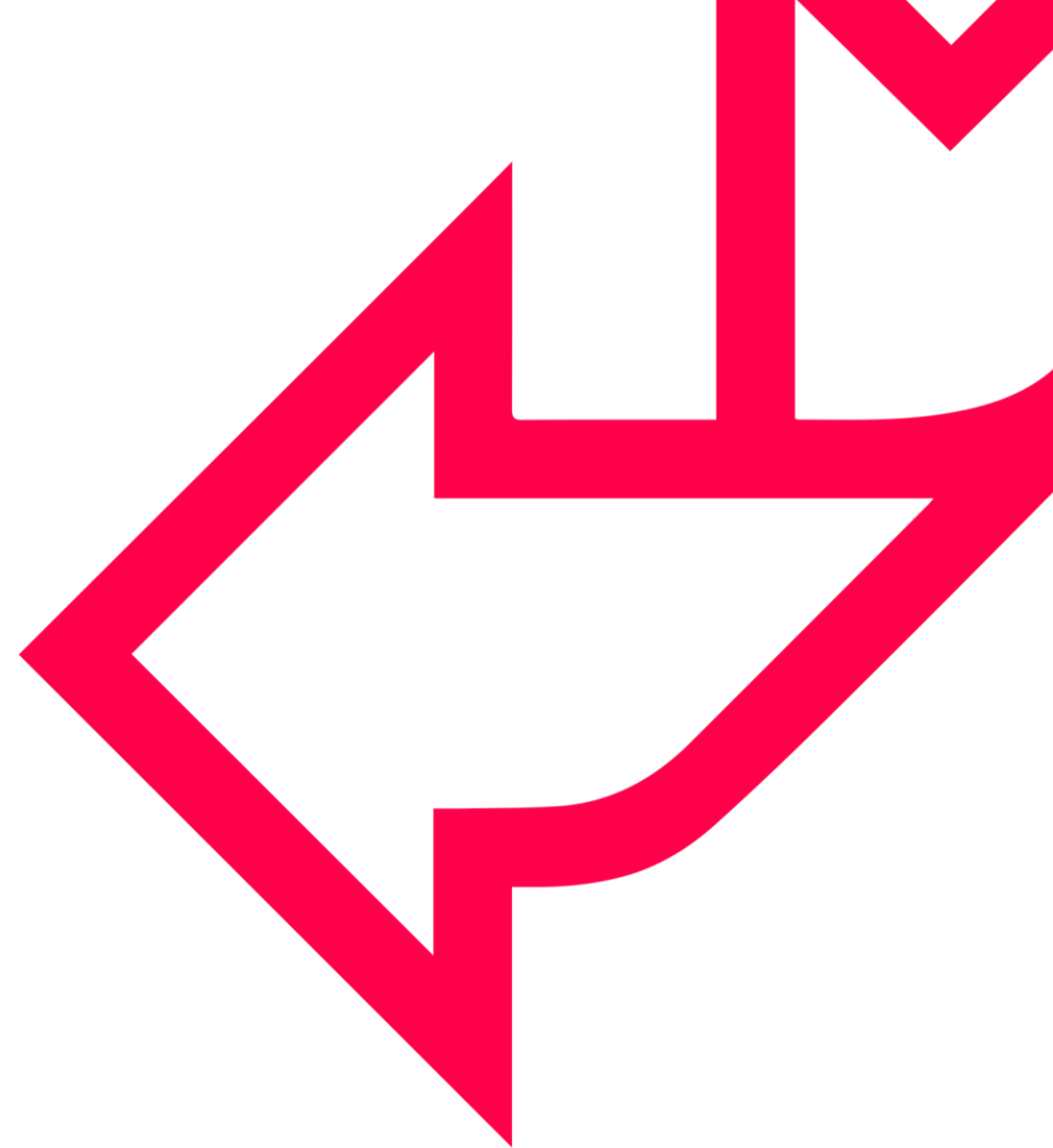




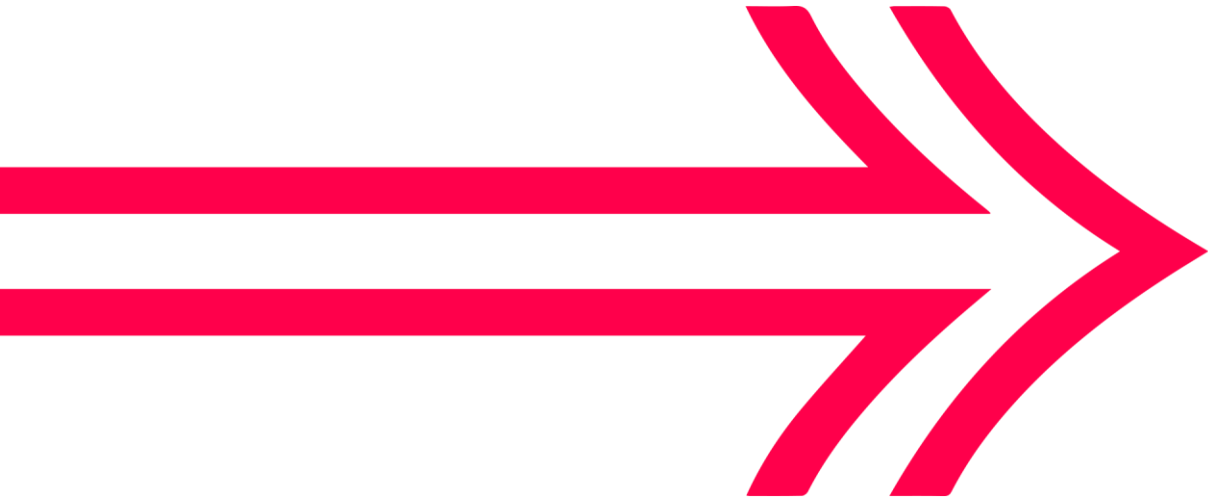
Common Functions





Overview

- Functions
- Text functions
- Date functions
- Working with nulls
- Data conversion functions
- Hands-on lab

