

# SQL Quick Syntax Guide

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Documentation Team: Diana Chase, Geeta Karmarkar, Tom Noronha

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# Introduction

The following statements and segments for Version 7.2 are presented in this guide:

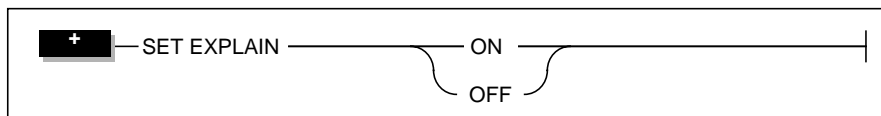
- SQL statements
- SQL segments
- Stored Procedure Language (SPL) statements
- INFORMIX-OnLine/Optical statements

This guide presents the syntax diagrams for statements and segments but does not provide any explanatory information. For complete descriptions of SQL and SPL statements and segments, see the [Informix Guide to SQL: Syntax](#). For complete descriptions of INFORMIX-OnLine/Optical statements, see the [INFORMIX-OnLine/Optical User Manual](#). These manuals provide the following information for each statement:

- A brief introduction that explains the purpose of the statement
- A syntax diagram that is identical to the syntax diagram in the *SQL Quick Syntax Guide*
- A syntax table that provides the purpose, restrictions, and syntax for all italicized elements in a syntax diagram
- Rules and examples of usage
- References to related statements

## Syntax Conventions

This section describes conventions for syntax diagrams. Each diagram displays the sequences of required and optional keywords, terms, and symbols that are valid in a given statement, command line, or other specification, as in the following diagram of the SET EXPLAIN statement.



Each syntax diagram begins at the upper left corner and ends at the upper right corner with a vertical terminator. Between these points, any path that does not stop or reverse direction describes a possible form of the statement. (For a few diagrams, notes in the text identify path segments that are mutually exclusive.)

Syntax elements in a path represent terms, keywords, symbols, and segments that can appear in your statement. Except for separators in loops, which the path approaches counterclockwise from the right, the path always approaches elements from the left and continues to the right. Unless otherwise noted, at least one blank character separates syntax elements.

## Elements That Can Appear on the Path


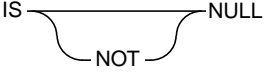
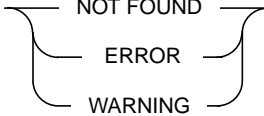
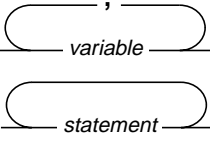
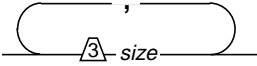
You might encounter one or more of the following elements on a path.

Element	Description
KEYWORD	A word in UPPERCASE characters is a keyword. You must spell the word exactly as shown; however, you can use either uppercase or lowercase characters.
(. , ; @ + * - /)	Punctuation and other non-alphanumeric characters are literal symbols that you must enter exactly as shown.
' '	Single quotes are literal symbols that you must enter as shown.
<i>variable</i>	A word in <i>italics</i> represents a value that you must supply. A table immediately following the diagram explains the value.
<div style="border: 1px solid black; padding: 5px; width: fit-content;">                     ADD Clause p. 1-14                 </div> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin-top: 5px;">                     ADD Clause                 </div>	A term shown in a rectangle represents a subdiagram on the same page (if no page number is supplied) or a specified page, as if the subdiagram were spliced into the diagram at this point. The same subdiagram can be represented by rectangles of different shapes, as in these symbols for the ADD Clause subdiagram.
<div style="border: 1px solid black; padding: 5px; width: fit-content;">                     CREATE OPTICAL CLUSTER Statement see INFORMIX- OnLine/Optical User Manual                 </div>	This reference represents a statement described in the <a href="#">INFORMIX-OnLine/Optical User Manual</a> . Imagine that the statement is spliced into the diagram at this point.
<b>OL</b>	An icon is a warning that this path is valid only for some products, or only under certain conditions. Characters on the icons indicate what products or conditions support the path.  These icons might appear in a syntax diagram:
<b>OL</b>	This path is valid only for INFORMIX-OnLine Dynamic Server.
<b>SE</b>	This path is valid only for INFORMIX-SE.

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Element	Description
<b>D/B</b>	This path is valid only for DB-Access.
<b>ESQL</b>	This path is valid only for SQL statements in INFORMIX-ESQL/C and INFORMIX-ESQL/COBOL.
<b>E/C</b>	This path is valid only for INFORMIX-ESQL/C.
<b>E/CO</b>	This path is valid only for INFORMIX-ESQL/COBOL.
<b>SPL</b>	This path is valid only for only if you are using Informix Stored Procedure Language (SPL).
<b>OP</b>	This path is valid only for INFORMIX-OnLine/Optical.
<b>+</b>	This path is an Informix extension to ANSI SQL-92 entry-level standard SQL. If you initiate Informix extension checking and include this syntax branch, you receive a warning. If you have set the <b>DBANSIWARN</b> environment variable at compile time, or have used the <b>-ansi</b> compile flag, you receive warnings at compile time. If you have <b>DBANSIWARN</b> set at runtime, or if you compiled with the <b>-ansi</b> flag, warning flags are set in the <b>sqlwarn</b> structure.
<b>GLS</b>	This path is valid only only if your database or application is GLS compliant.
<b>- ALL -</b>	A shaded option is the default. If you do not specify any of the available options, this option is in effect by default.
	Syntax that is enclosed between a pair of arrows is a subdiagram.

(2 of 3)

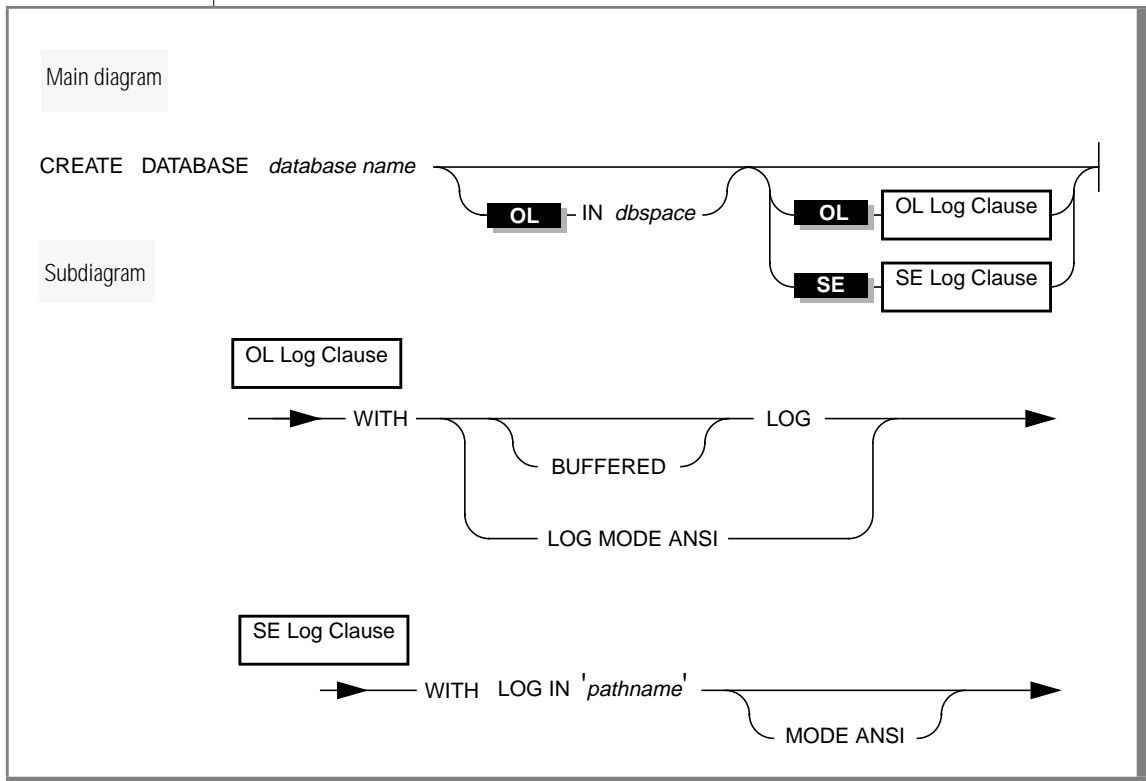
Element	Description
	<p>The vertical line is a terminator. This symbol only appears at the right, indicating that the syntax diagram is complete.</p>
	<p>A branch below the main path indicates an optional path. (Any term on the main path is required, unless a branch can circumvent it.)</p>
	<p>A set of multiple branches indicates that a choice among more than two different paths is available.</p>
	<p>A loop indicates a path that you can repeat. Punctuation along the top of the loop indicates the separator symbol for list items, as in this example. If no symbol appears, a blank space is the separator,</p>
	<p>A gate (<math>\triangle</math>) on a path indicates that you can only use that path the indicated number of times, even if it is part of a larger loop. Here you can specify <i>size</i> no more than three times within this statement segment.</p>

(3 of 3)

## How to Read a Syntax Diagram

Figure 1 shows a syntax diagram that uses most of the path elements that are listed in the previous table.

**Figure 1**  
Elements of a Syntax Diagram



To use this diagram to construct a statement, start at the top left with the keywords CREATE DATABASE. Then follow the diagram to the right, proceeding through the options that you want.



**To read the example syntax diagram**

1. You must type the words CREATE DATABASE.
2. You must supply a *database name*.
3. You can stop, taking the direct route to the terminator, or you can take one or more of the optional paths.
4. If desired, you can designate a dbspace by typing the word IN and a dbspace name.
5. If desired, you can specify logging. Here, you are constrained by the database server with which you are working:
  - If you are using INFORMIX-OnLine Dynamic Server, go to the subdiagram named *OL Log Clause*. Follow the subdiagram by typing the keyword WITH, then choosing and typing either LOG, BUFFERED LOG, or LOG MODE ANSI. Then follow the arrow back to the main diagram.
  - If you are using INFORMIX-SE, go to the subdiagram named *SE Log Clause*. Follow the subdiagram by typing the keywords WITH LOG IN, typing a quote, supplying a pathname, and closing the quotes. You can then choose the MODE ANSI option below the line or continue to follow the line across.
6. Once you are back at the main diagram, you come to the terminator. Your CREATE DATABASE statement is complete.

**Sample-Code Conventions**

Examples of SQL code occur throughout this manual. Except where noted, the code is not specific to any single Informix application development tool. If only SQL statements are listed in the example, they are not delimited by semicolons. To use this SQL code for a specific product, you must apply the syntax rules for that product. For example, if you are using the Query-language option of DB-Access, you must delimit multiple statements with semicolons. If you are using an SQL API, you must use EXEC SQL and a semicolon (or other appropriate delimiters) at the start and end of each statement, respectively.



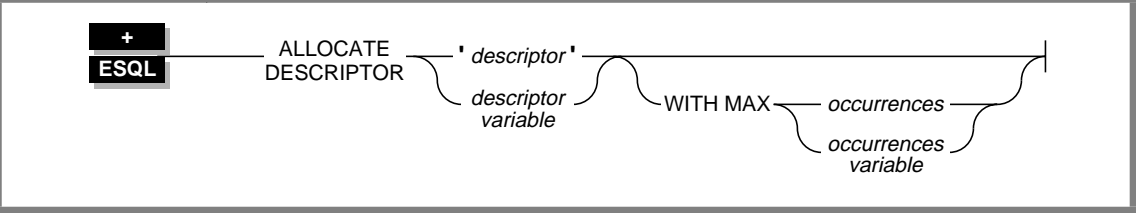
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# SQL Statements

