SELECT @purchase\_code =

(SELECT 'PU' + LEFT('00000000',8-LEN(LTRIM(STR(RIGHT(MAX(id),8)+1))))

+ LTRIM(STR(RIGHT(MAX(id),8)+1))

FROM Purchase)

1. Understanding MAX(id)

MAX(id): Finds the highest id value in the Purchase table.

This assumes that id is a numerical field.

2. Extracting the Last 8 Digits of id

RIGHT(MAX(id),8): Extracts the last 8 digits of the id field.

If id is shorter than 8 digits, it extracts whatever is available.

3. Incrementing the Extracted Number

RIGHT(MAX(id),8) + 1: Converts the extracted number to an integer and increments it by 1.

4. Converting to String and Trimming Leading Spaces

LTRIM(STR(RIGHT(MAX(id),8)+1)): Converts the incremented number to a string and removes leading spaces.

5. Padding with Leading Zeros

LEN(LTRIM(STR(RIGHT(MAX(id),8)+1))): Computes the length of the incremented number.

LEFT('00000000', 8 - LEN(...)): Extracts enough leading zeros to ensure the total length is 8.

6. Concatenating Components

'PU' + ...: Prefixes the result with 'PU'.

7. Handling the Case When id is NULL

RETURN ISNULL(@purchase\_code, 'PU00000001'): Ensures that if no id exists in the Purchase table (i.e., MAX(id) is NULL), the default starting purchase code is 'PU00000001'.

Example Scenarios

Case 1: Table is Empty

MAX(id) = NULL

@purchase\_code = NULL

Returns 'PU00000001'.

Case 2: Last id is 1009

RIGHT(1009, 8) = '1009'

1009 + 1 = 1010

LEN('1010') = 4

LEFT('00000000', 8-4) = '0000'

Final Code: 'PU0000' + '1010' = 'PU00001010'