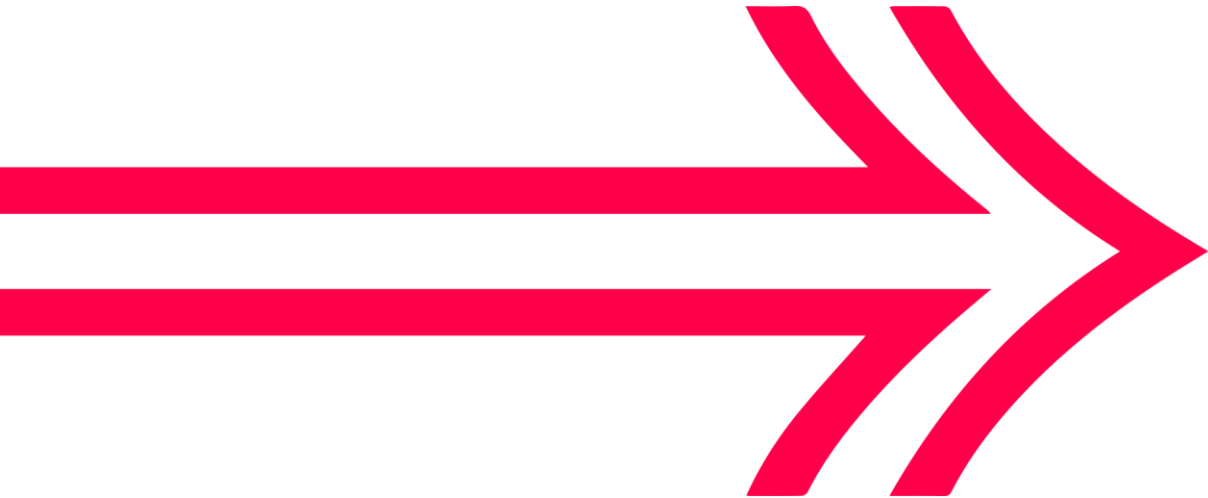




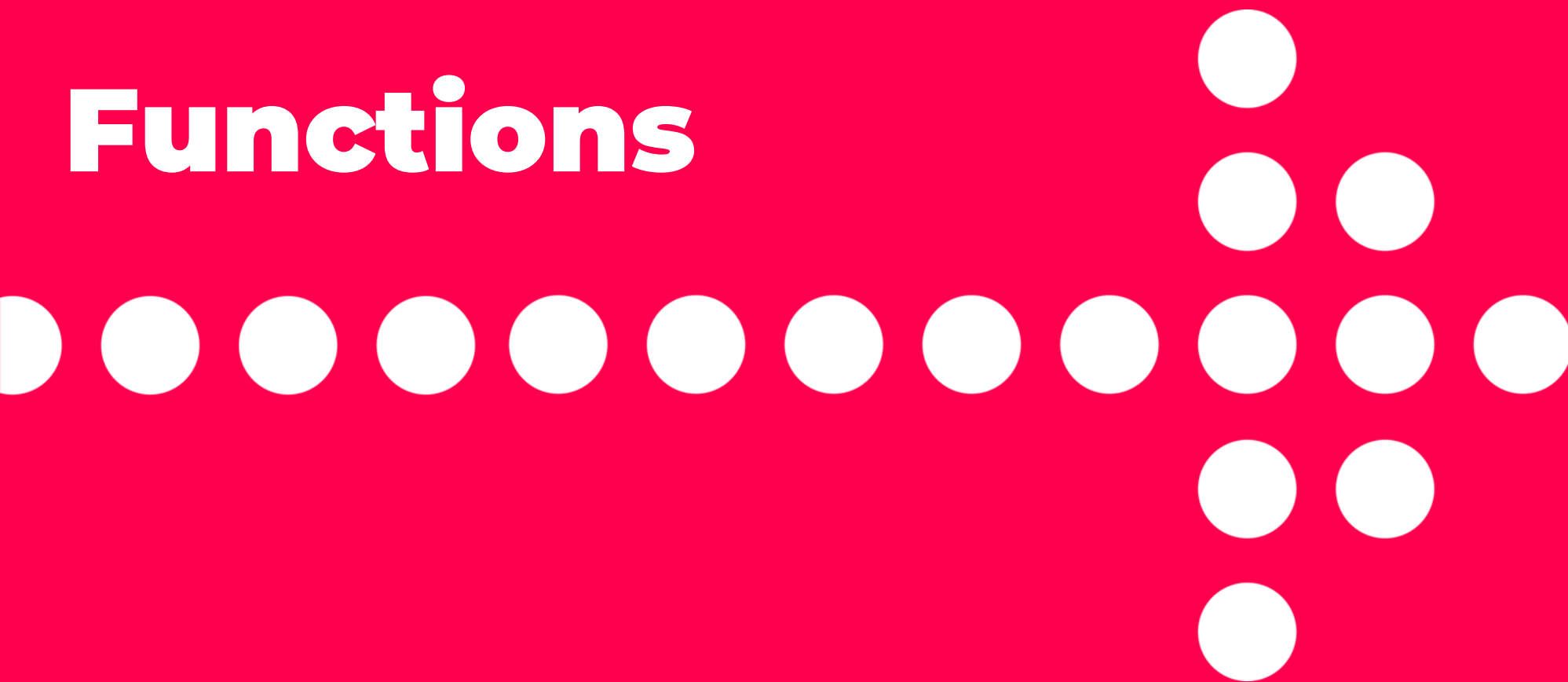
OBJECTIVES

At the end of this module you will be able to:

- use text manipulation functions
- use date manipulation functions
- use the ISNULL function
- format dates