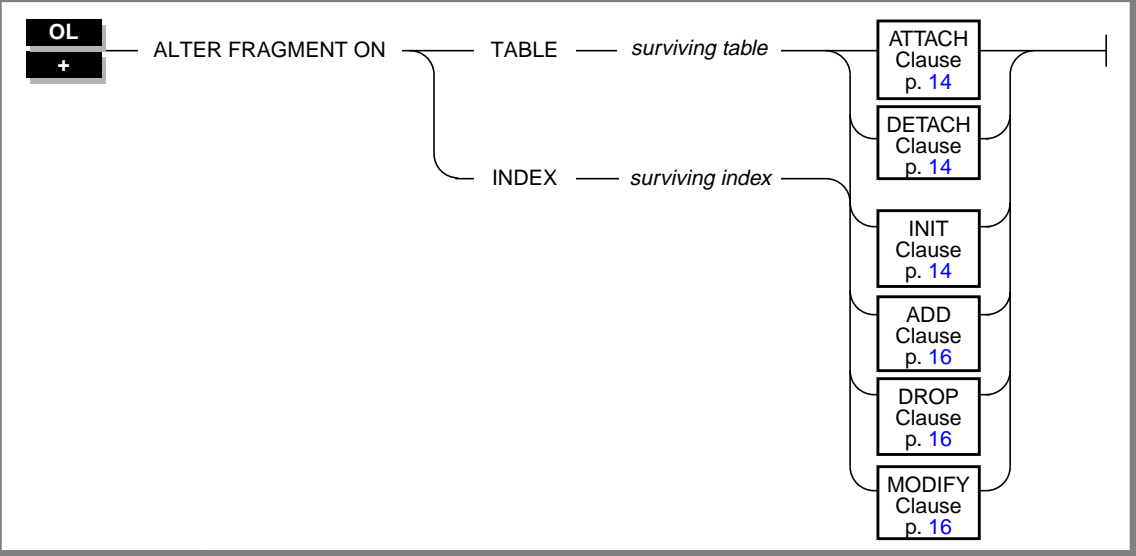
# Section



### ALLOCATE DESCRIPTOR

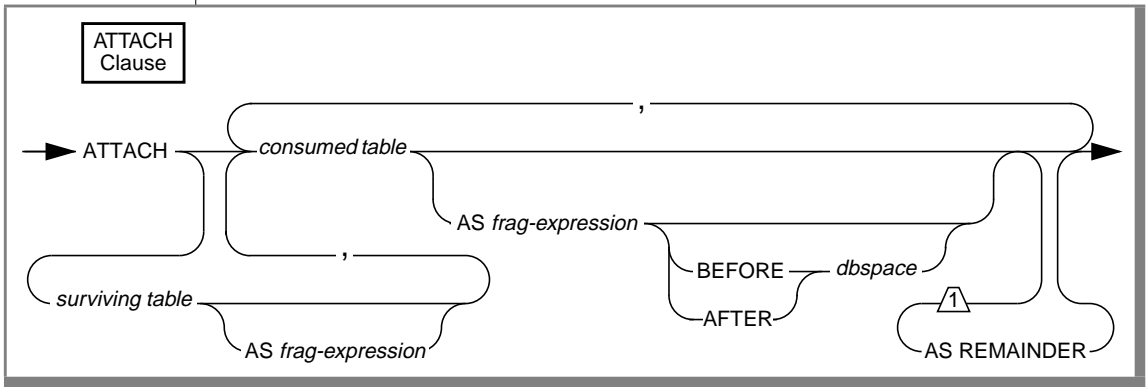


### ALTER FRAGMENT



# ALTER FRAGMENT

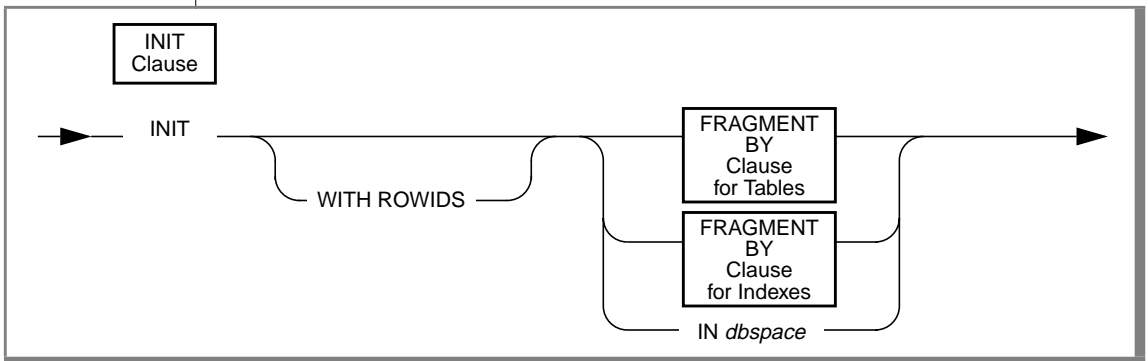
## ATTACH Clause



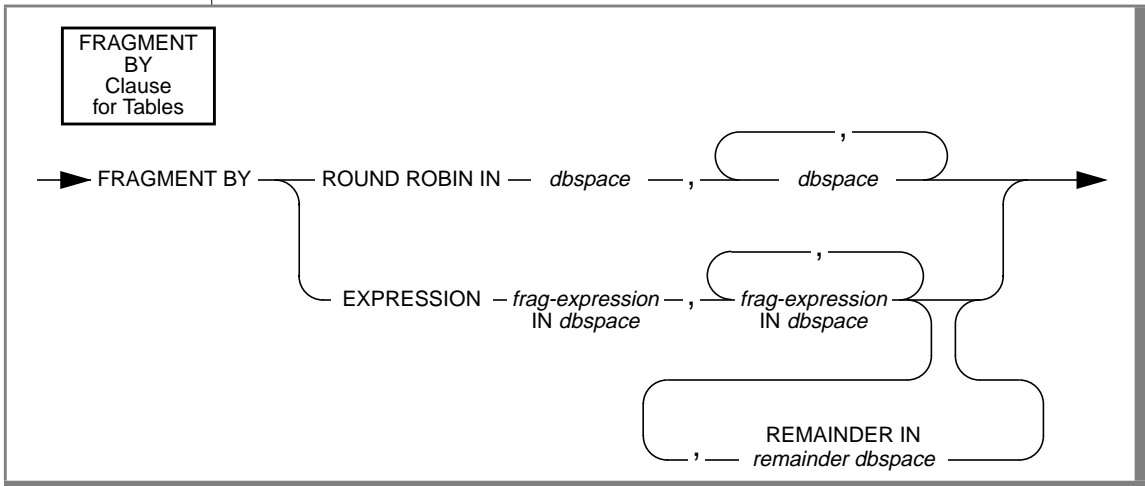
## DETACH Clause



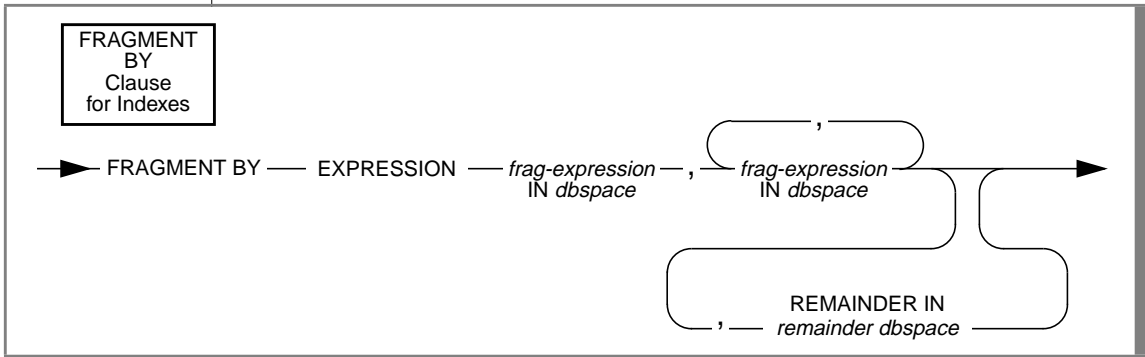
## INIT Clause



## FRAGMENT BY Clause for Tables

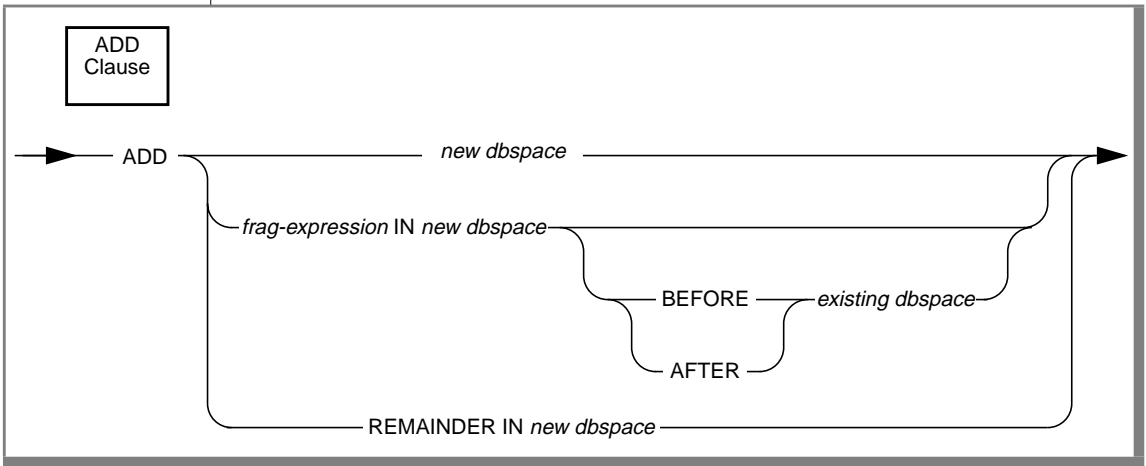


## FRAGMENT BY Clause for Indexes

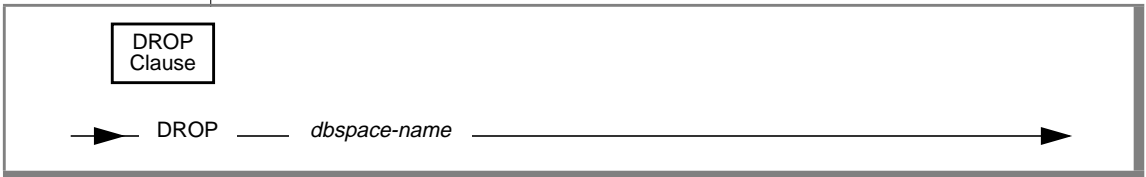


# ALTER FRAGMENT

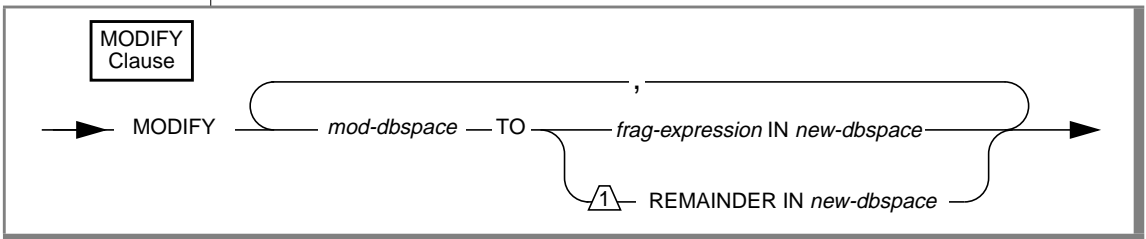
## ADD Clause



## DROP Clause

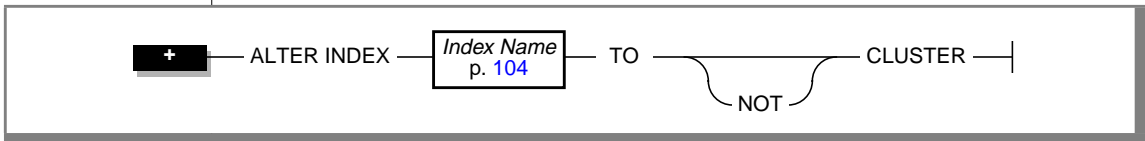


## MODIFY Clause

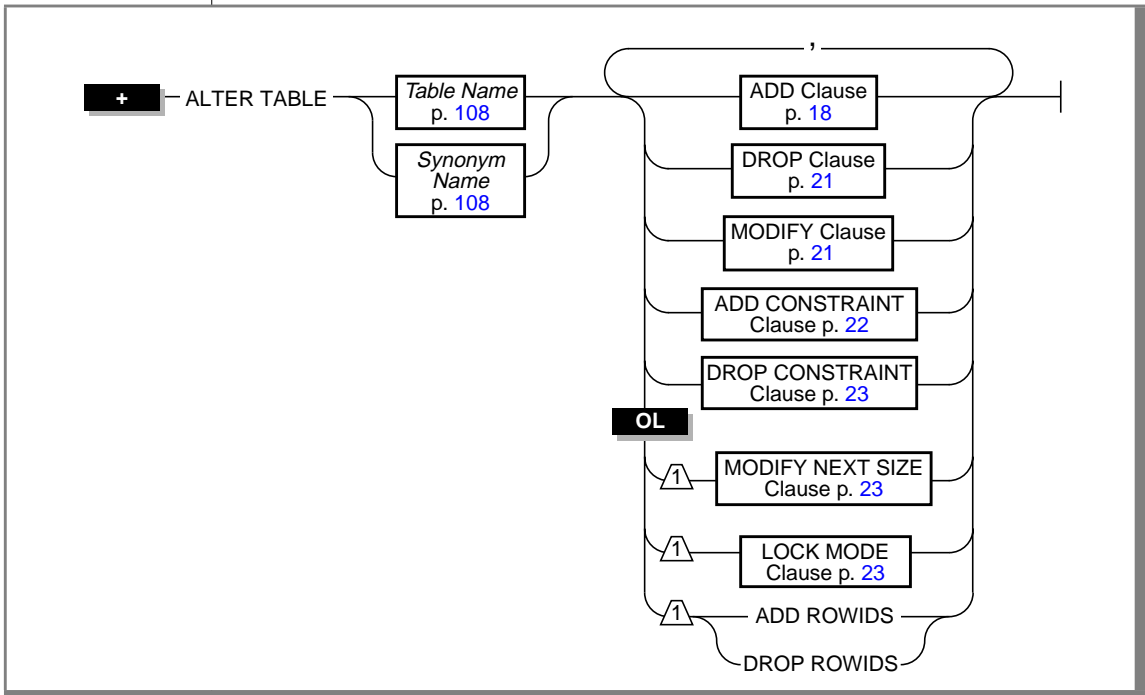




## ALTER INDEX

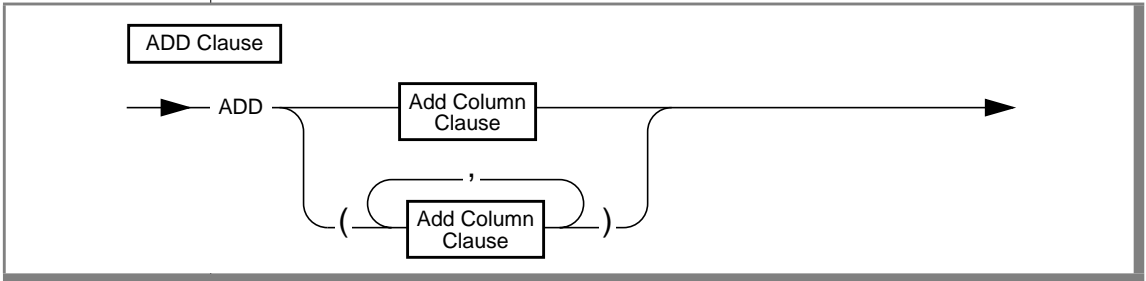


## ALTER TABLE

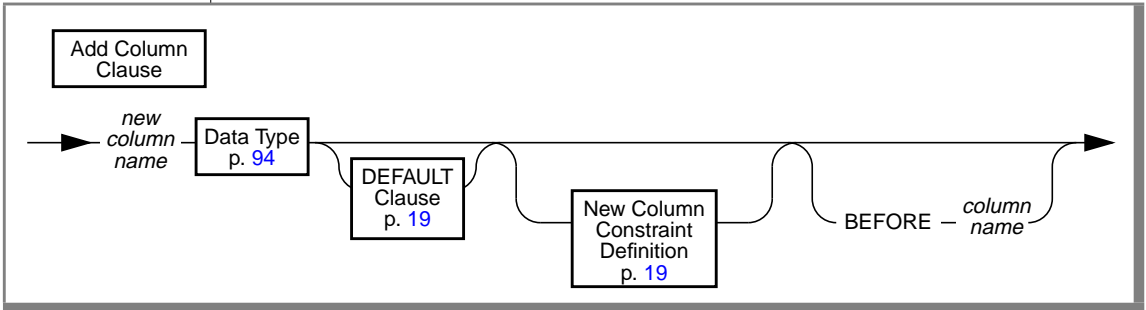


# ALTER TABLE

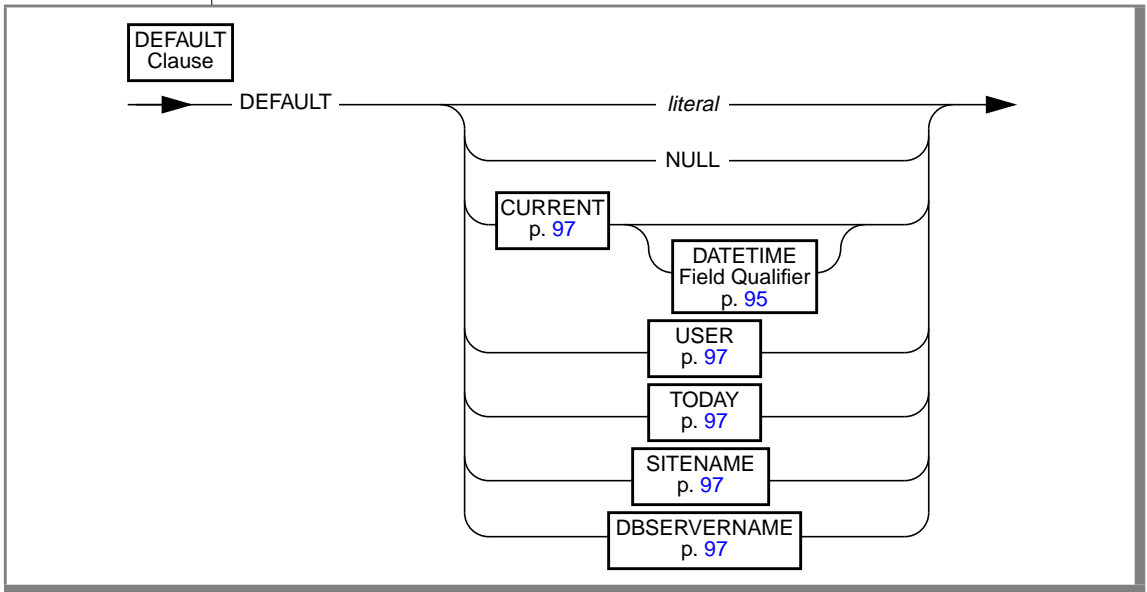
## ADD Clause



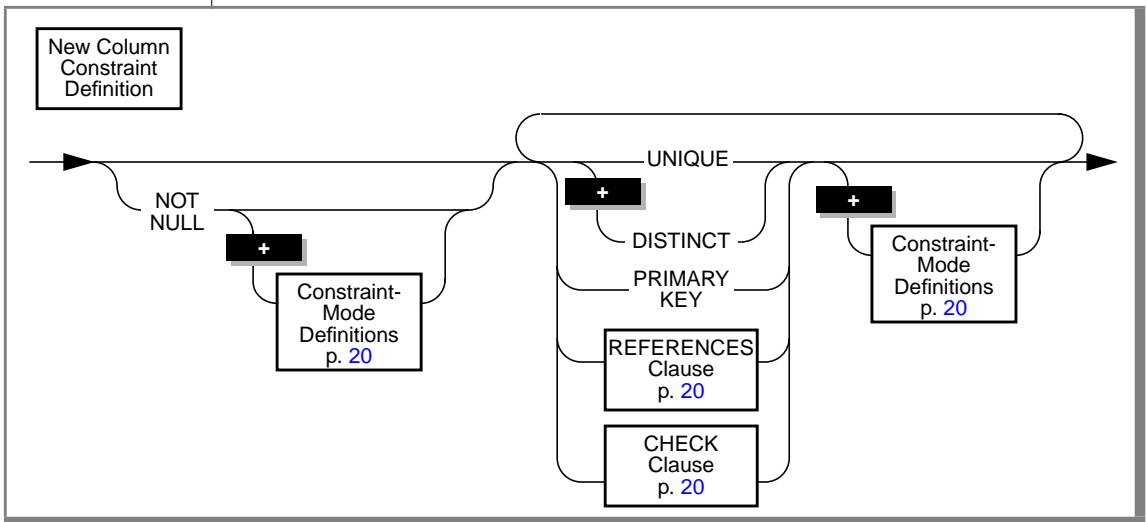
## Add Column Clause



*DEFAULT Clause*

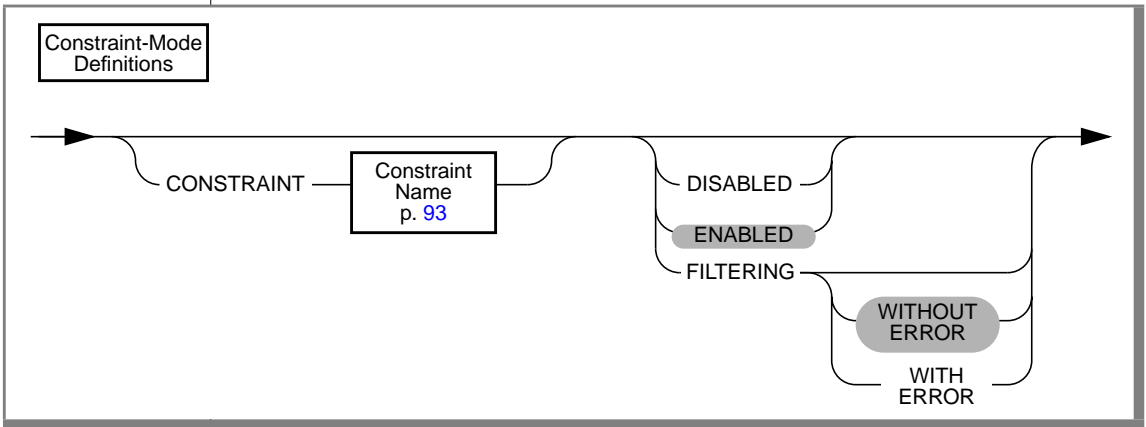


*New Column Constraint Definition*

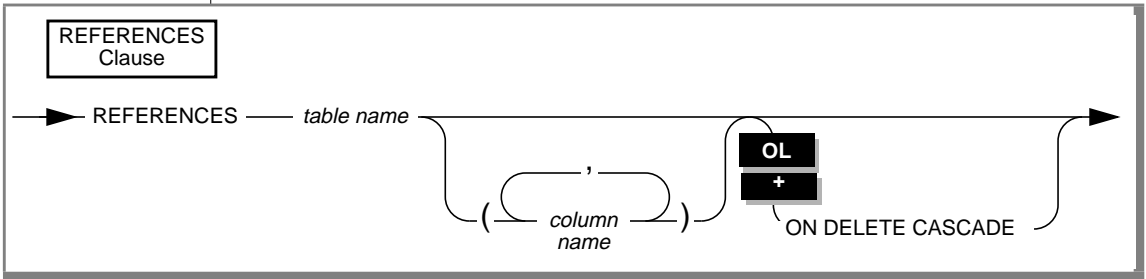


# ALTER TABLE

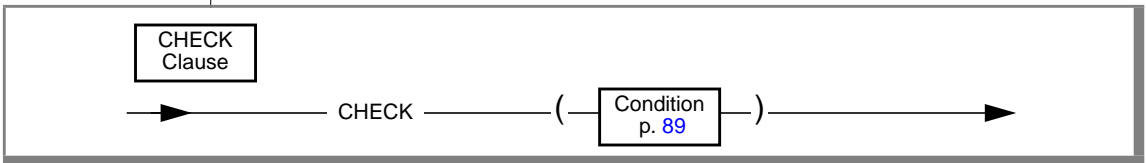
## Constraint-Mode Definitions



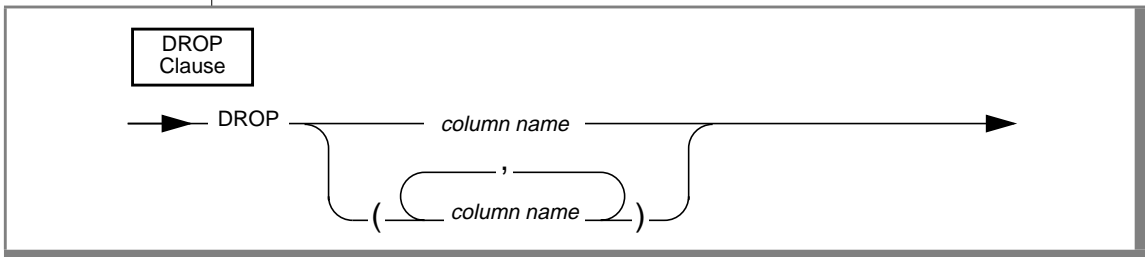
## REFERENCES Clause



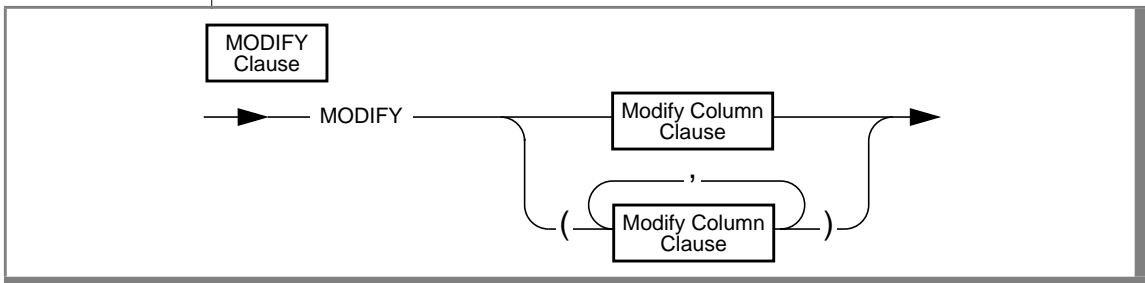
## CHECK Clause



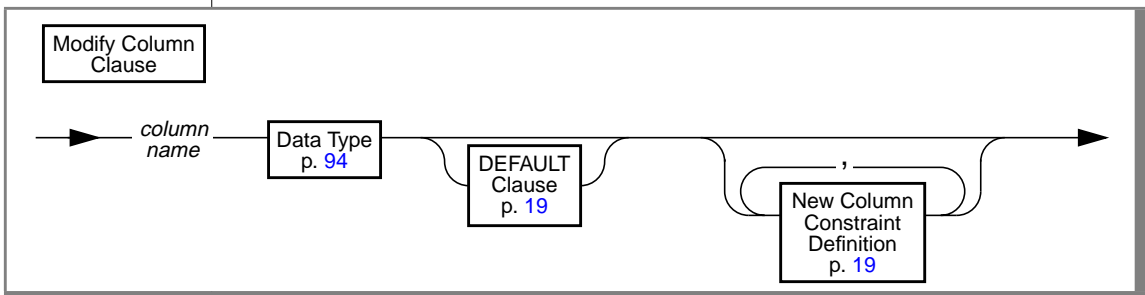
*DROP Clause*



*MODIFY Clause*

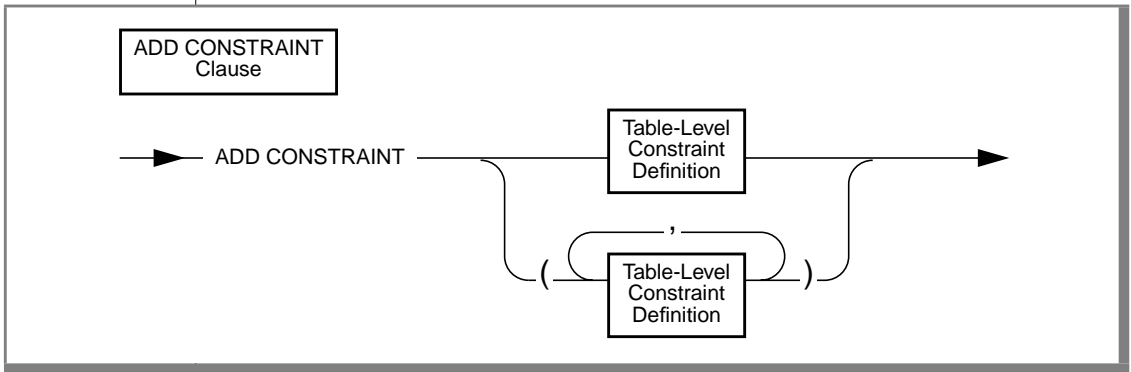


*Modify Column Clause*

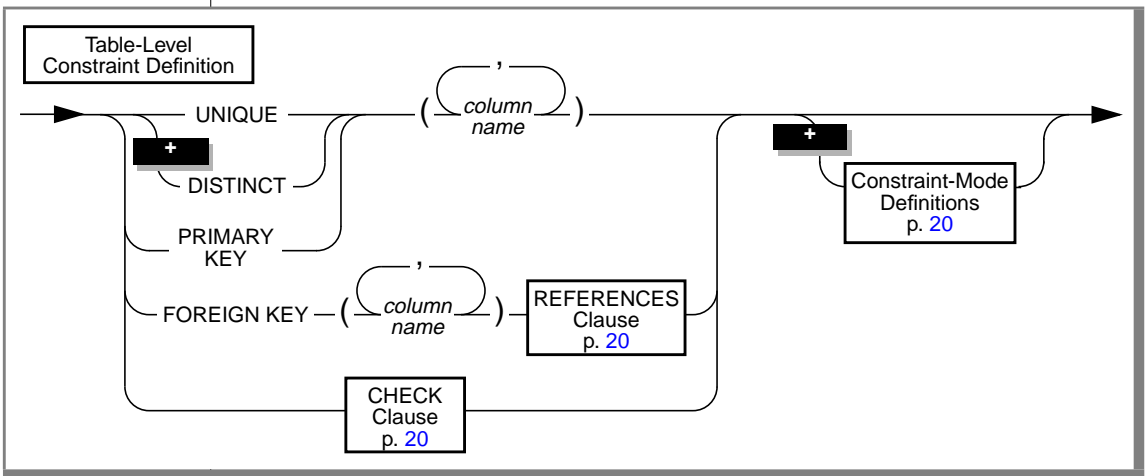


# ALTER TABLE

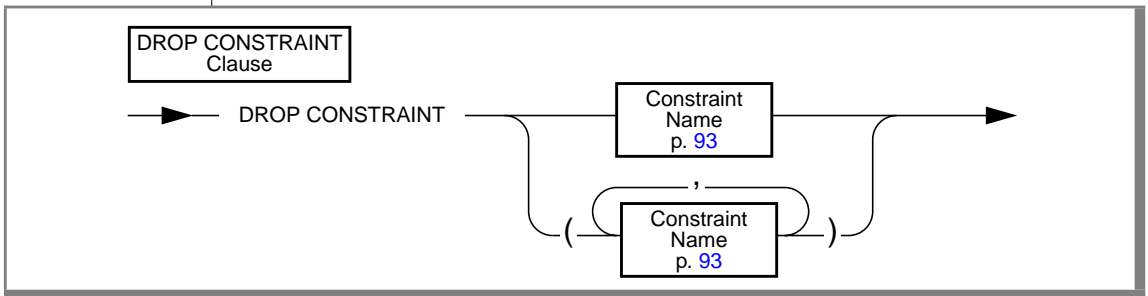
## ADD CONSTRAINT Clause



## Table-Level Constraint Definition



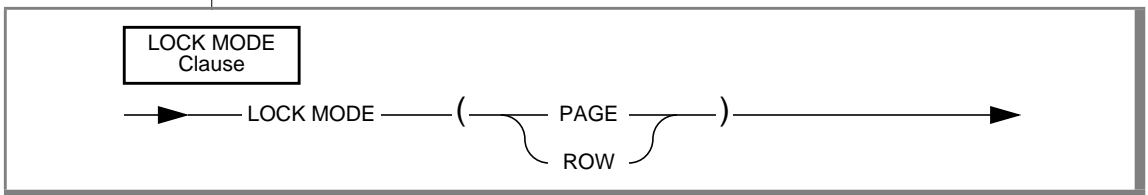
*DROP CONSTRAINT Clause*



*MODIFY NEXT SIZE Clause*



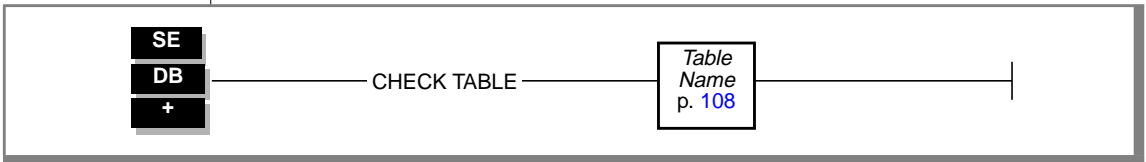
*LOCK MODE Clause*



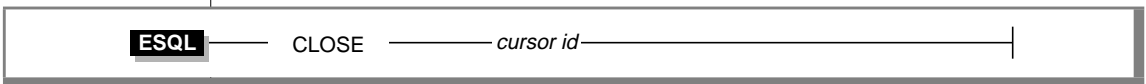
## BEGIN WORK



## CHECK TABLE



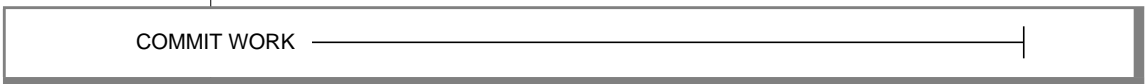
## CLOSE



## CLOSE DATABASE

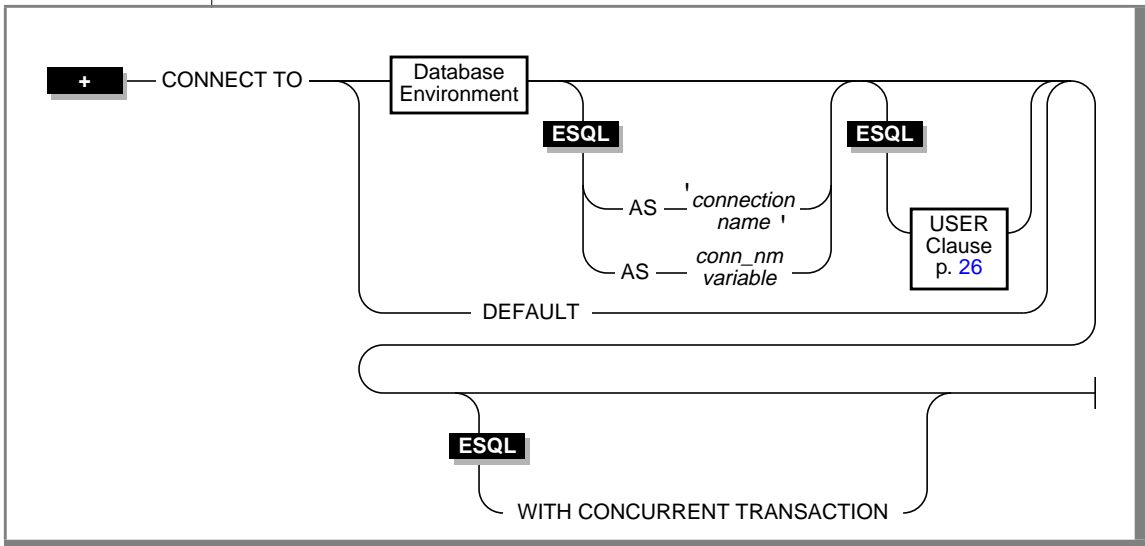


## COMMIT WORK

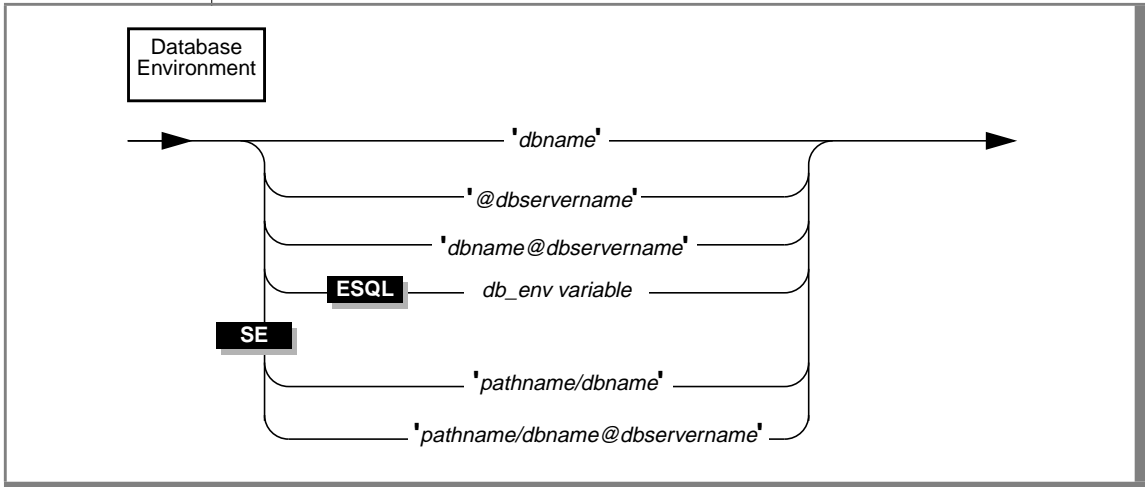




## CONNECT

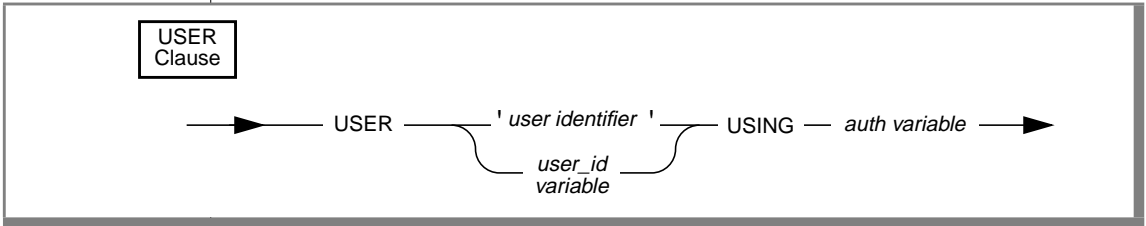


## Database Environment

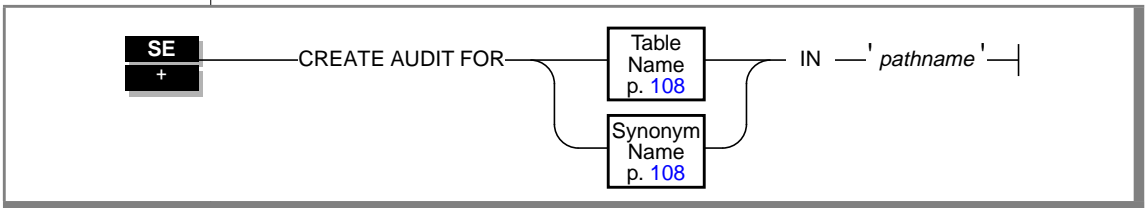


# CREATE AUDIT

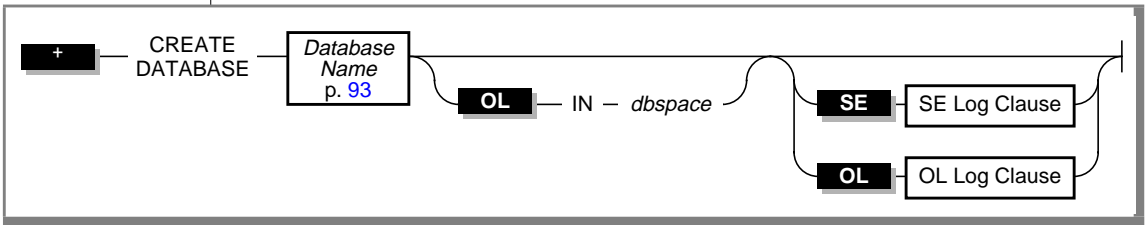
## USER Clause



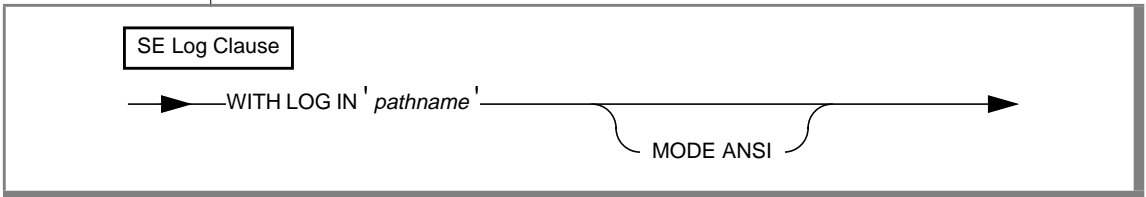
## CREATE AUDIT



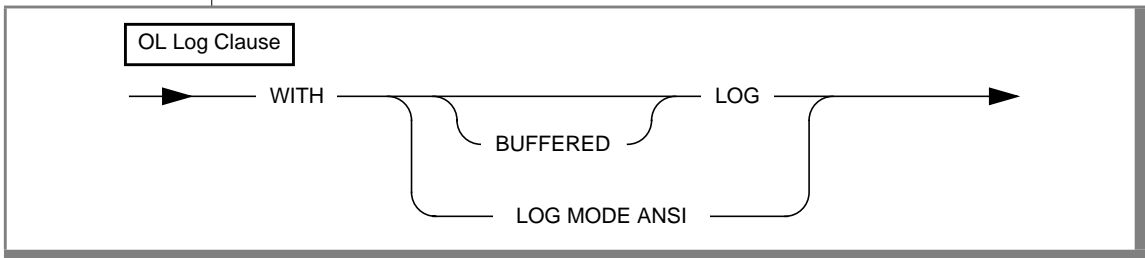
## CREATE DATABASE



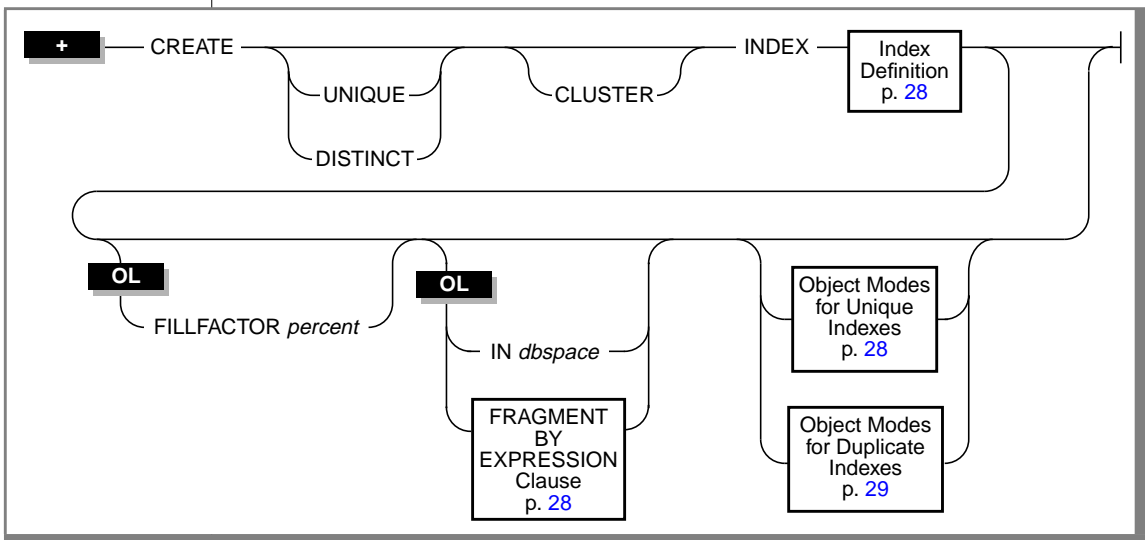
## SE LOG Clause



*OL LOG Clause*

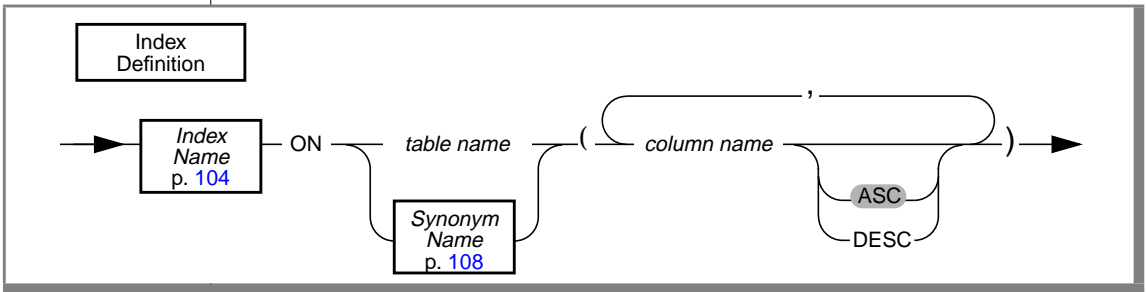


**CREATE INDEX**

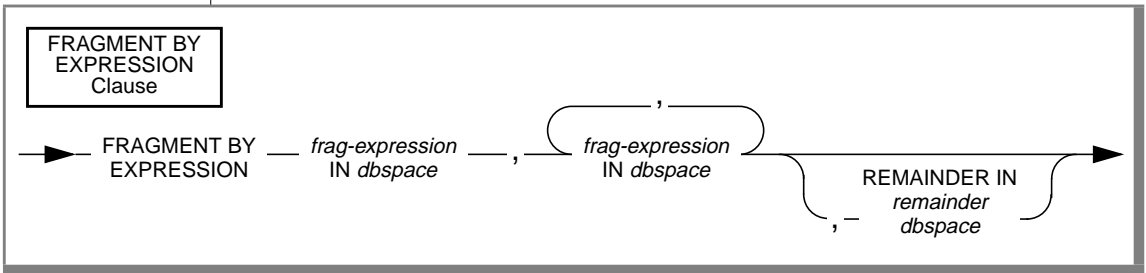


# CREATE INDEX

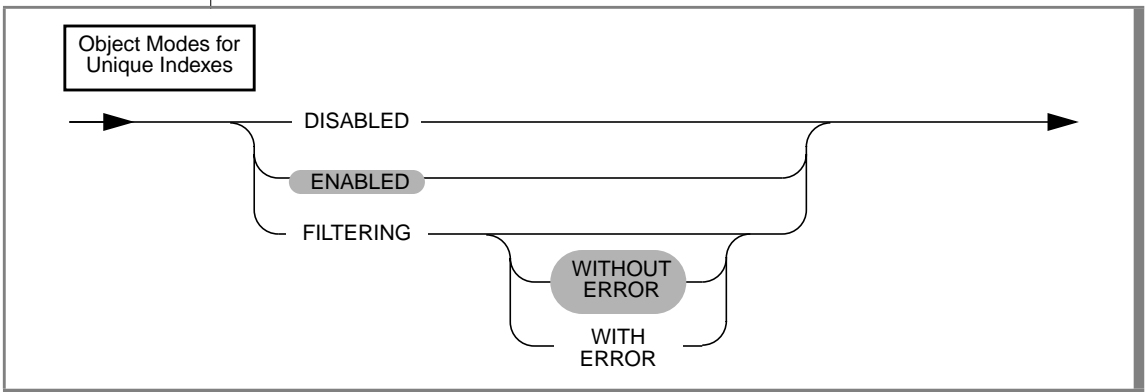
## Index Definition



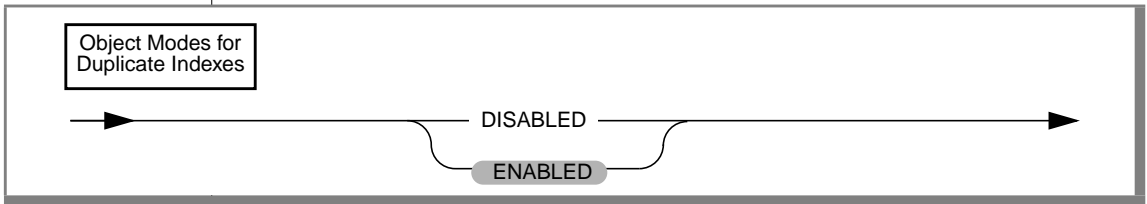