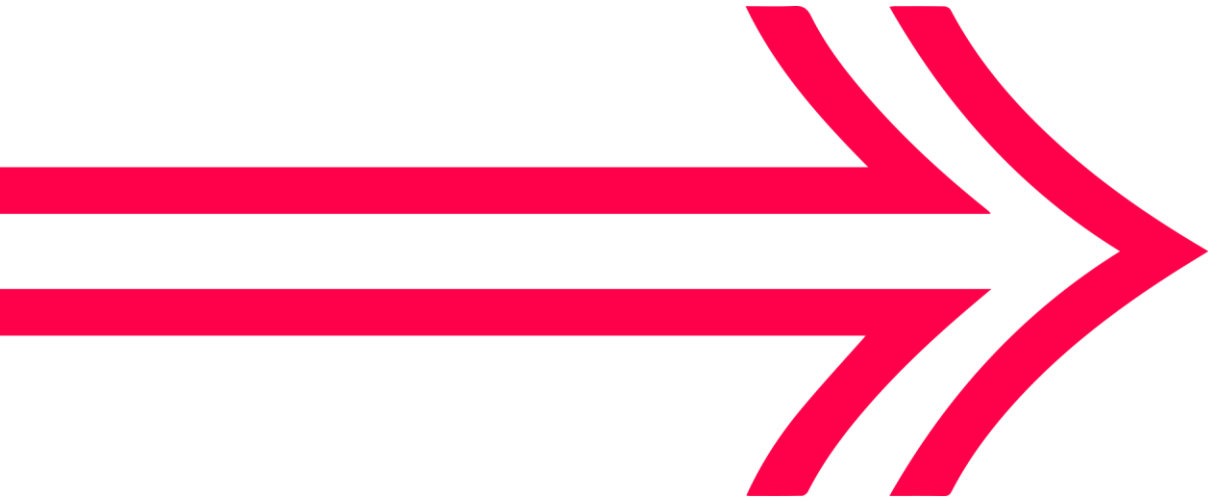
Functions



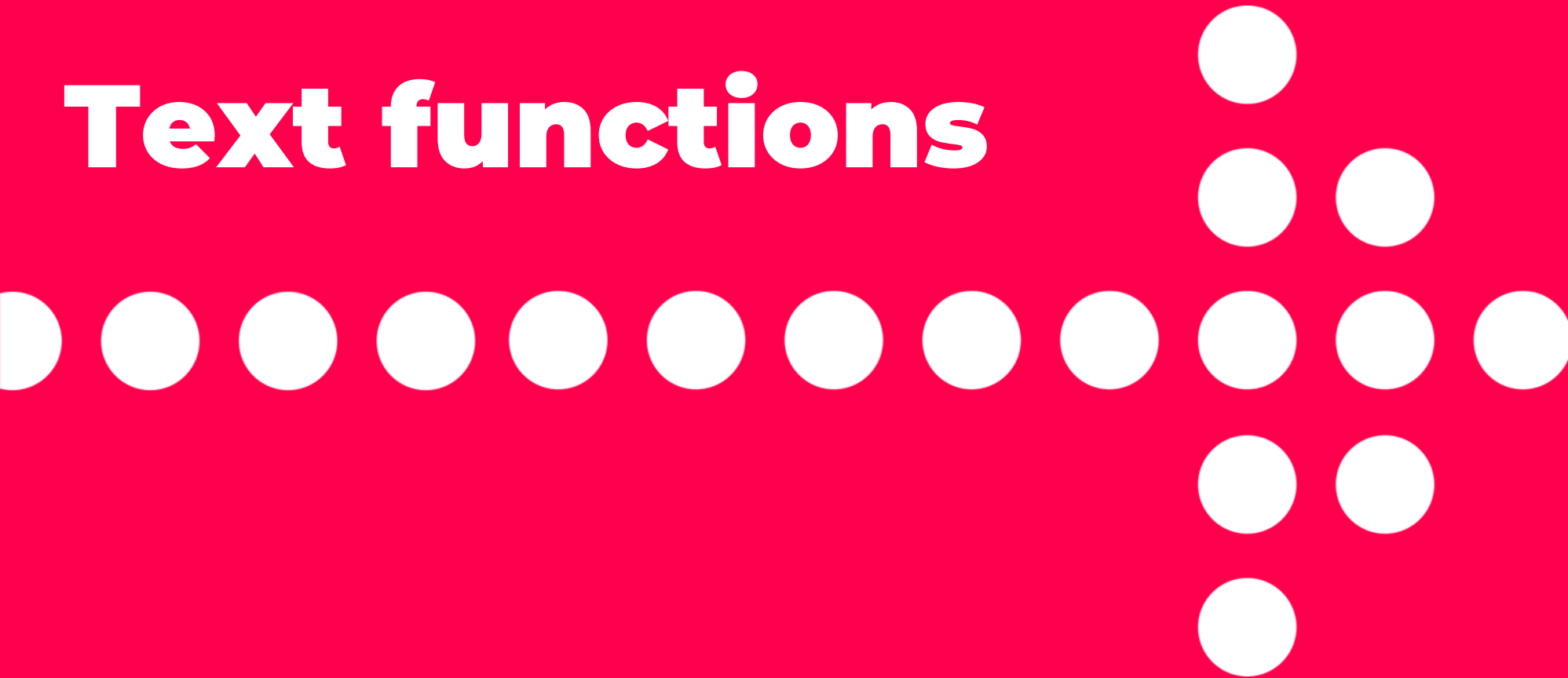


Functions

- **Perform a calculation**
- **Can be passed parameters**
- **Return a value**
- **Can be used wherever an expression is expected**
 - Select lists
 - WHERE clauses
 - ORDER BY clauses