## FRAGMENT BY EXPRESSION Clause



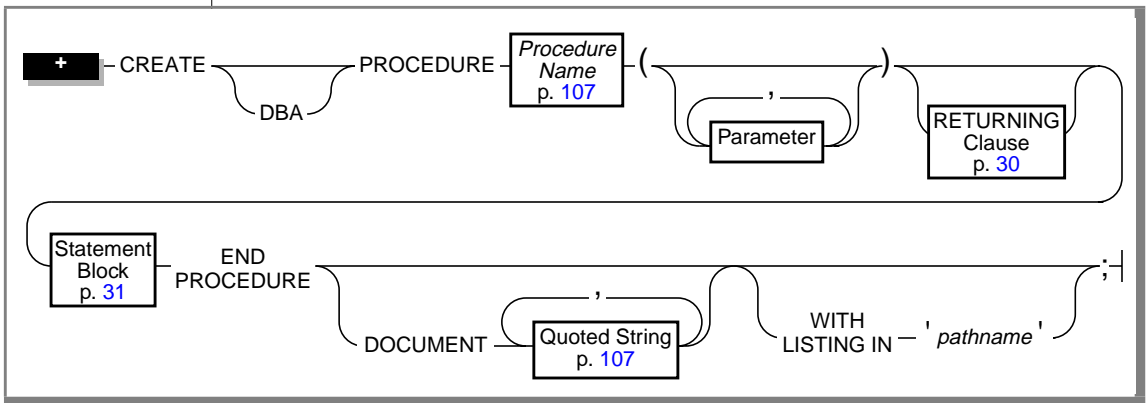
## Object Modes for Unique Indexes



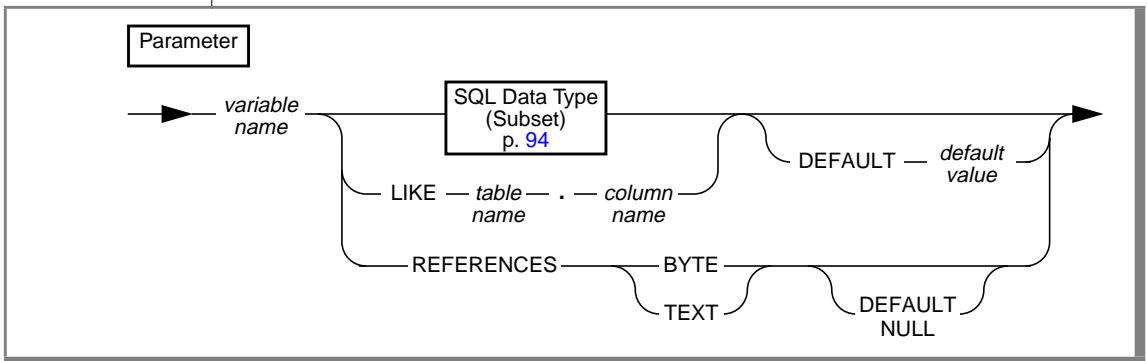
Object Modes for Duplicate Indexes



CREATE PROCEDURE

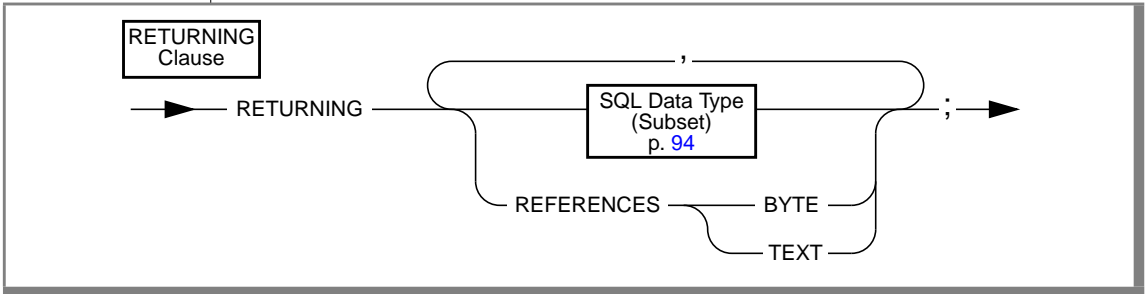


Parameter Option

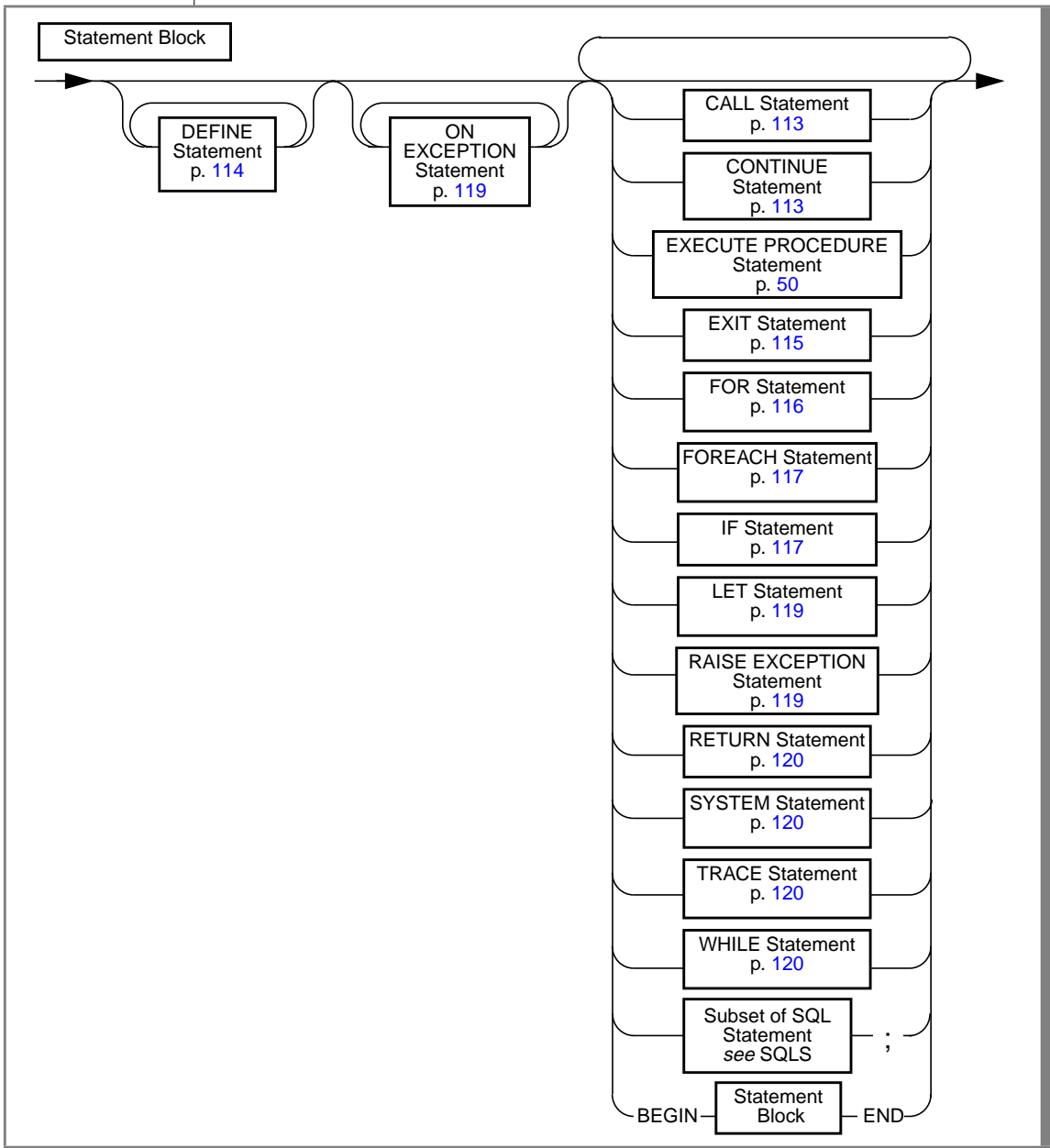


# CREATE PROCEDURE

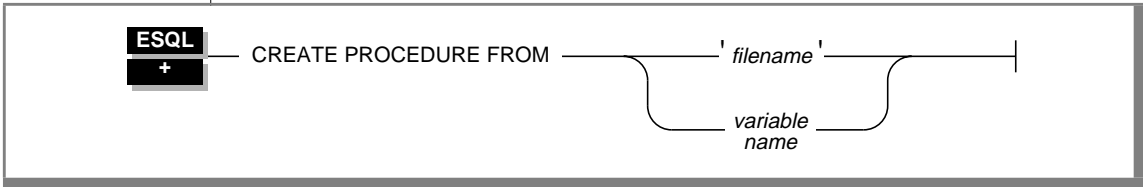
## RETURNING Clause



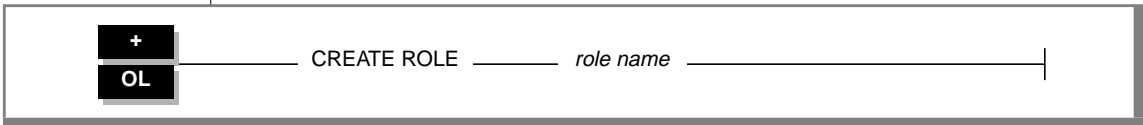
Statement Block



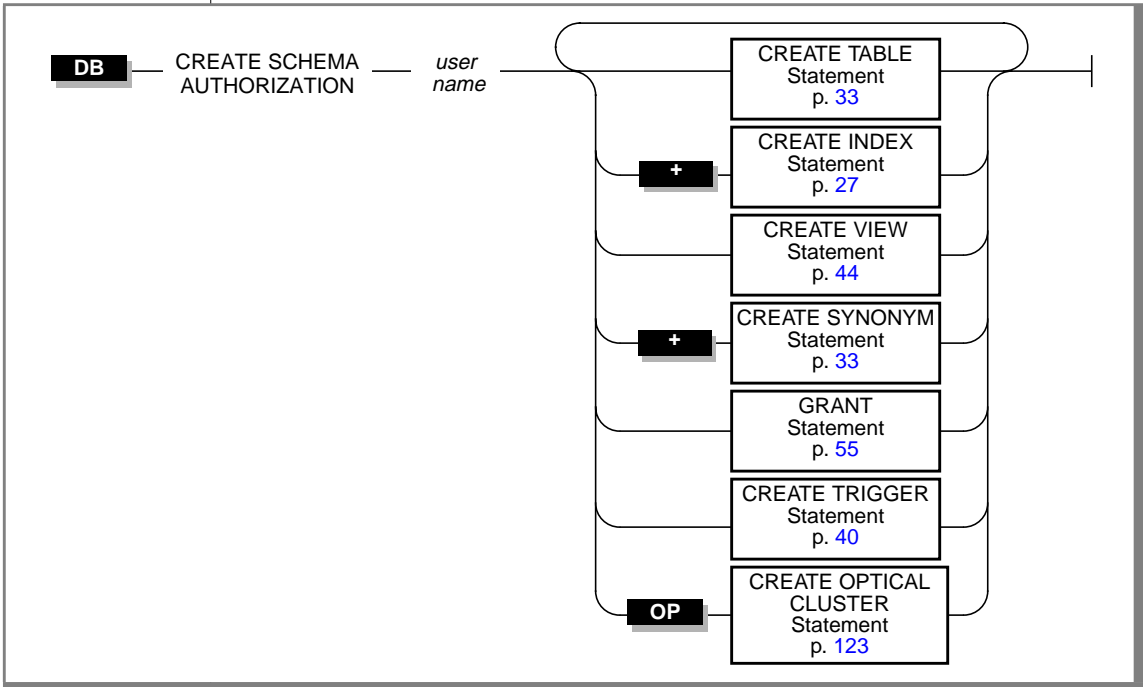
## CREATE PROCEDURE FROM



## CREATE ROLE

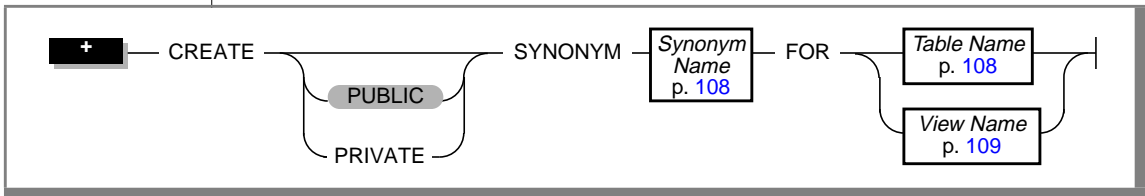


## CREATE SCHEMA

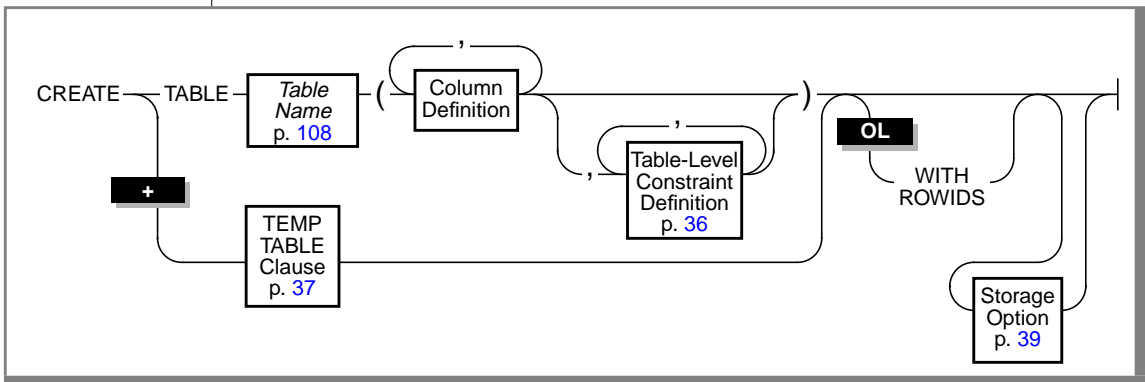




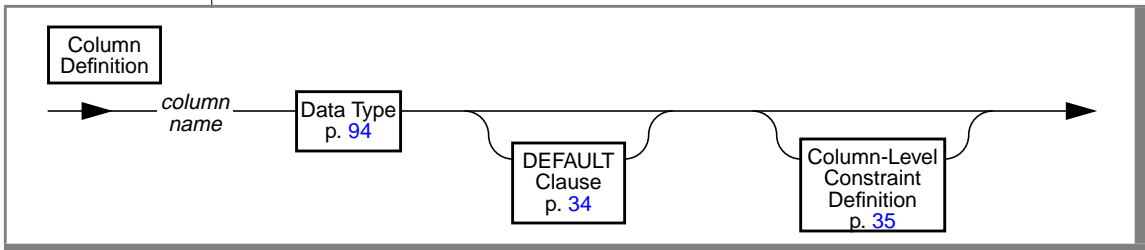
## CREATE SYNONYM



## CREATE TABLE

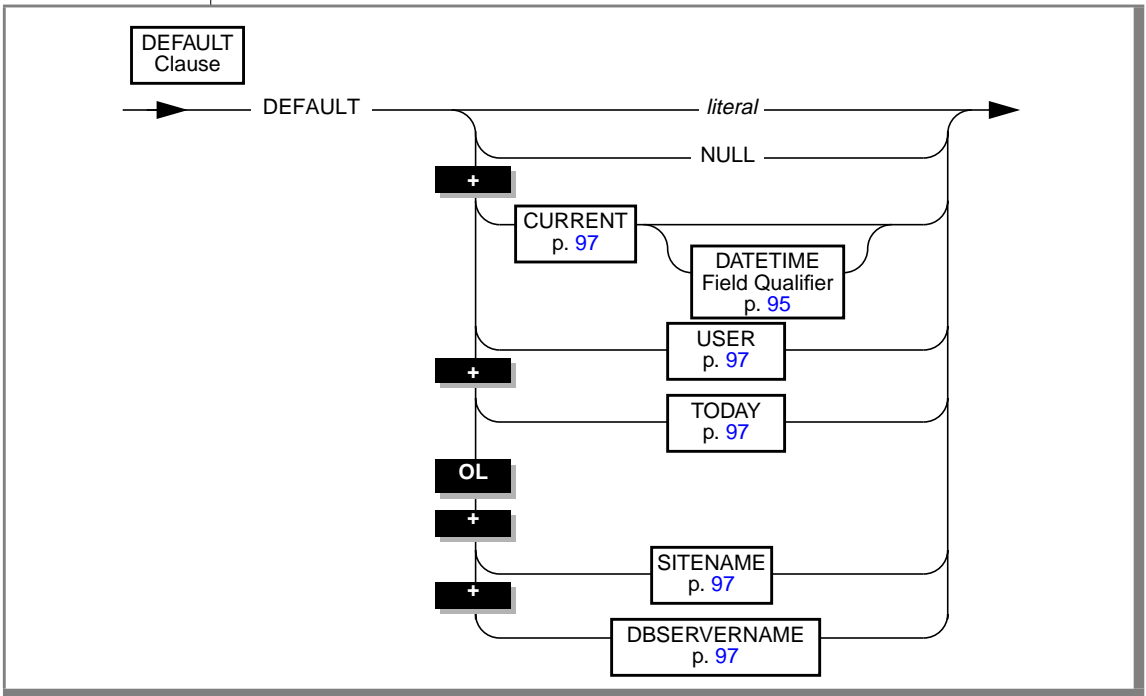


### Column-Definition Option

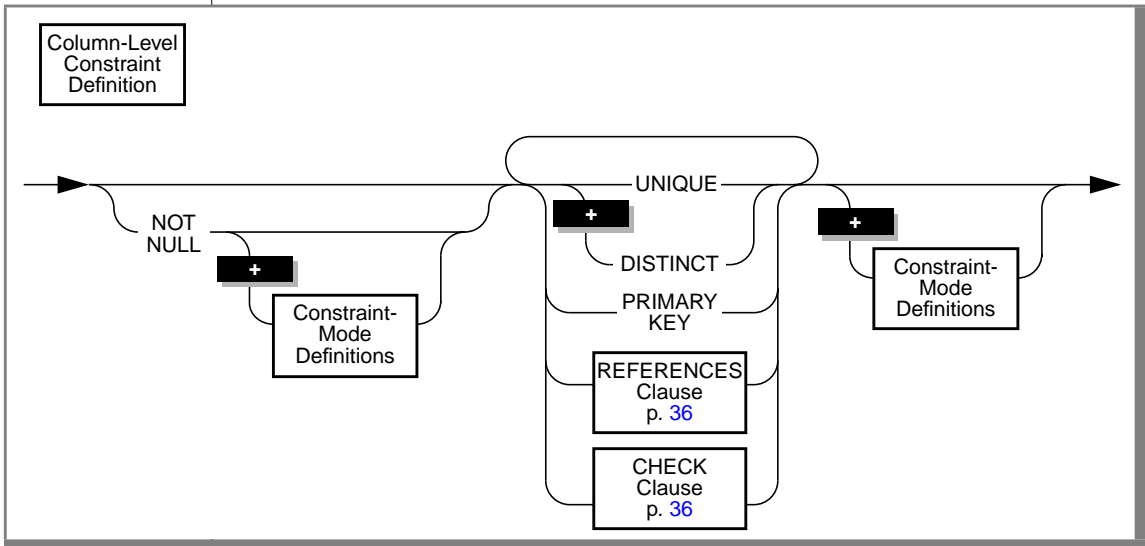


# CREATE TABLE

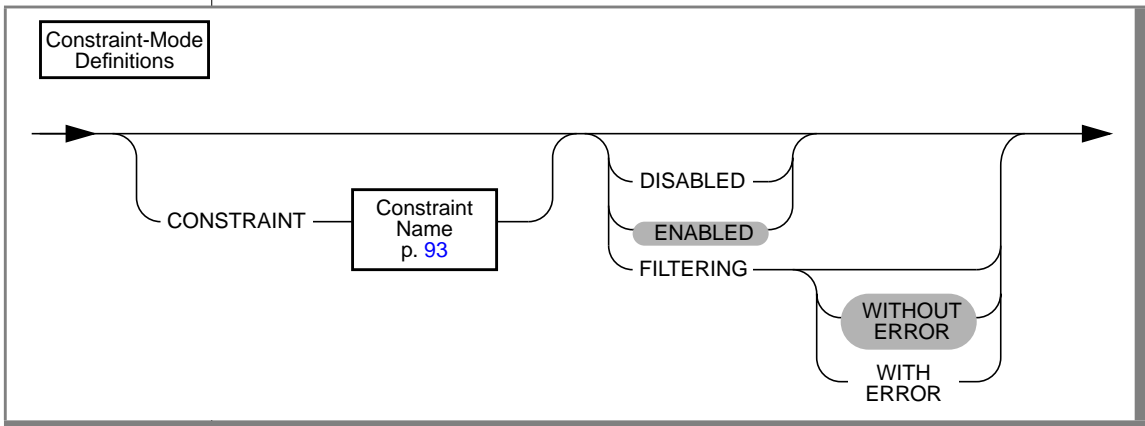
## DEFAULT Clause



*Column-Level Constraint-Definition Option*

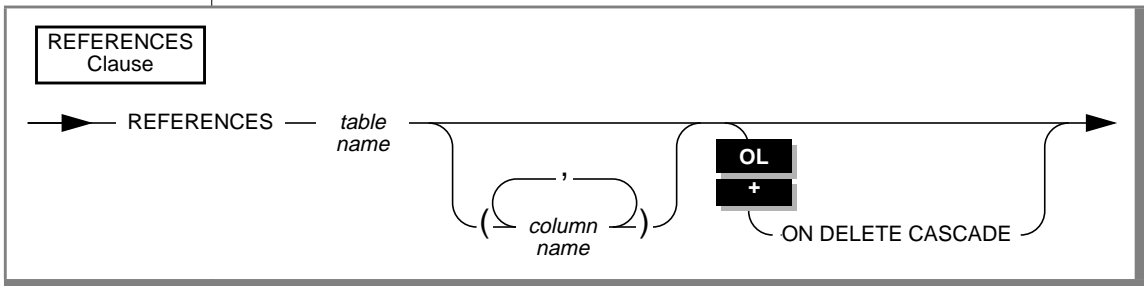


*Constraint-Mode Definitions*

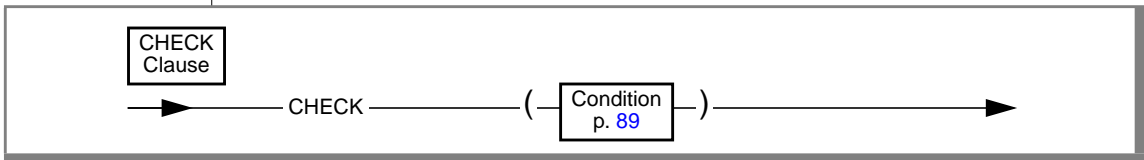


# CREATE TABLE

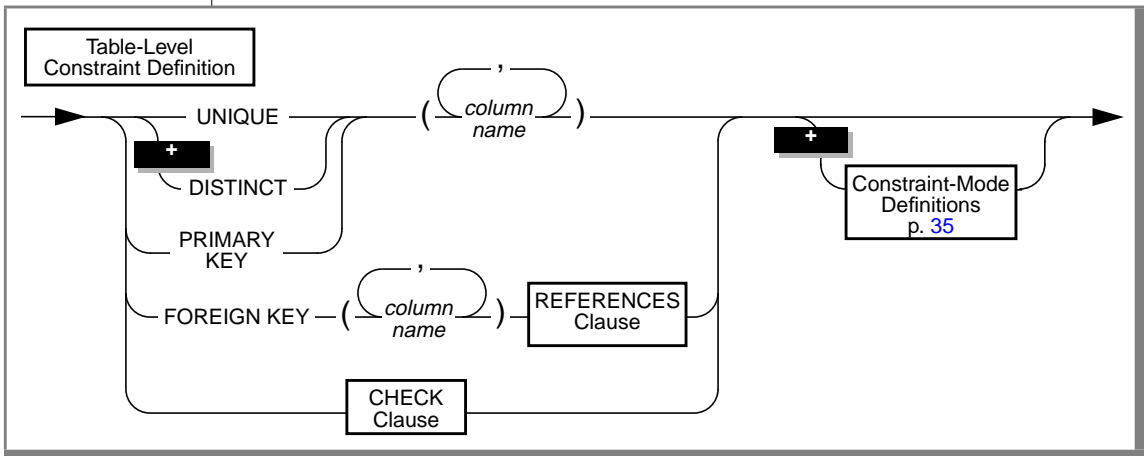
## REFERENCES Clause



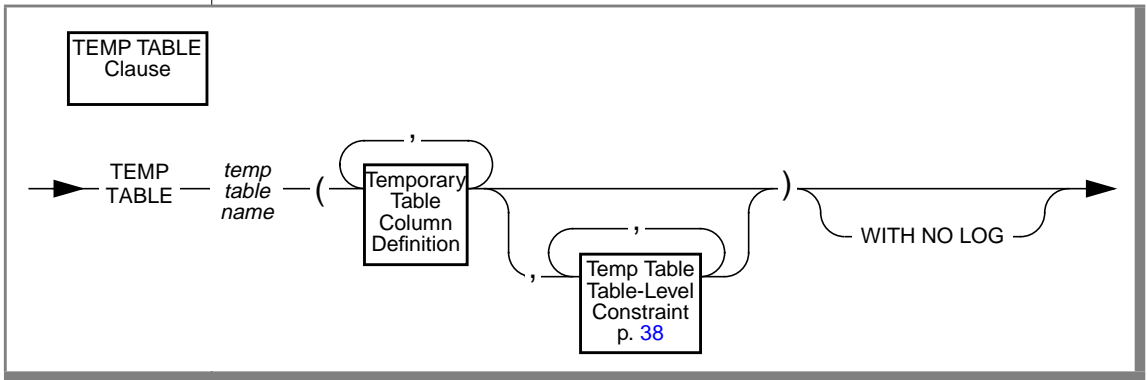
## CHECK Clause



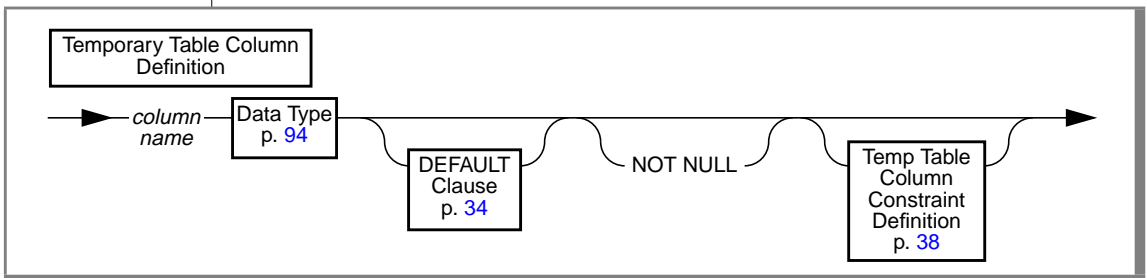
## Table-Level Constraint-Definition Option