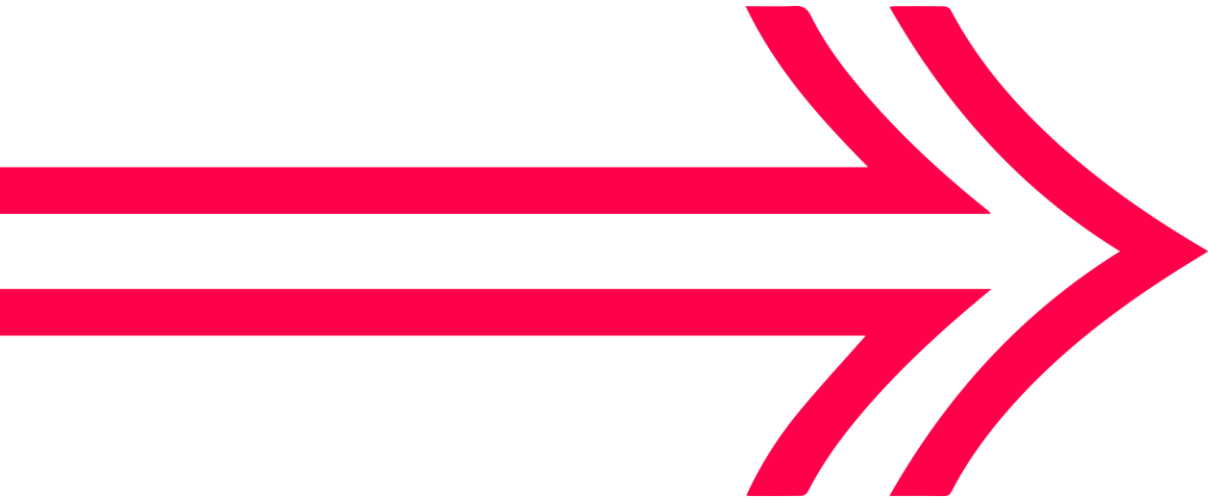
Text functions



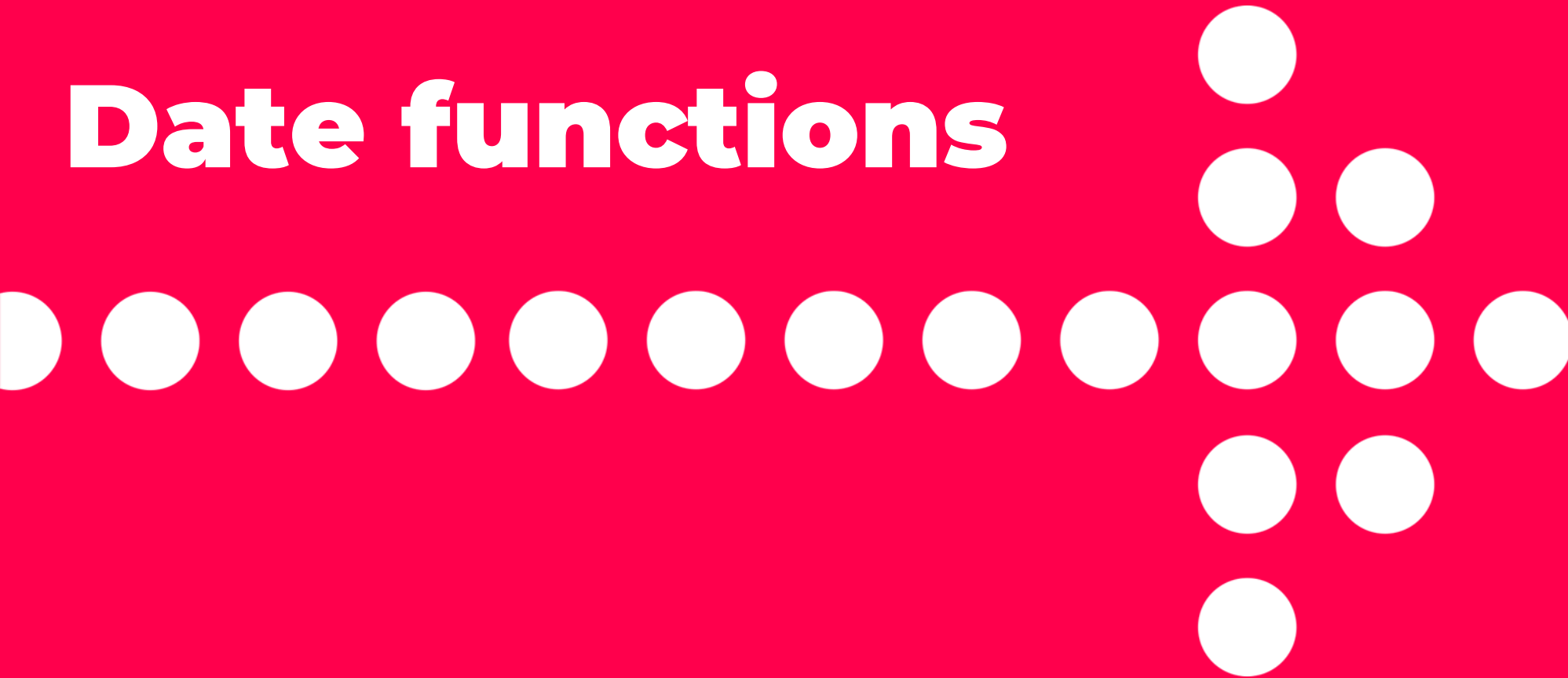


Text functions

- **Left / Right (*expr*, *n*)**
 - return the left / right -most *n* characters of *expr*
- **Upper / Lower (*expr*)**
 - Convert *expr* to all UPPERCASE or all lowercase letters
- **SubString (*expr*, *start*, *length*)**
 - Take *length* letters from *expr*, starting from *start*
- **CharIndex / PatIndex (*look-for*, *expr*, *start*)**
 - CharIndex looks for an exact match on *look-for* in *expr*, optionally starting at *start*
 - PatIndex performs pattern matching similar to LIKE