TEMP TABLE Clause

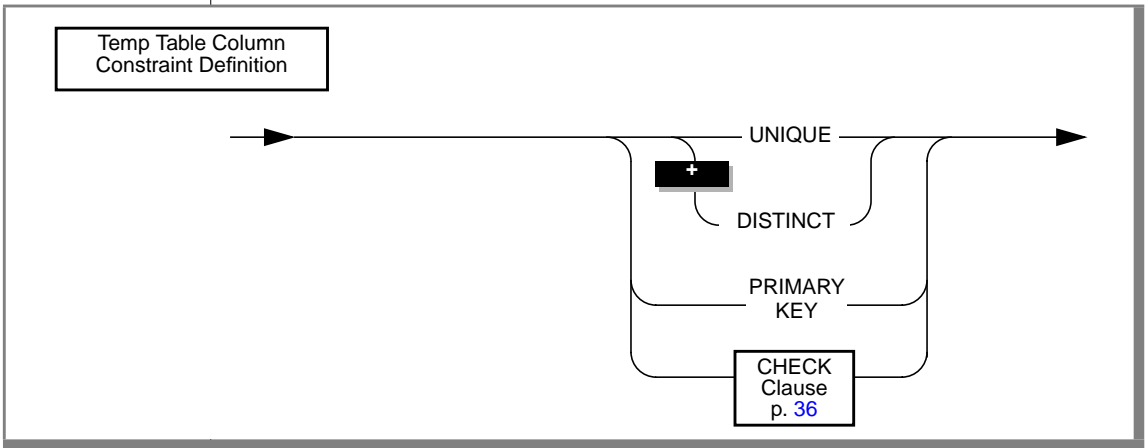


Temporary Table Column Definition

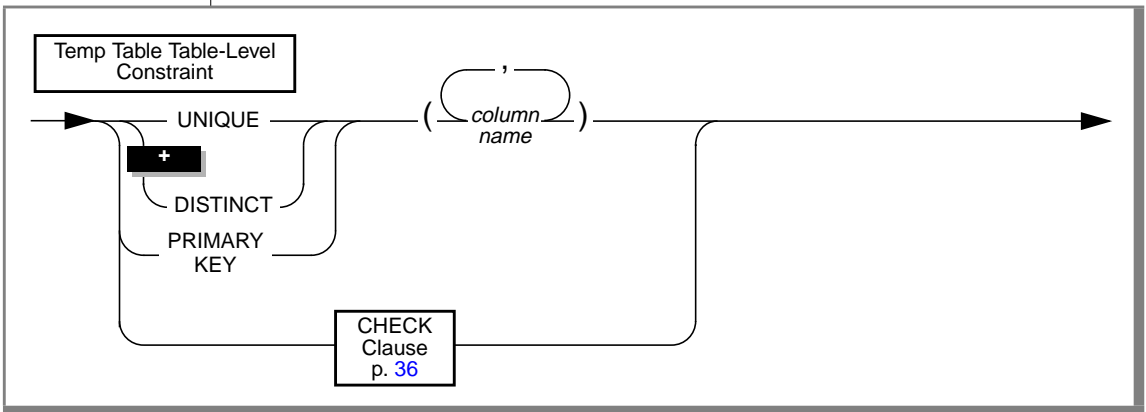


# CREATE TABLE

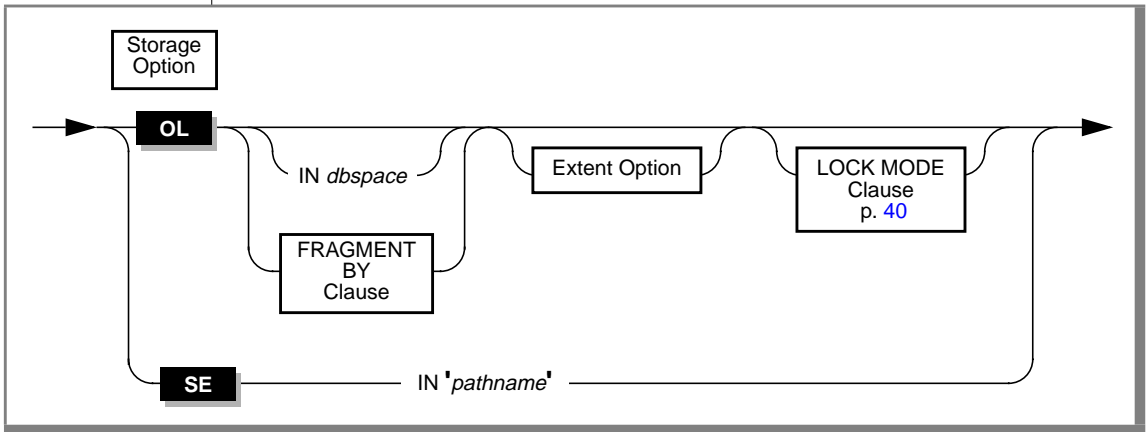
## Temp Table Column Constraint Definition