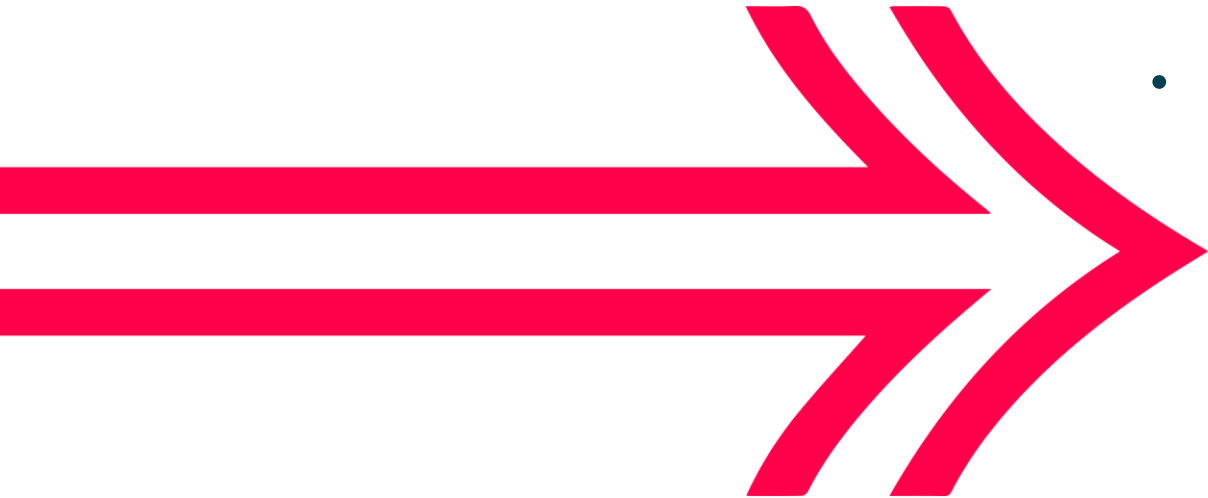
Date functions





Working with dates

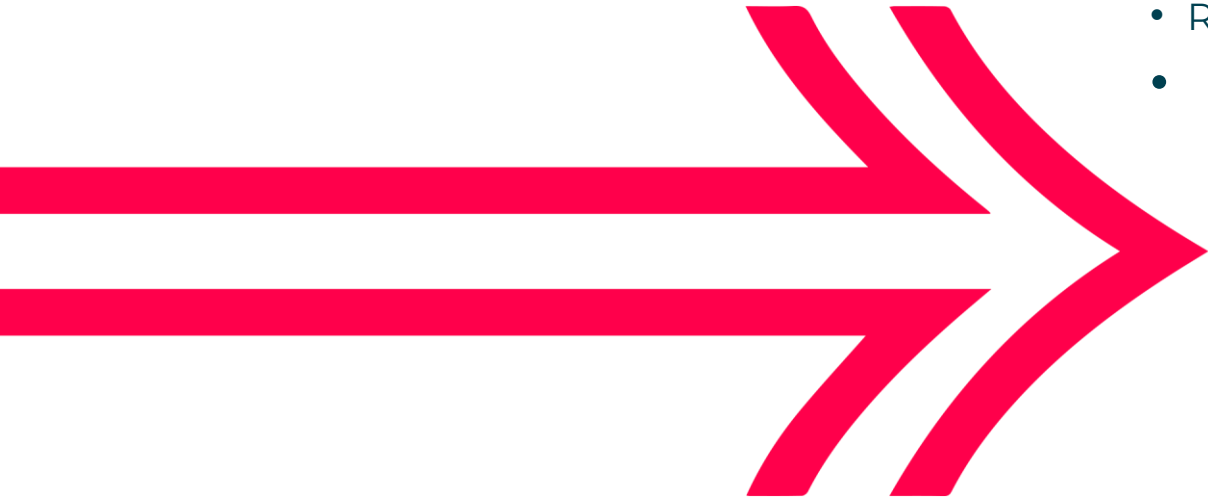
- **DateTime**
 - Date and time, minimum date, 01/01/1753 accurate to 0.00333s
- **SmallDateTime**
 - As datetime but less accurate (no milliseconds)
- **DateTime2** *since SQL Server 2008*
 - date and time, min. 01/01/0001, accurate to 100 nanoseconds
- **DateTimeOffset** *since 2008*
 - As DateTime2 also includes a time zone stamp (+/- hh:mm)
- **Date / Time** *since 2008*
 - Date or Time portion of DateTime2 only





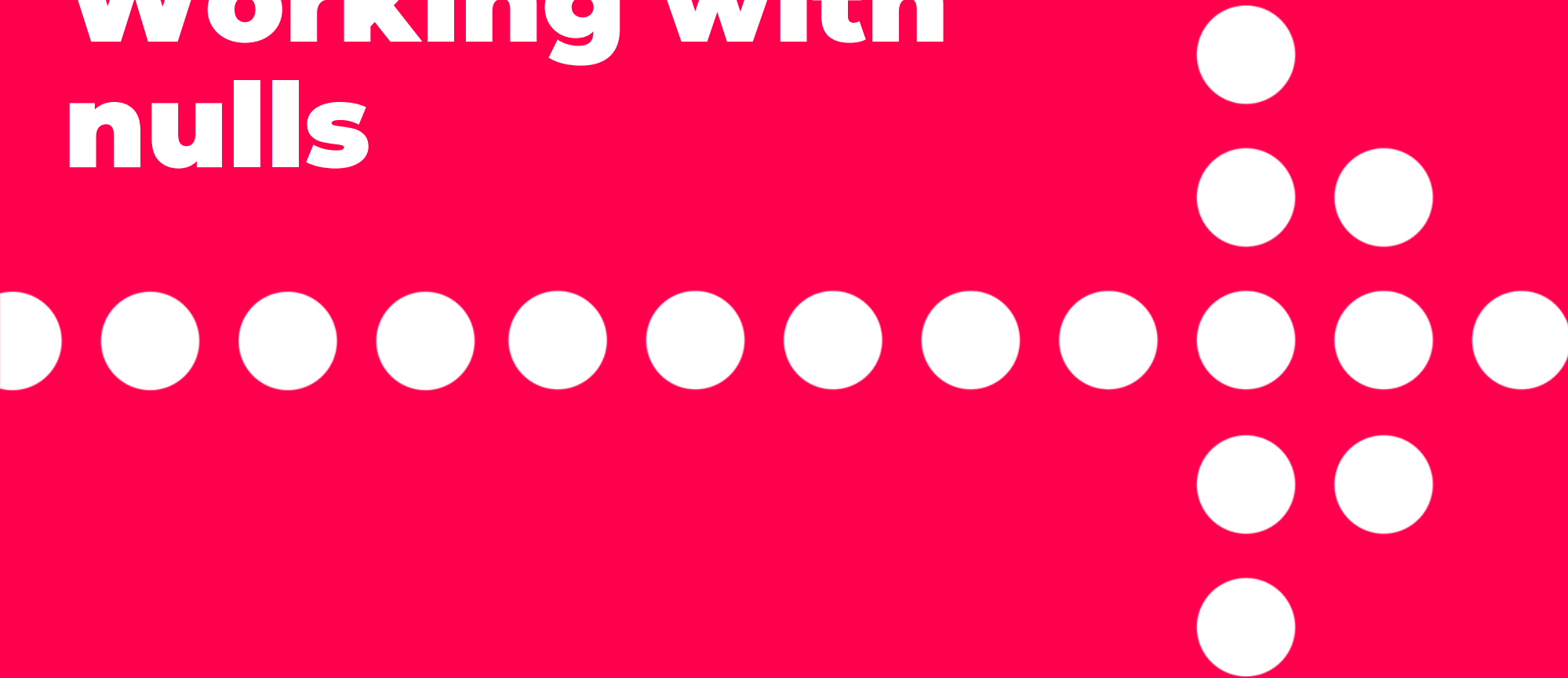
Date functions

- **GetDate() / GetUTCDate()**
 - Retrieve the current system data and time
- **DateAdd(*part, number, expr*)**
 - Add number of parts (months / days / etc) to expr
- **DateDiff(*part, startDate, endDate*)**
 - Return the number of parts difference between start and end
- **DatePart(*part, expr*)**
 - Return the part value of expr
- **Year / Month / Day (*expr*)**