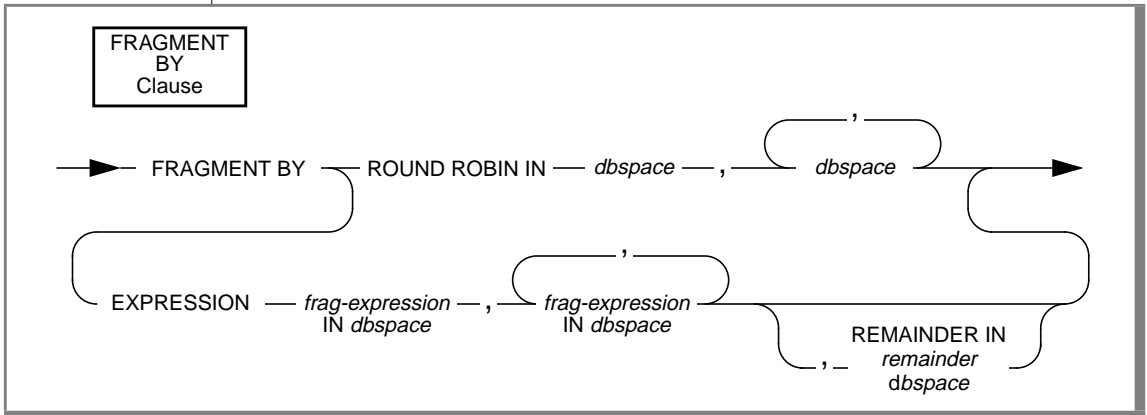
## Temp Table Table-Level Constraint



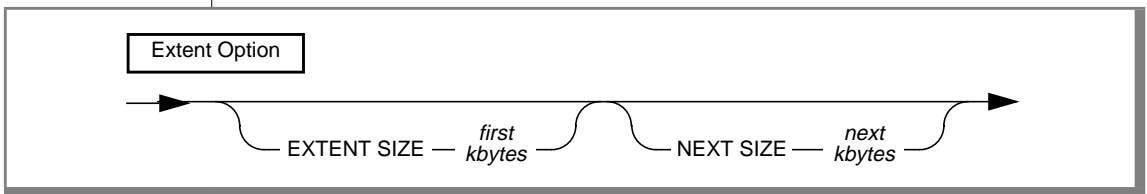
*Storage Option*



*FRAGMENT BY Clause*

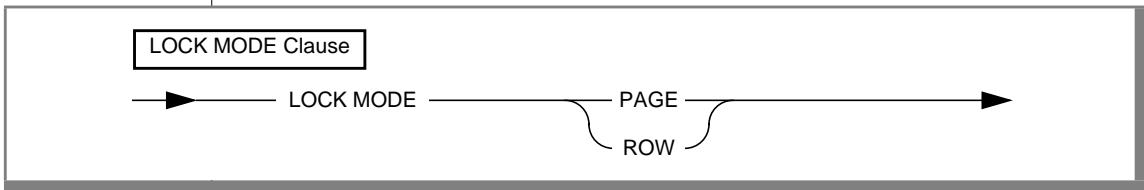


*Extent Option*

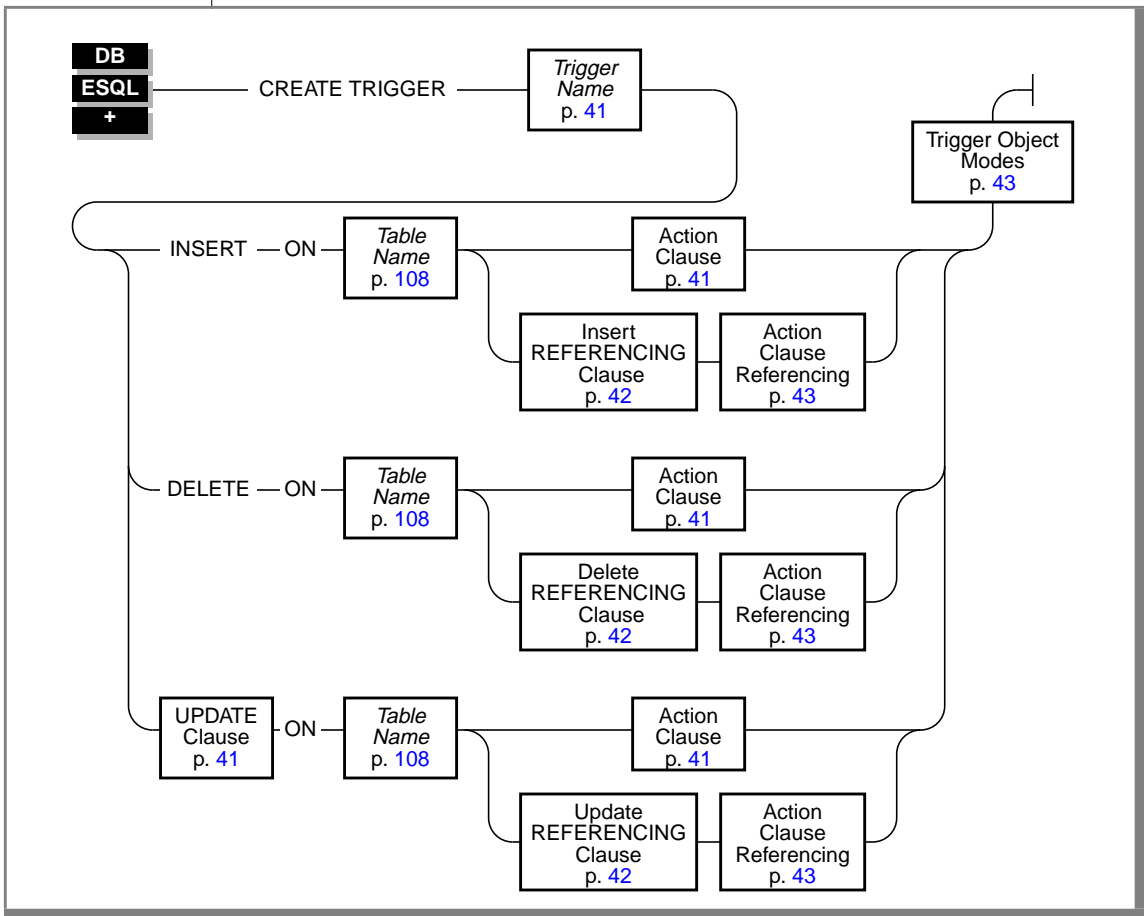


# CREATE TRIGGER

## LOCK MODE Clause

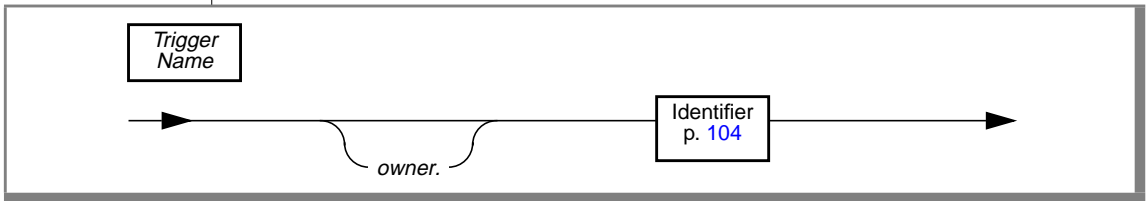


## CREATE TRIGGER

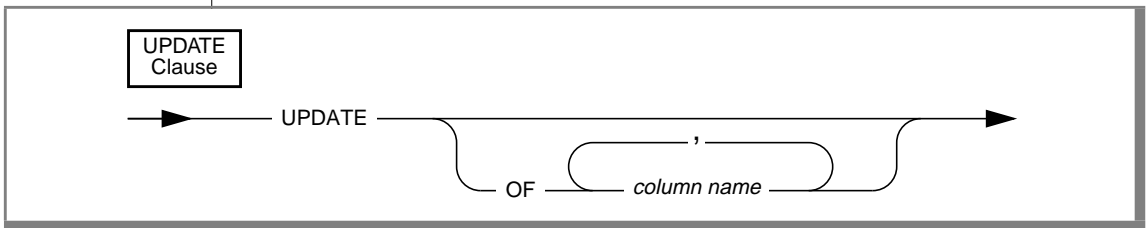




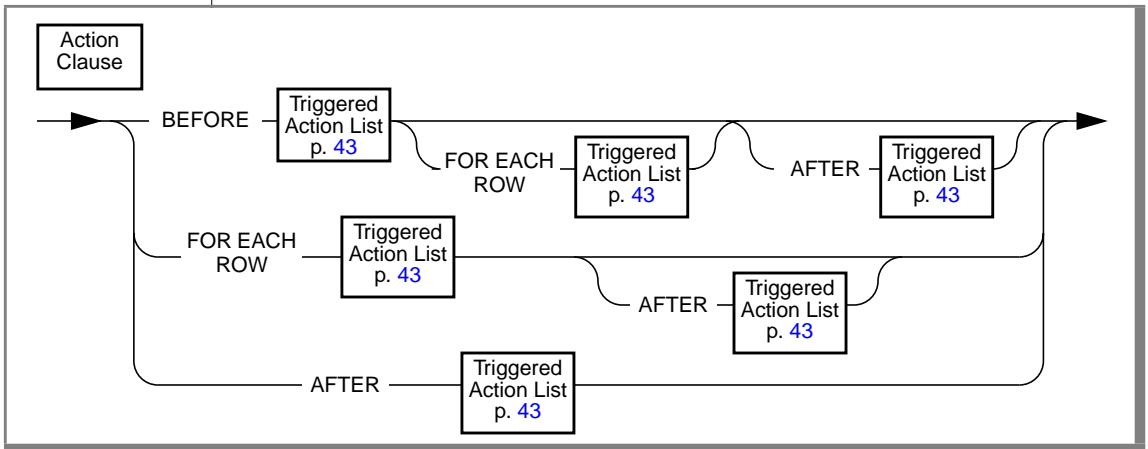
Trigger Name



UPDATE Clause

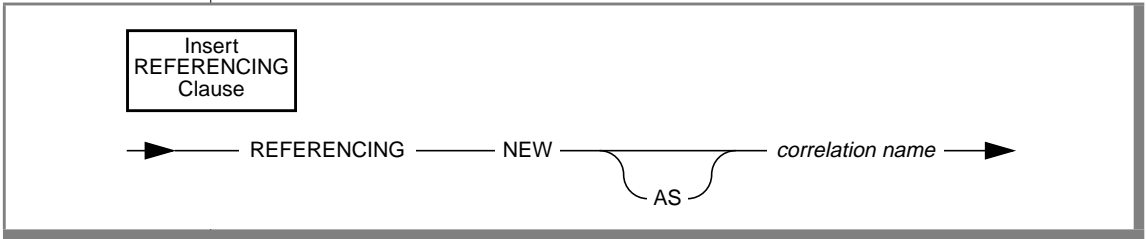


Action Clause

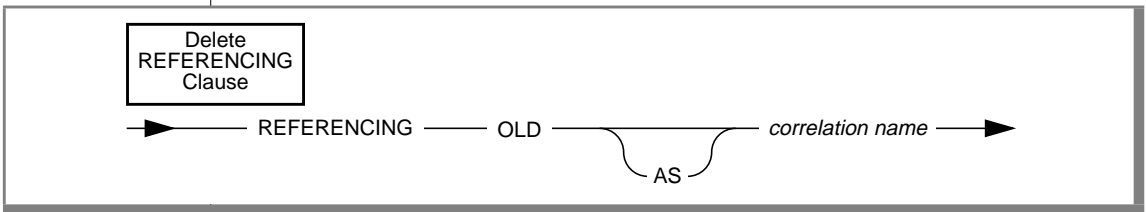


# CREATE TRIGGER

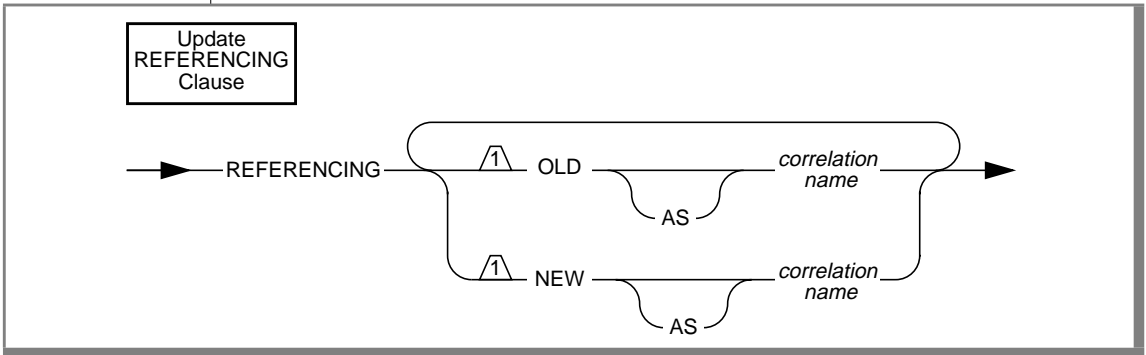
## Insert REFERENCING Clause



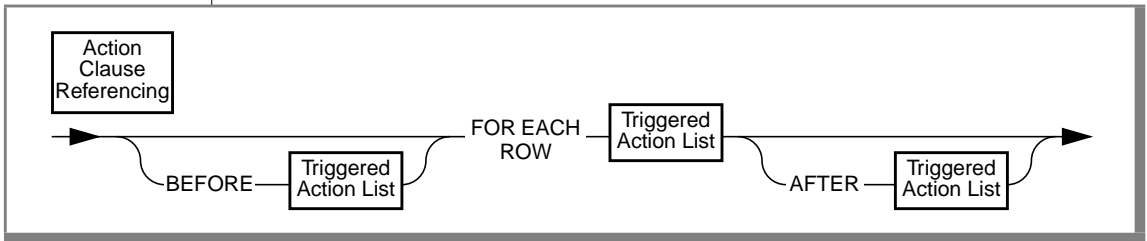
## Delete REFERENCING Clause



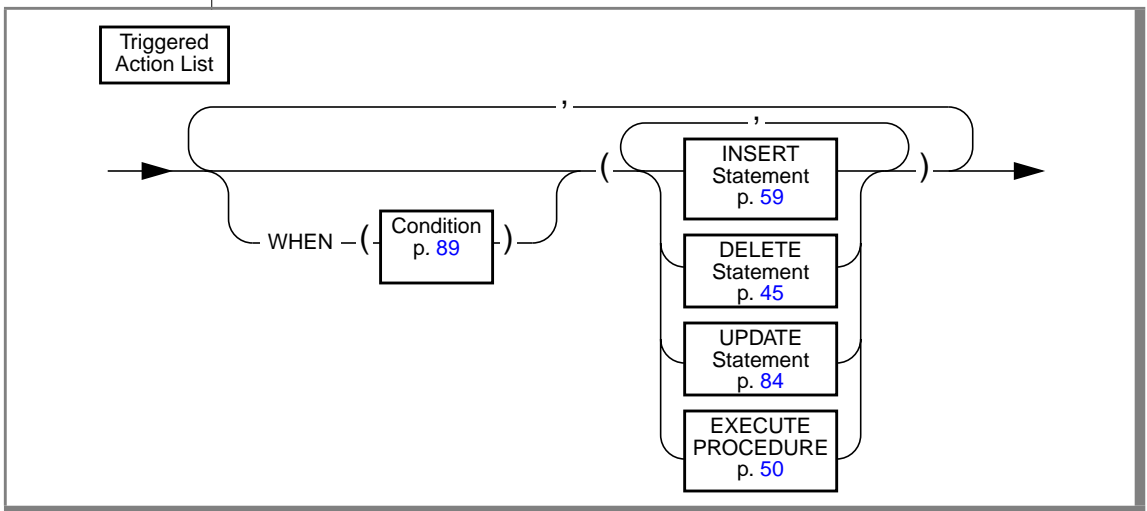
## Update REFERENCING Clause



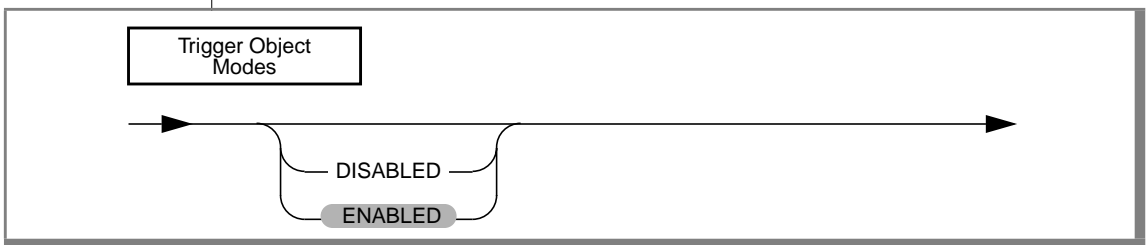
Action Clause Referencing



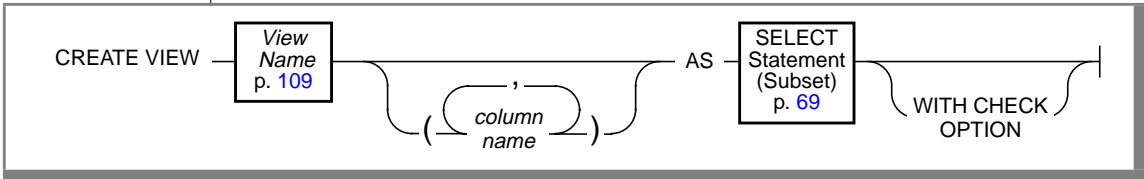
Triggered Action List



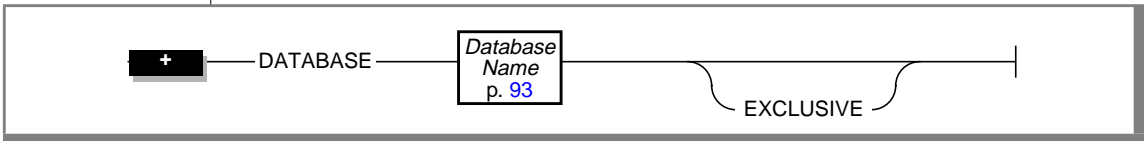
Trigger Object Modes



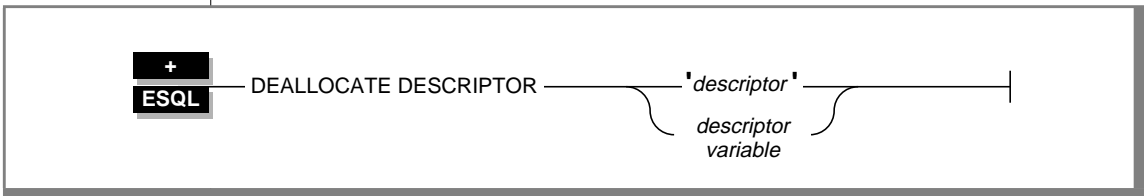
## CREATE VIEW



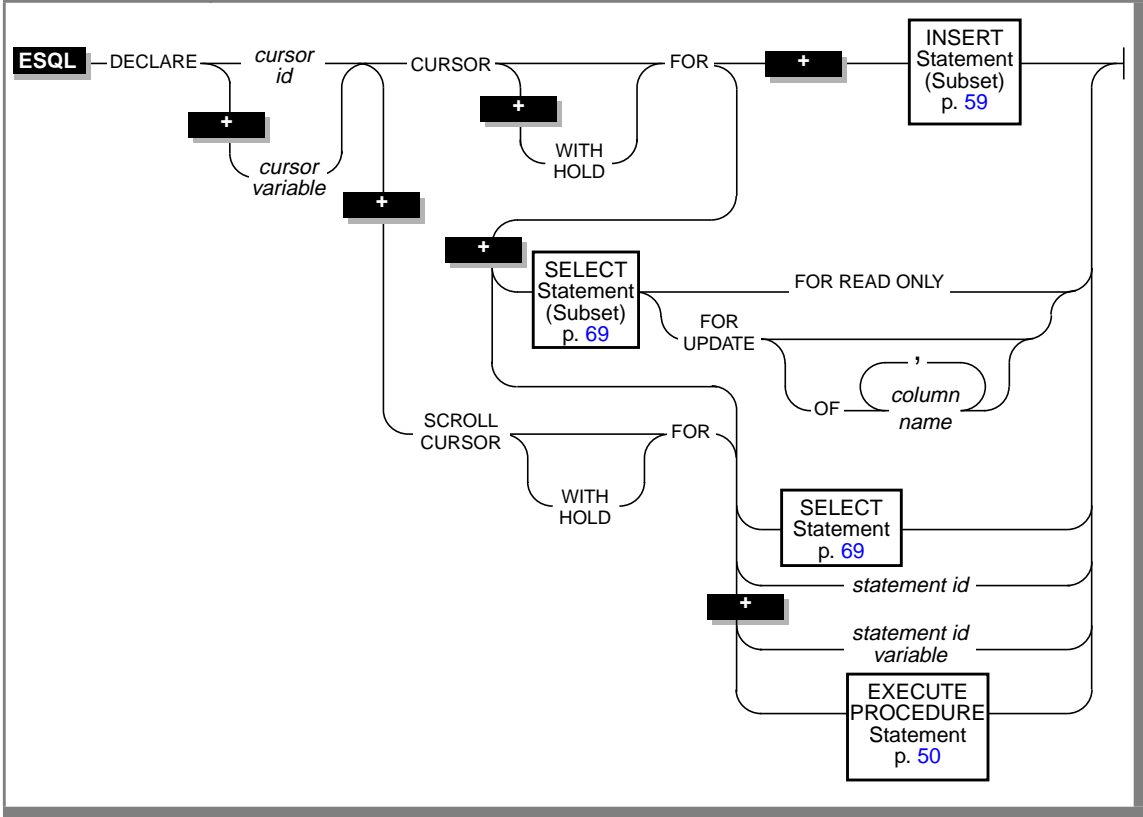
## DATABASE



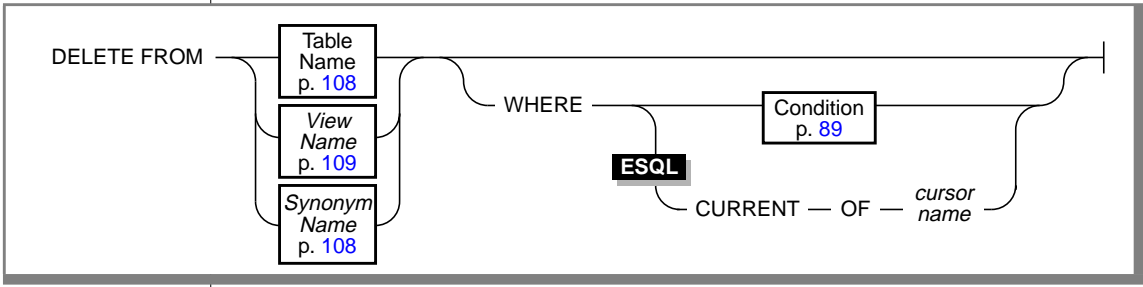
## DEALLOCATE DESCRIPTOR



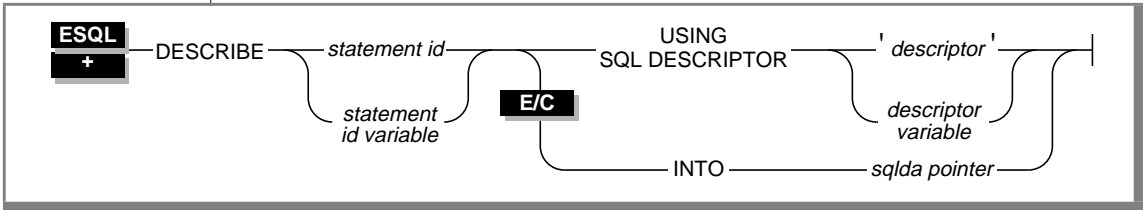
# DECLARE



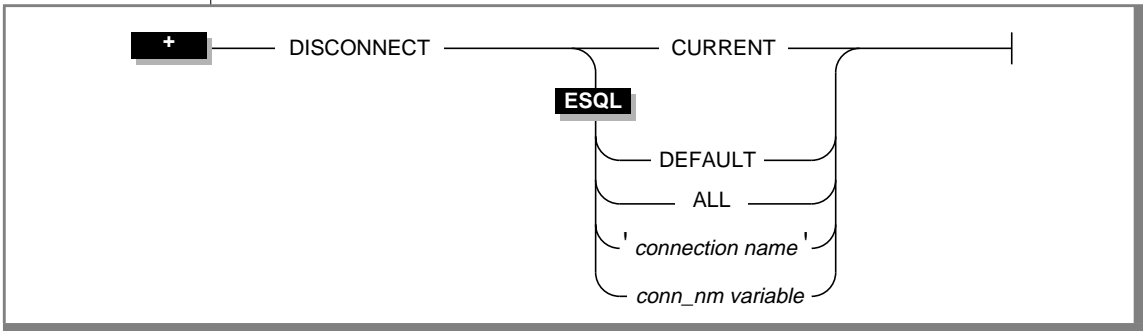
# DELETE



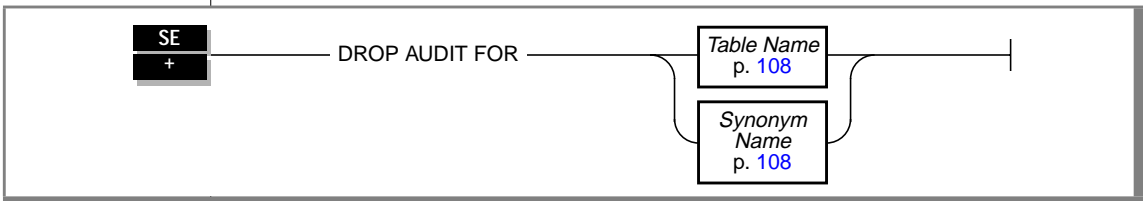
## DESCRIBE



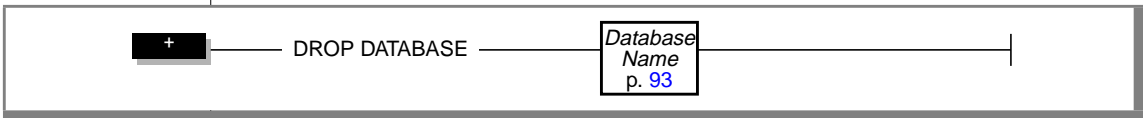
## DISCONNECT



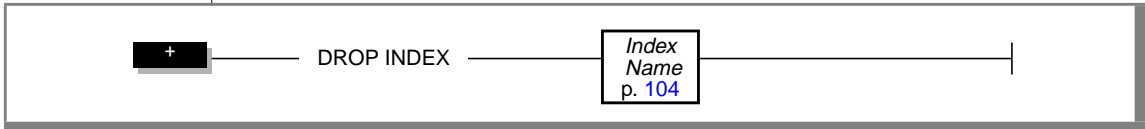
## DROP AUDIT



## DROP DATABASE



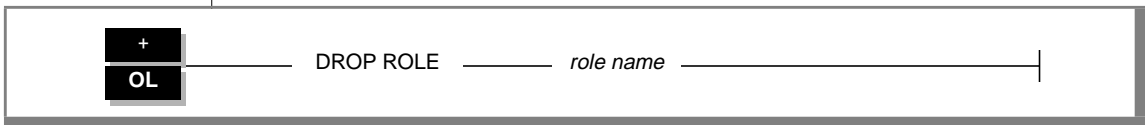
## DROP INDEX



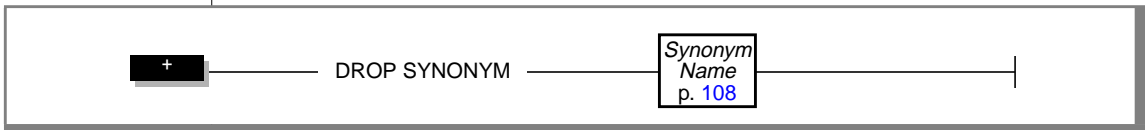
## DROP PROCEDURE



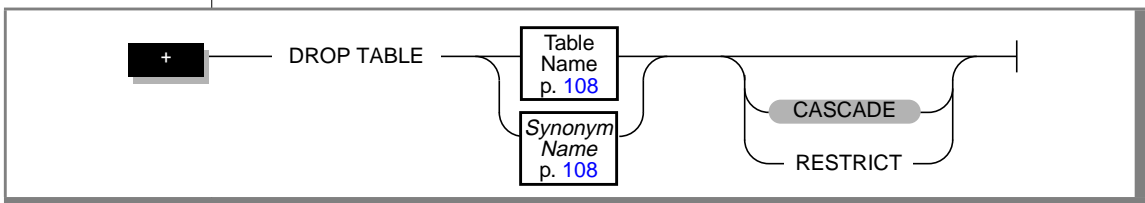
## DROP ROLE



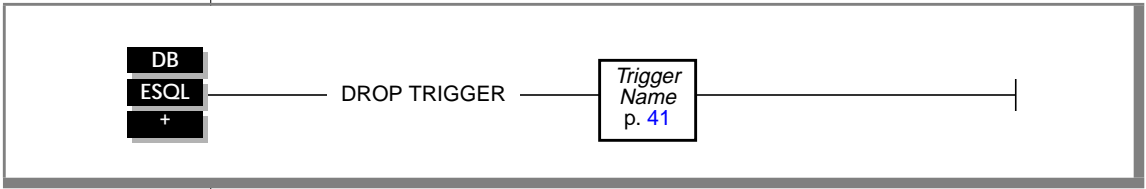
## DROP SYNONYM



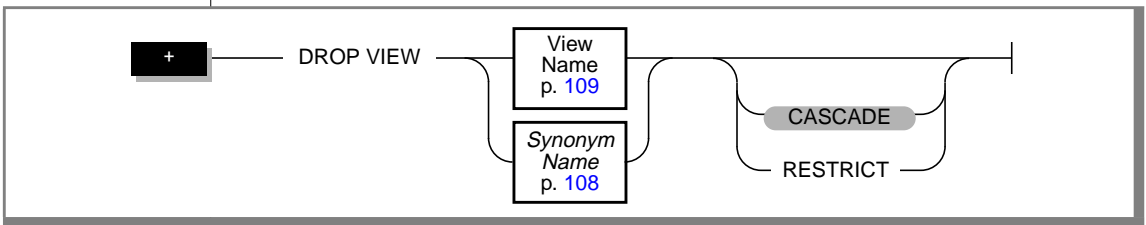
## DROP TABLE



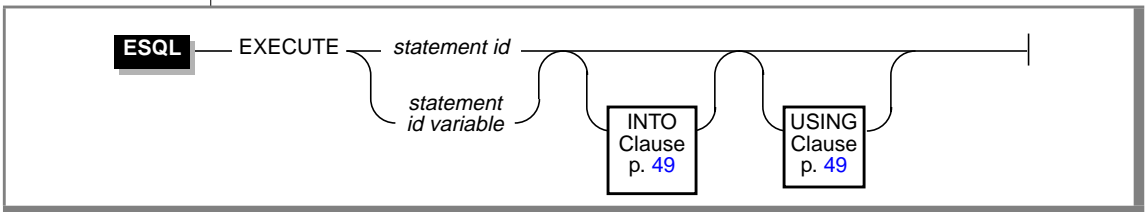
## DROP TRIGGER



## DROP VIEW

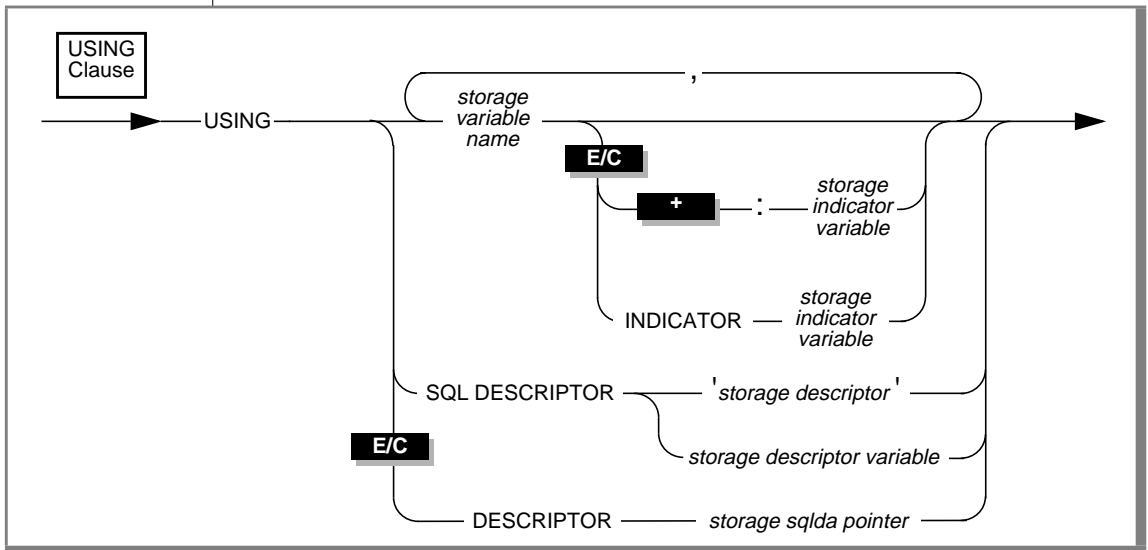


## EXECUTE

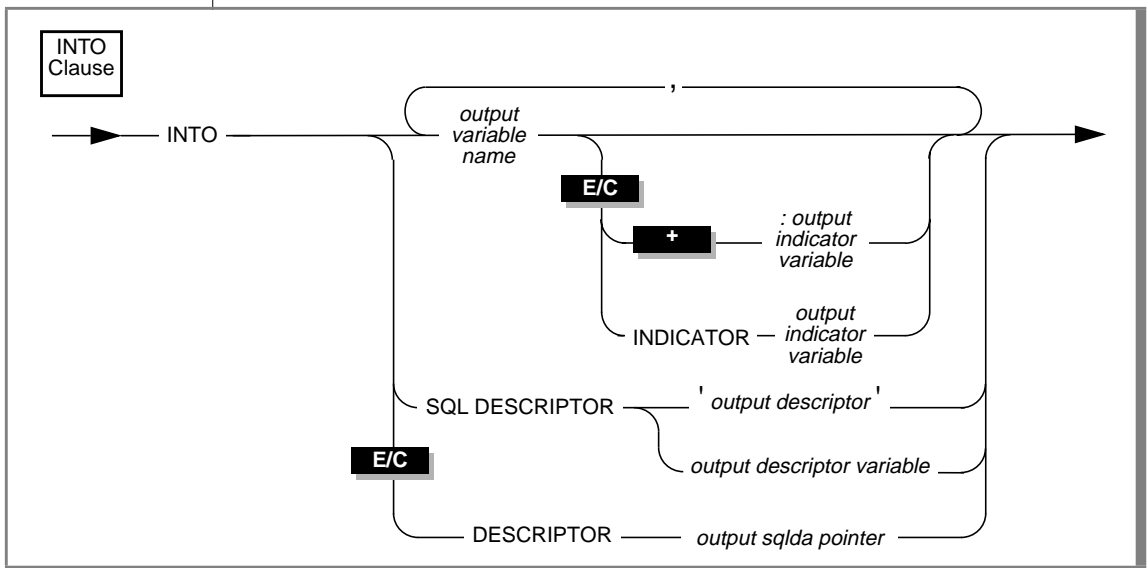




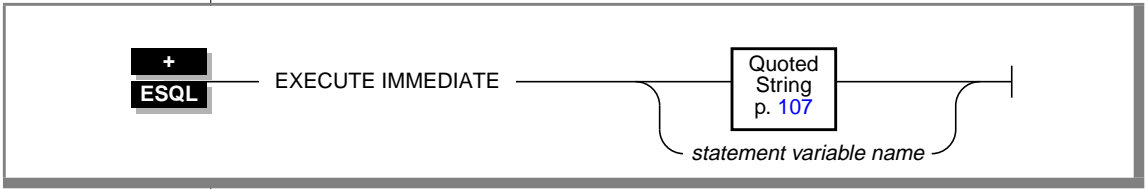
*USING Clause*



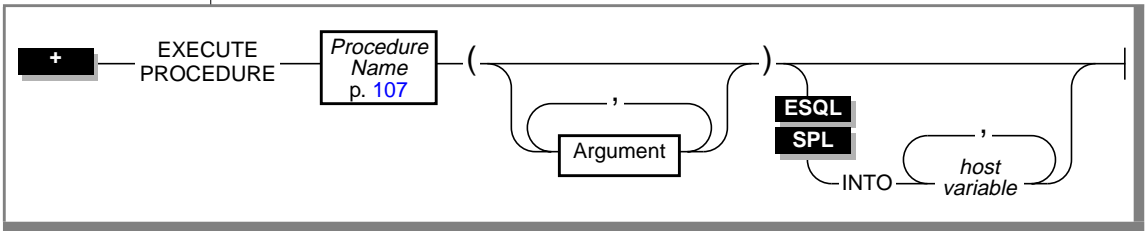
*INTO Clause*



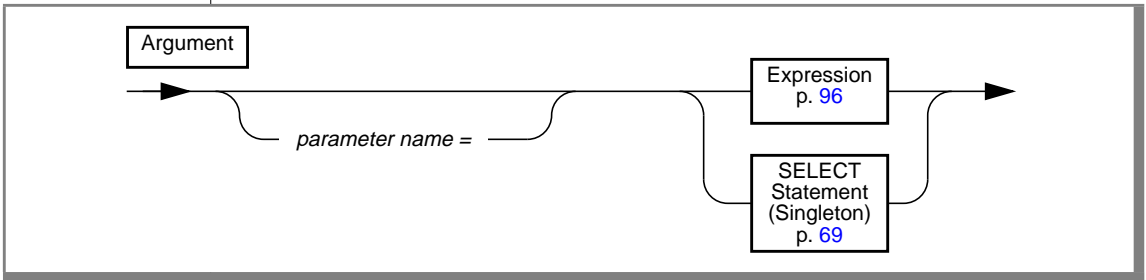
## EXECUTE IMMEDIATE



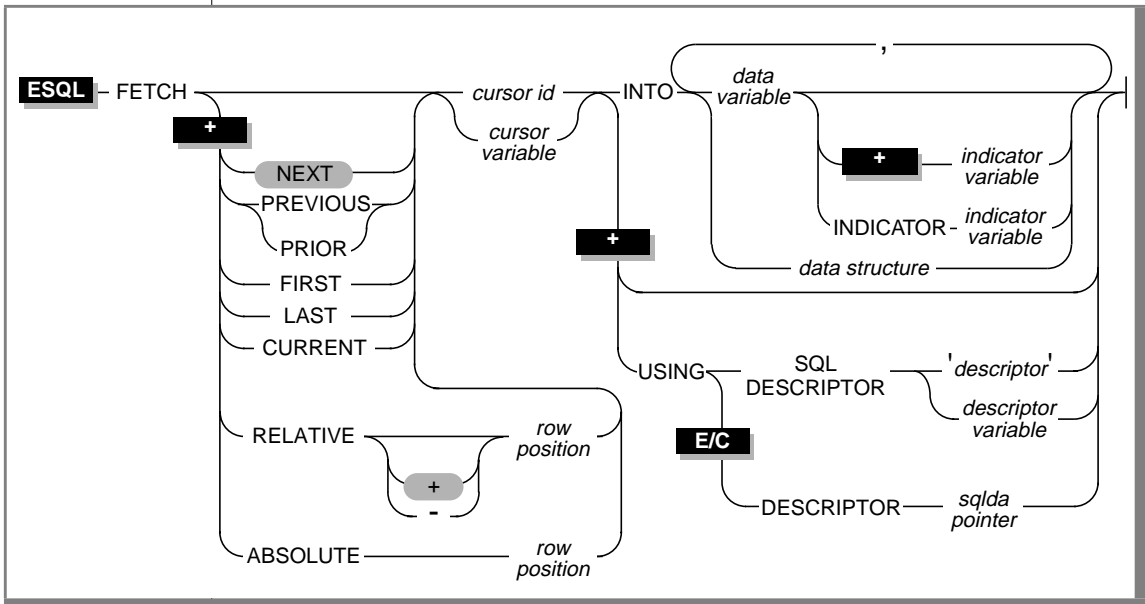
## EXECUTE PROCEDURE



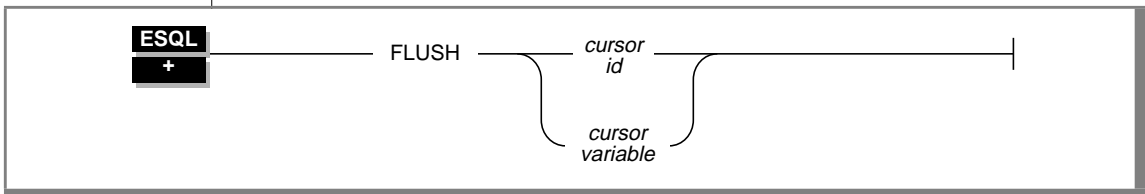
## Argument



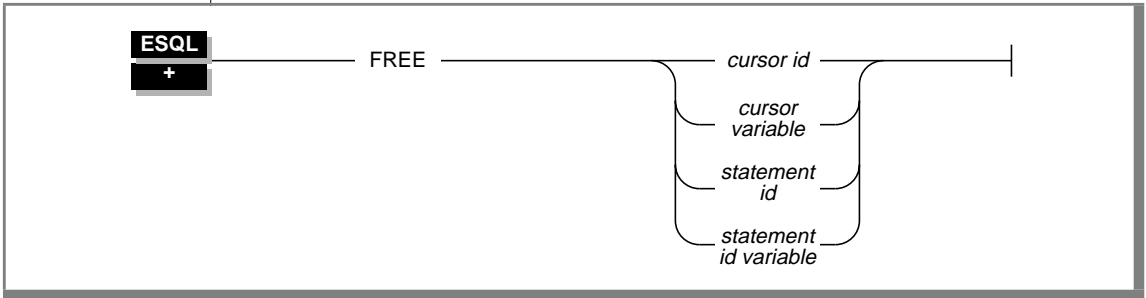
## FETCH



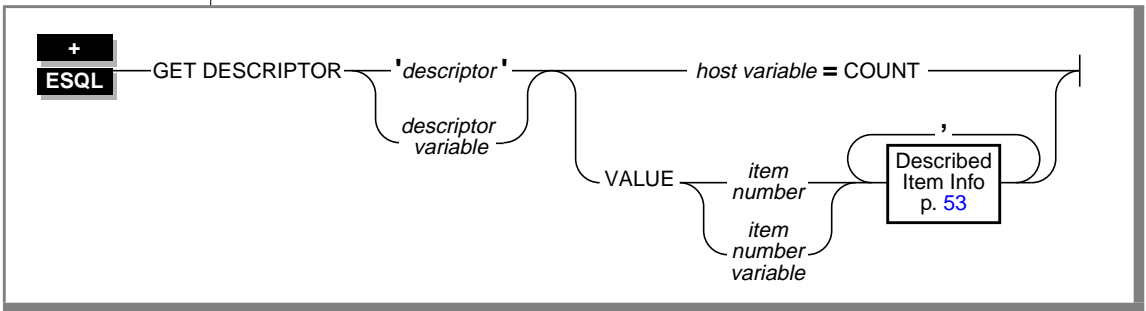
## FLUSH



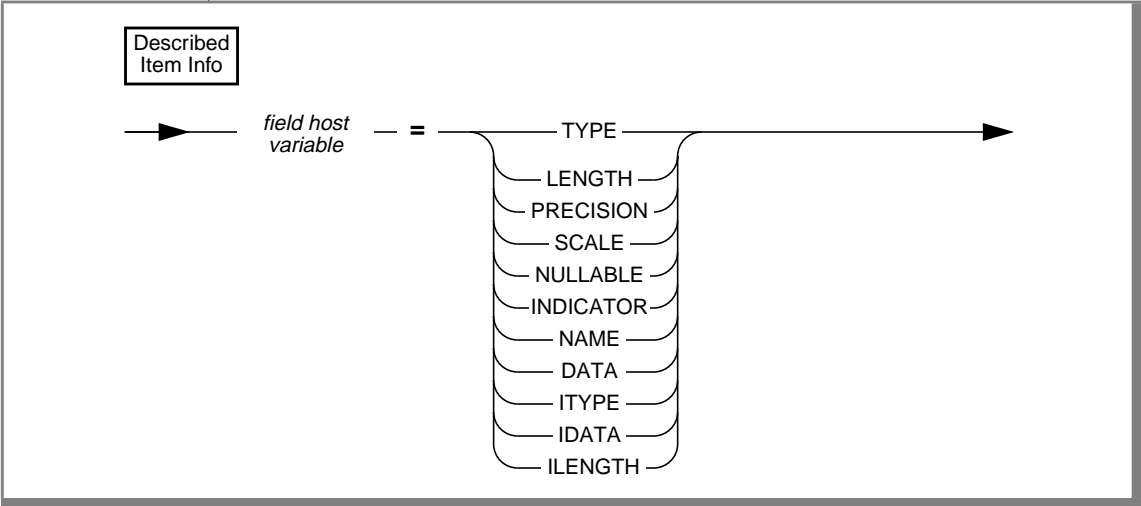
## FREE



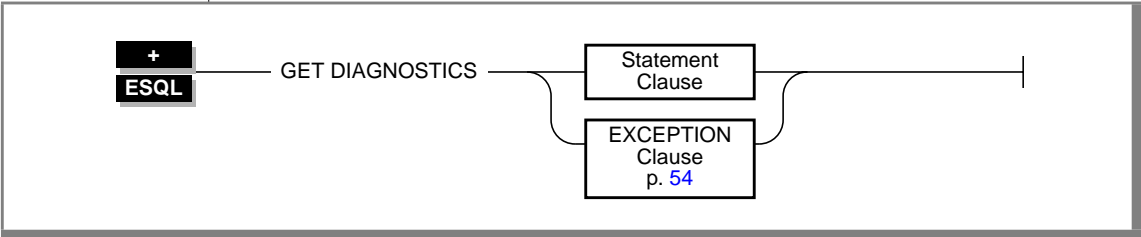
## GET DESCRIPTOR



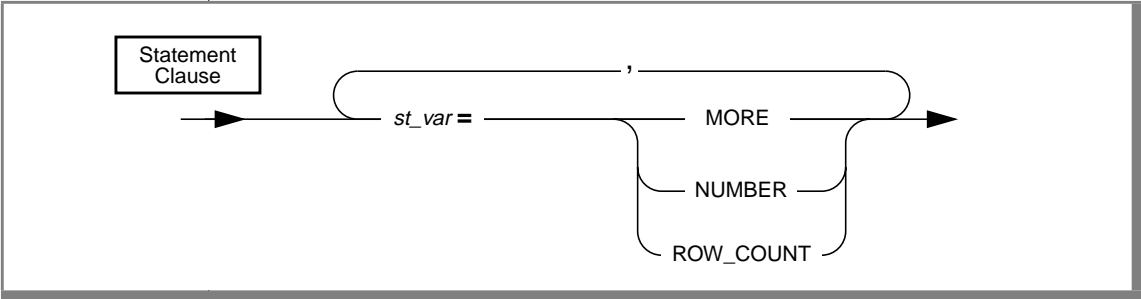
*Described Item Info*



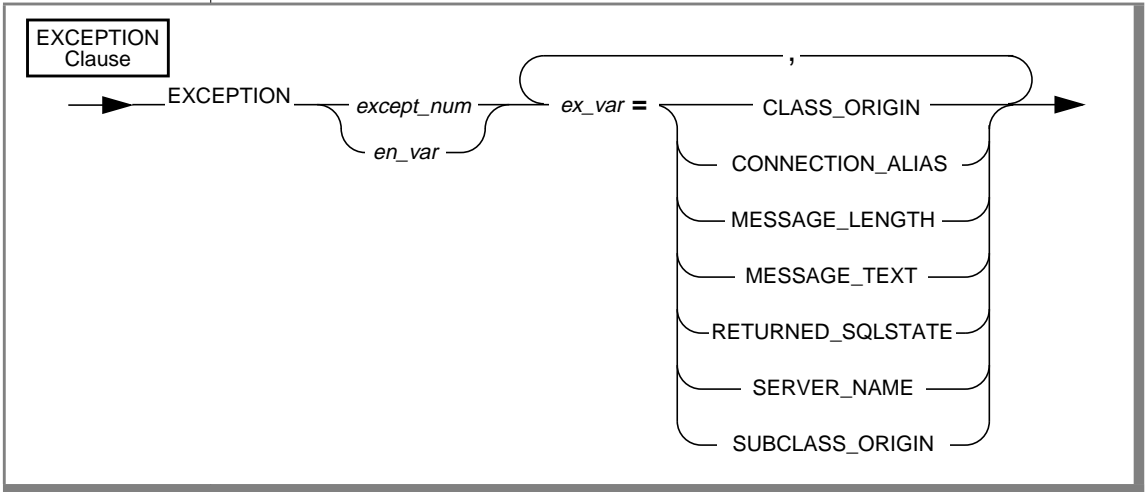
**GET DIAGNOSTICS**



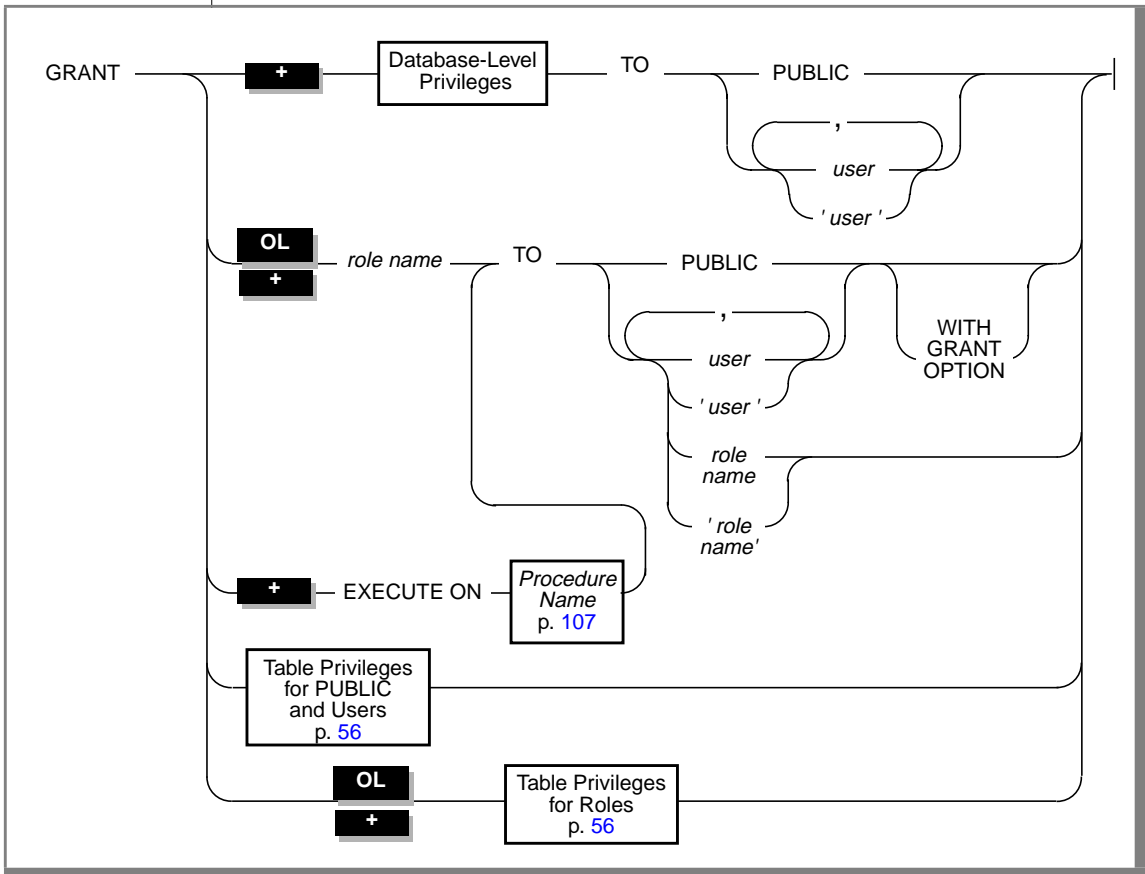
*Statement Clause*



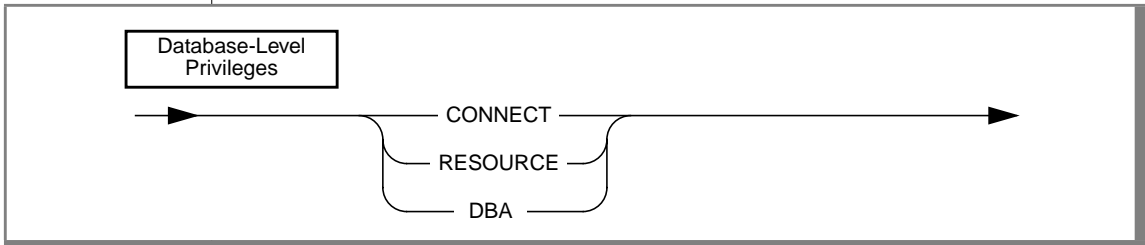
*EXCEPTION Clause*



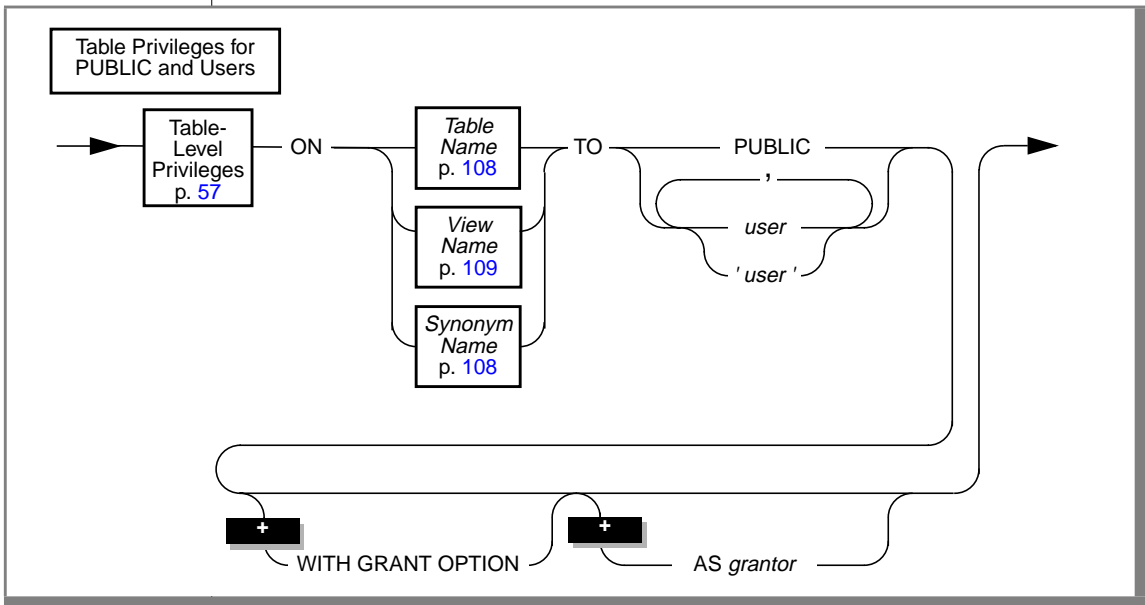
# GRANT



## Database-Level Privileges



*Table Privileges for PUBLIC and Users*



*Table Privileges for Roles*

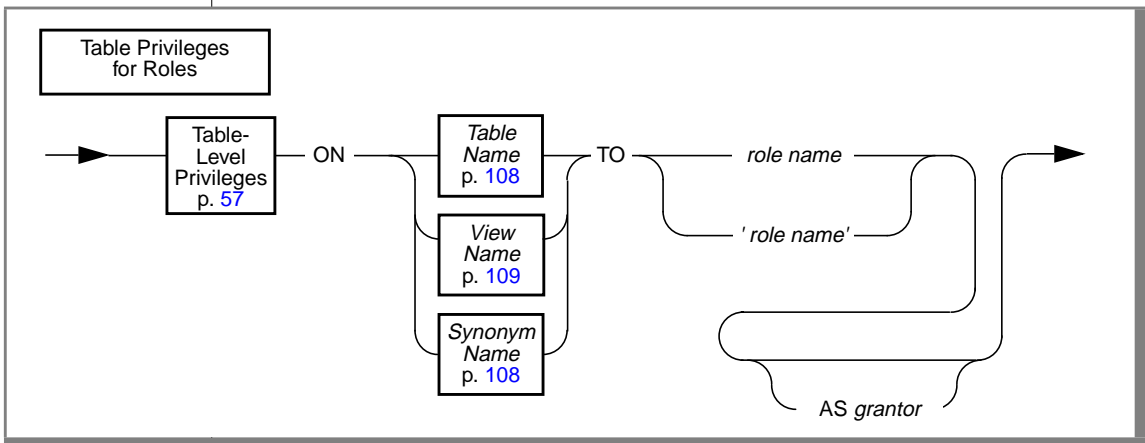
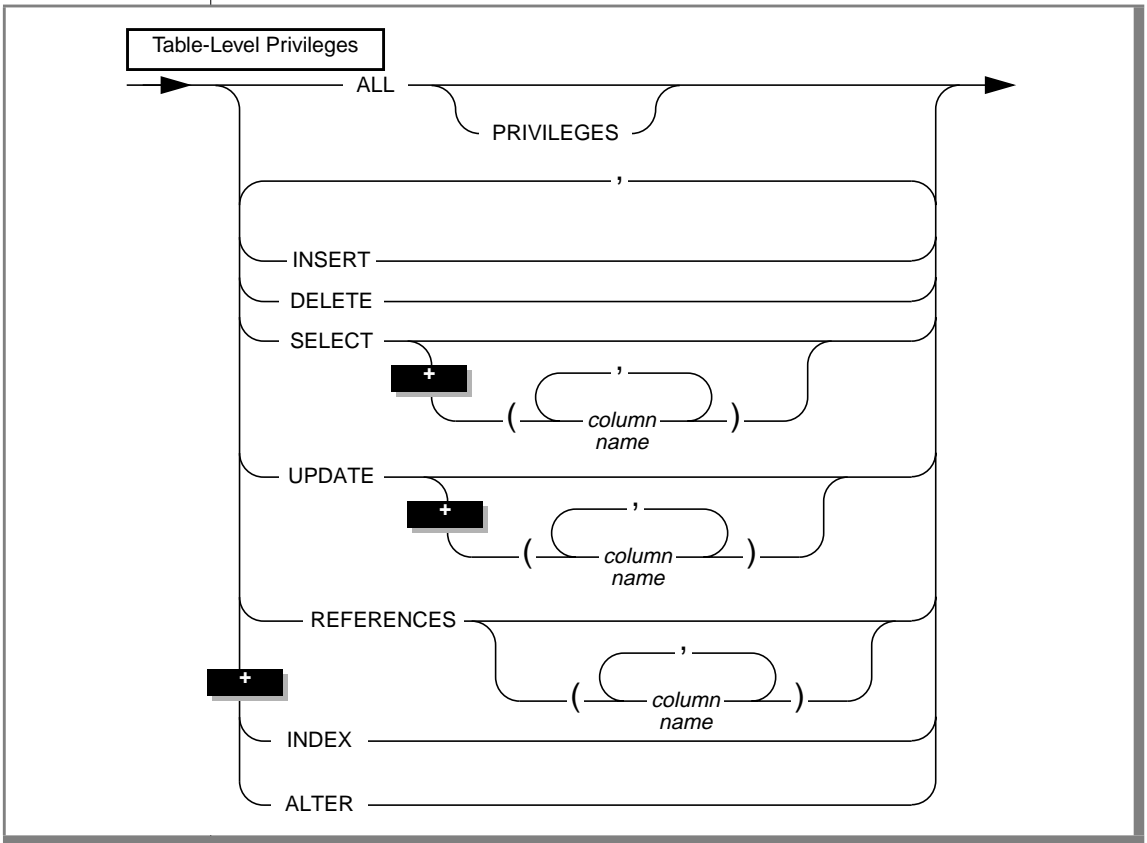
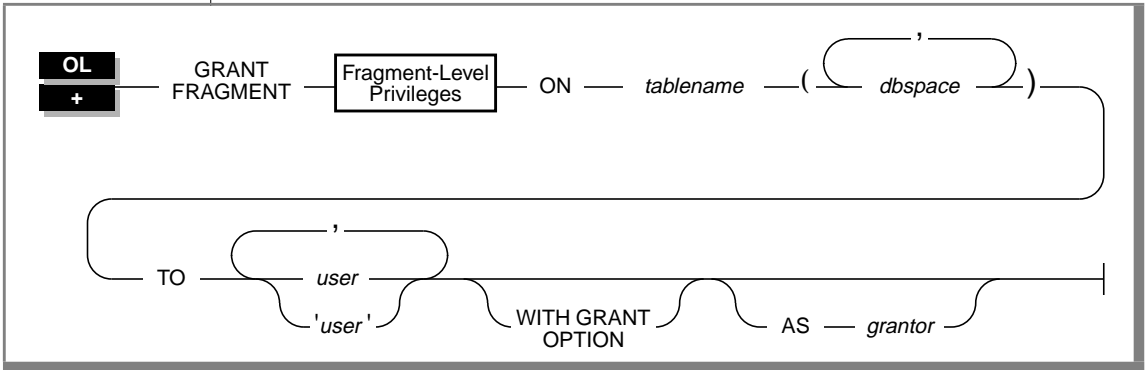