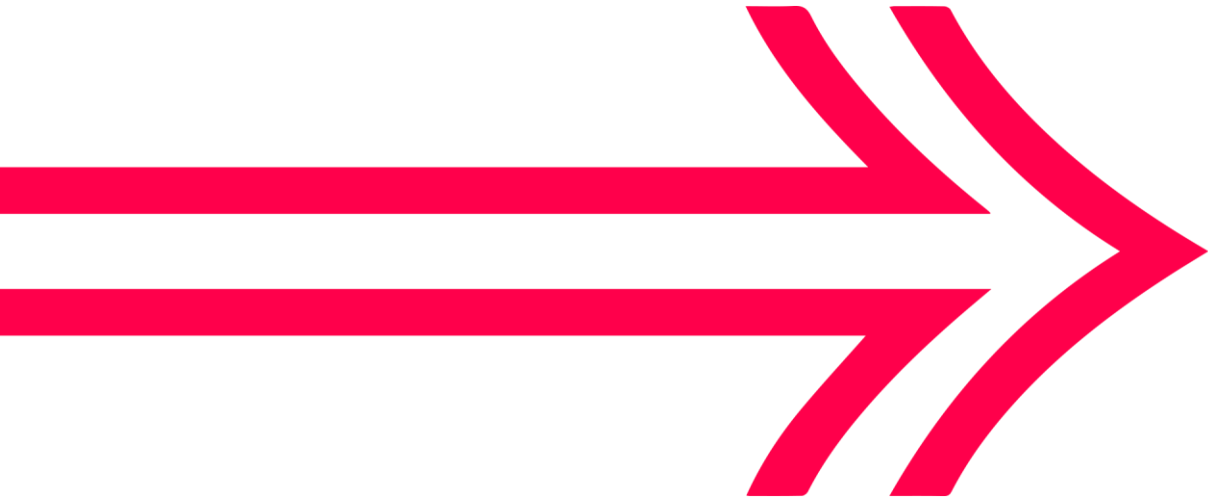
Working with nulls





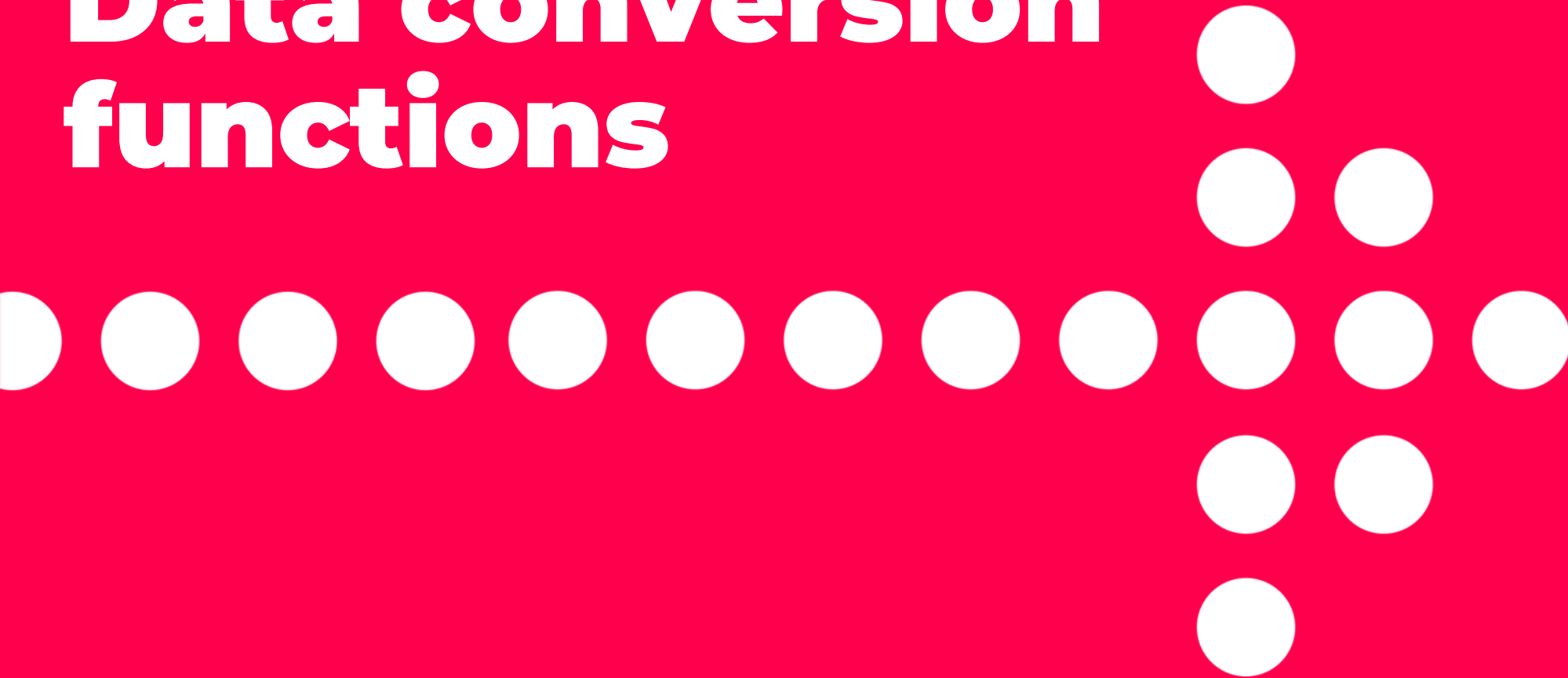
DEALING WITH NULLS

- **ISNULL(expr, null-value)**
 - If expr IS NULL, return null-value
- **NULLIF(expr1, expr2)**
 - If expr1 equals expr2, return NULL





Data conversion functions





Conversion functions

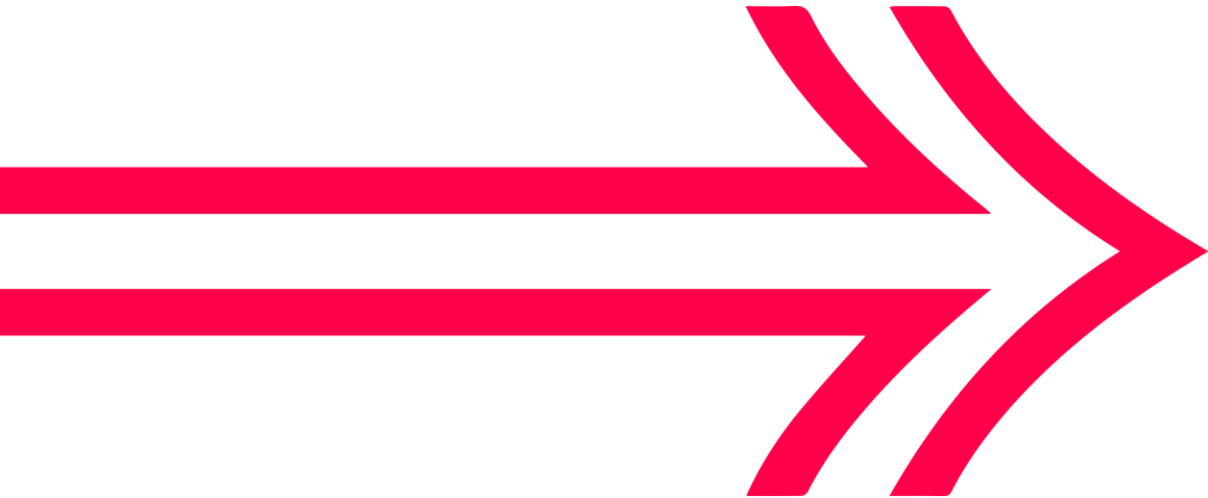
- `CAST(expr AS type)`
- `CONVERT(type, expr)`
- `CONVERT(type, expr, format)`

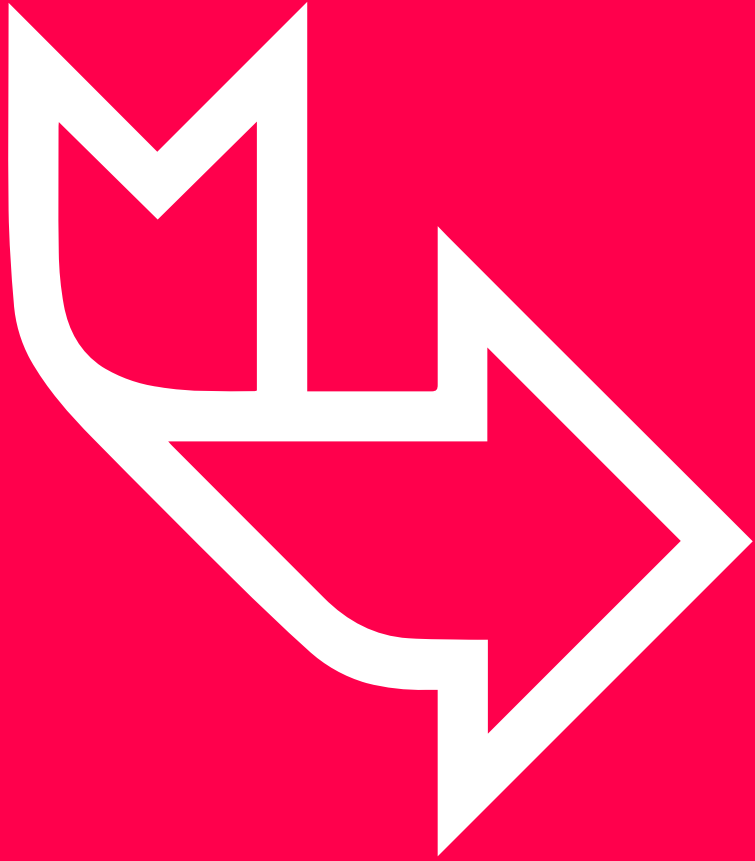
New in SQL Server 2012:

- `PARSE`
- `TRY_PARSE`
- `TRY_CONVERT`

New in SQL Server 2016:

- `TRY_CAST`





Hands-on lab

- **Text functions**
- **Date functions**
- **NULL functions**
- **Formatting dates**



Review

- Functions
- Text functions
- Date functions
- Working with nulls
- Data conversion functions