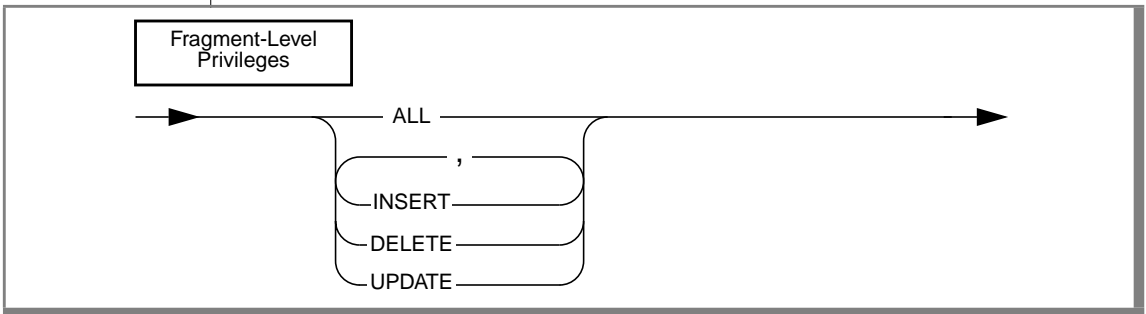
Table-Level Privileges



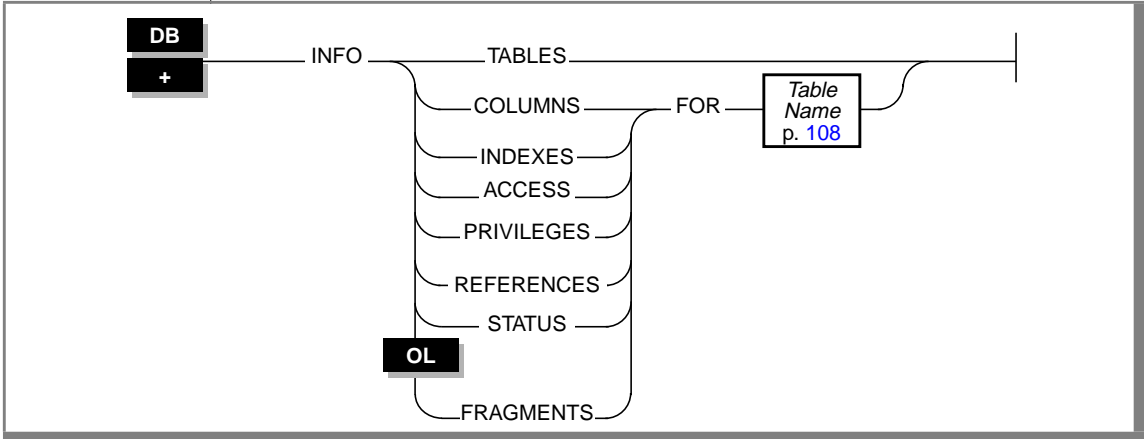
## GRANT FRAGMENT



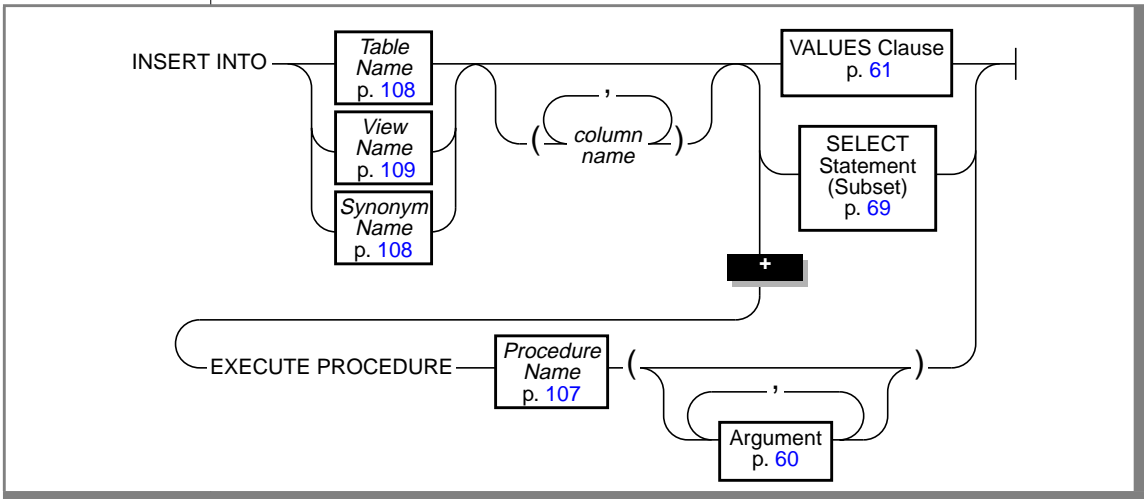
### *Fragment-Level Privileges*



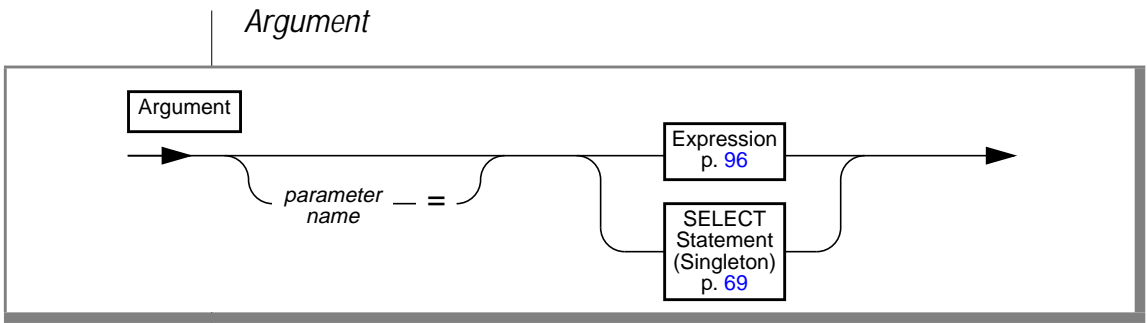
# INFO



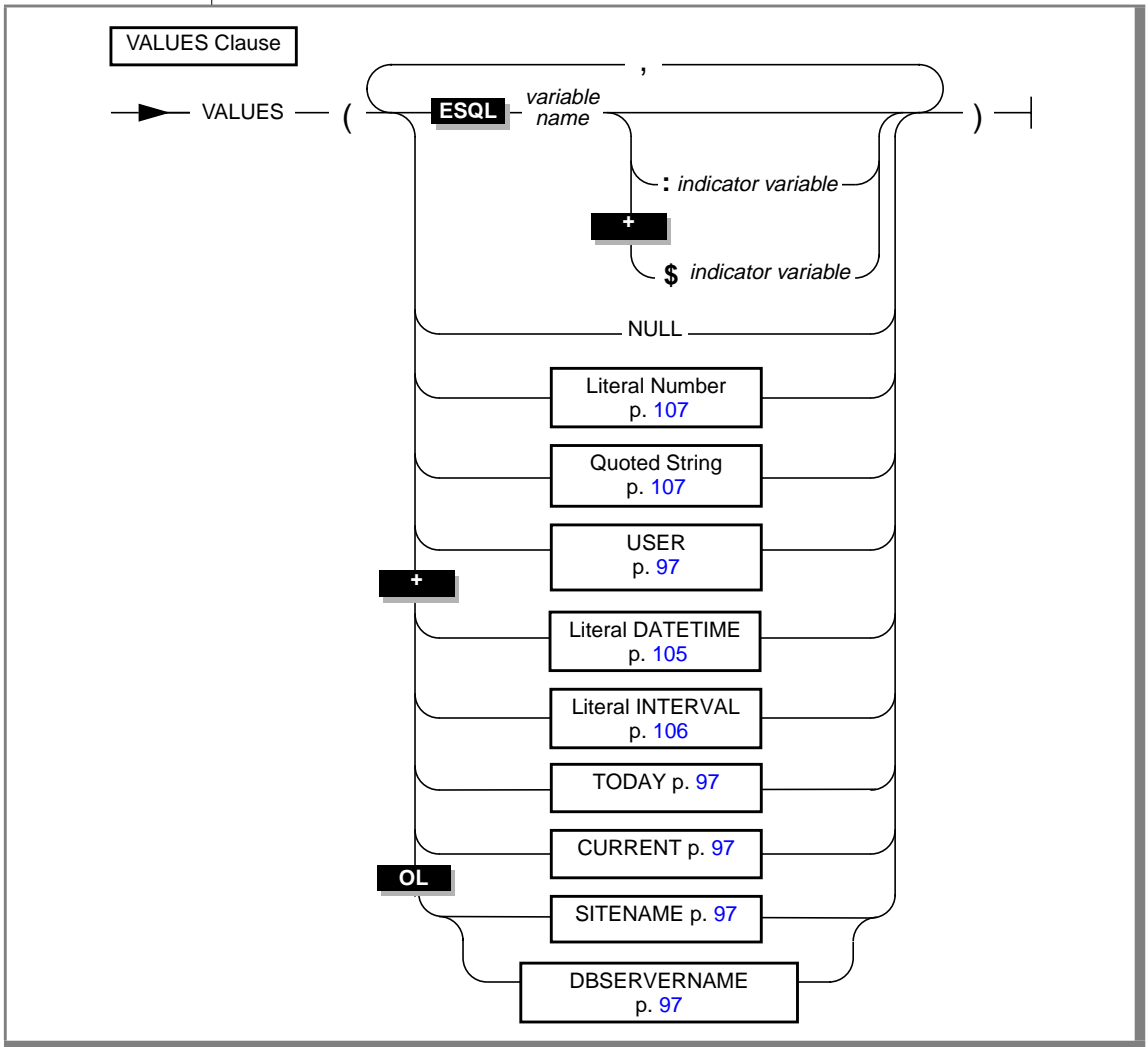
# INSERT



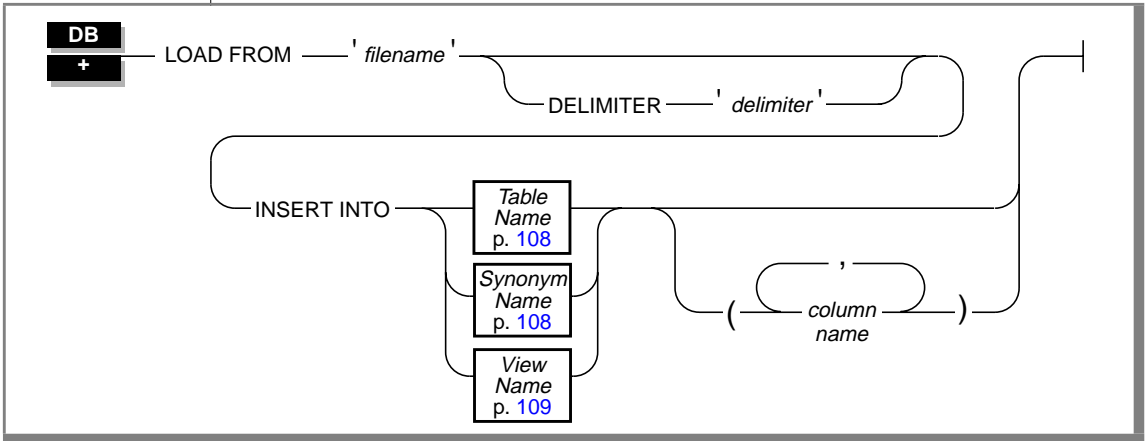
# INSERT



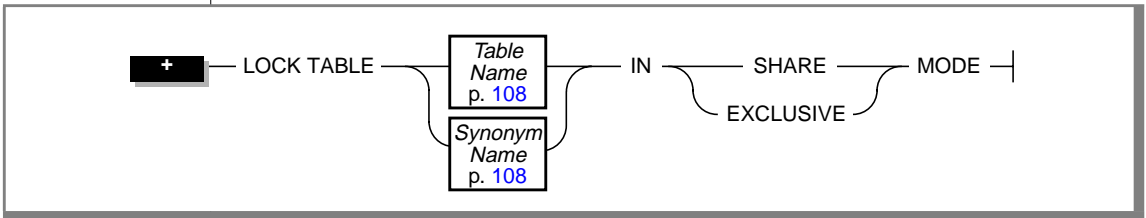
VALUES Clause



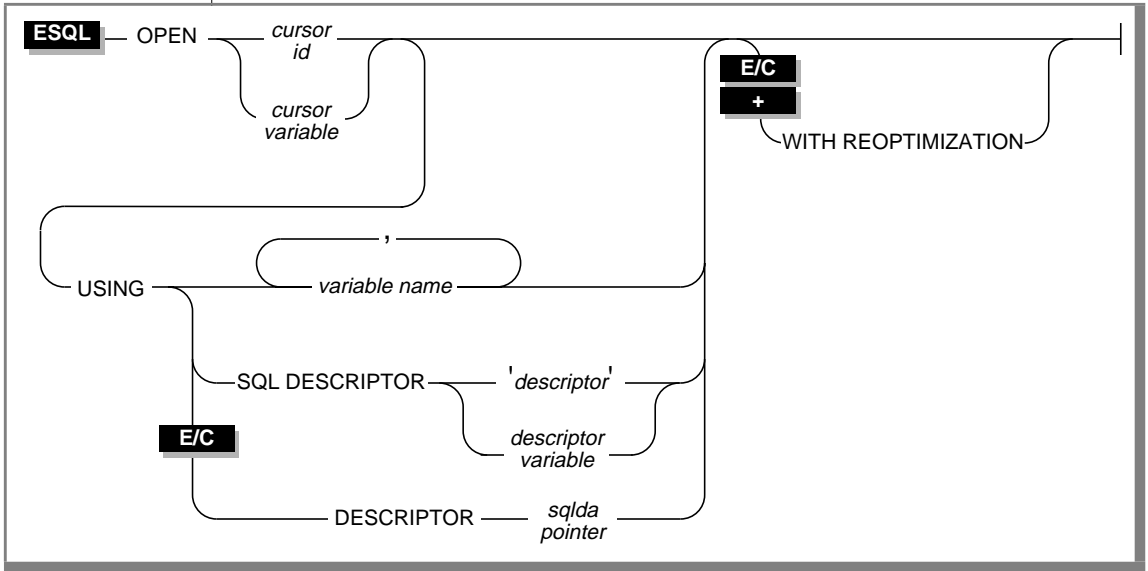
## LOAD



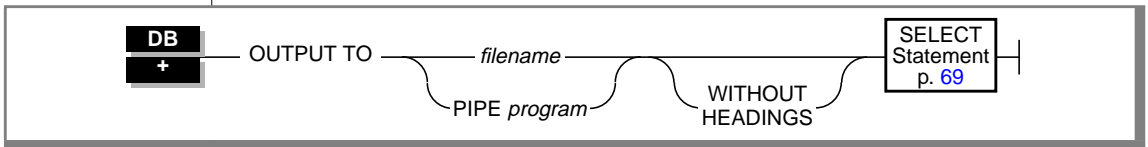
## LOCK TABLE



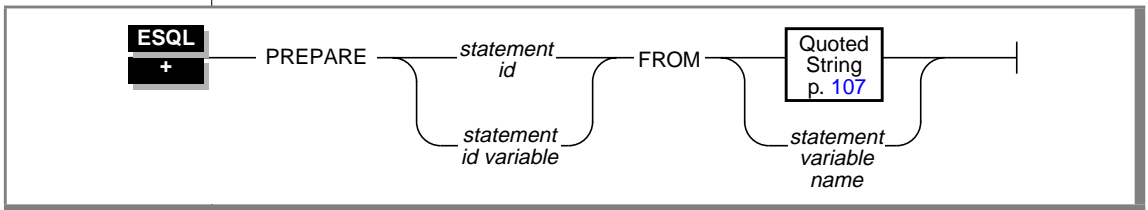
## OPEN



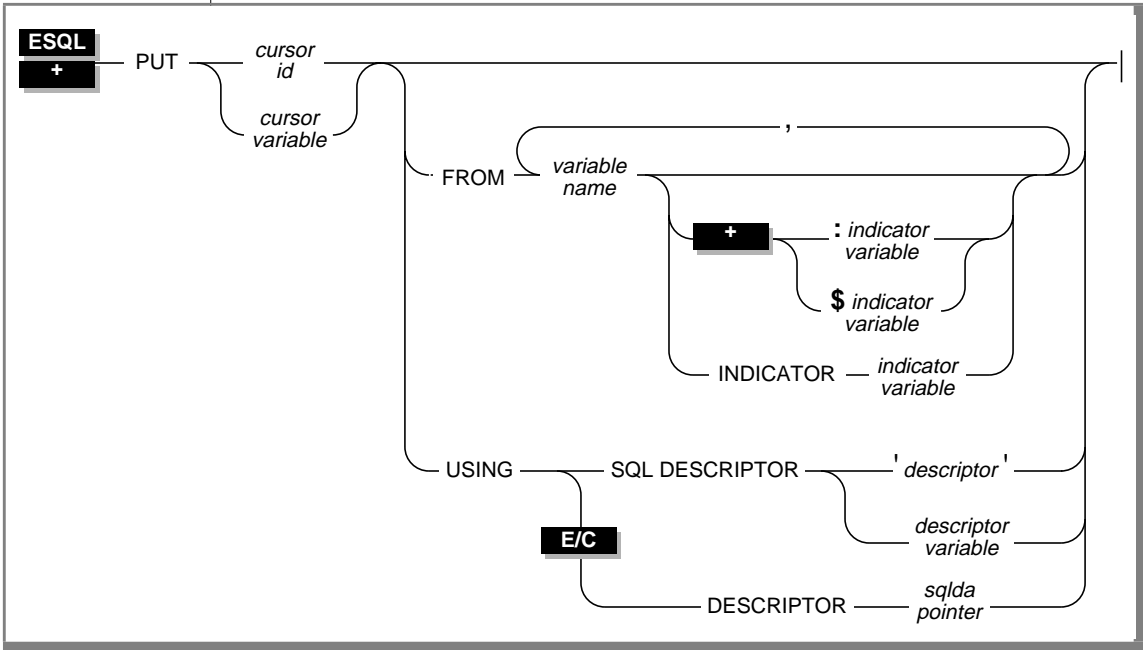
## OUTPUT



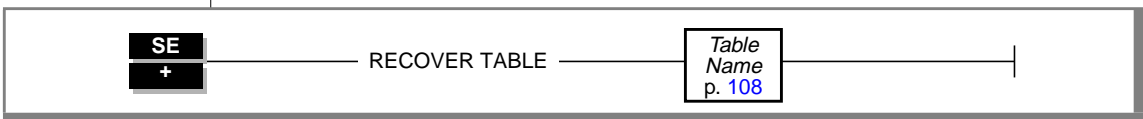
## PREPARE



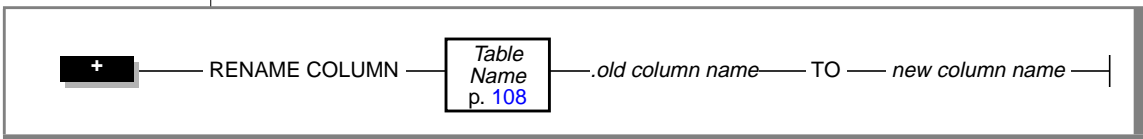
## PUT



## RECOVER TABLE

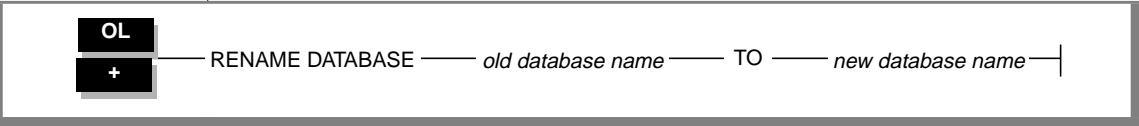


## RENAME COLUMN

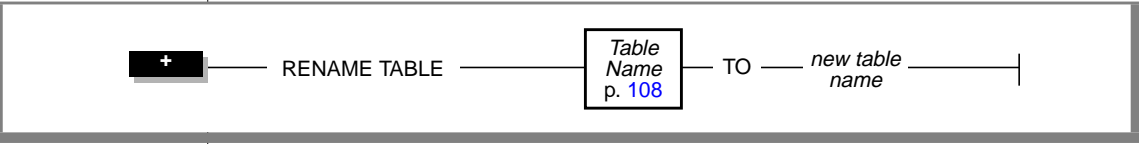




### RENAME DATABASE



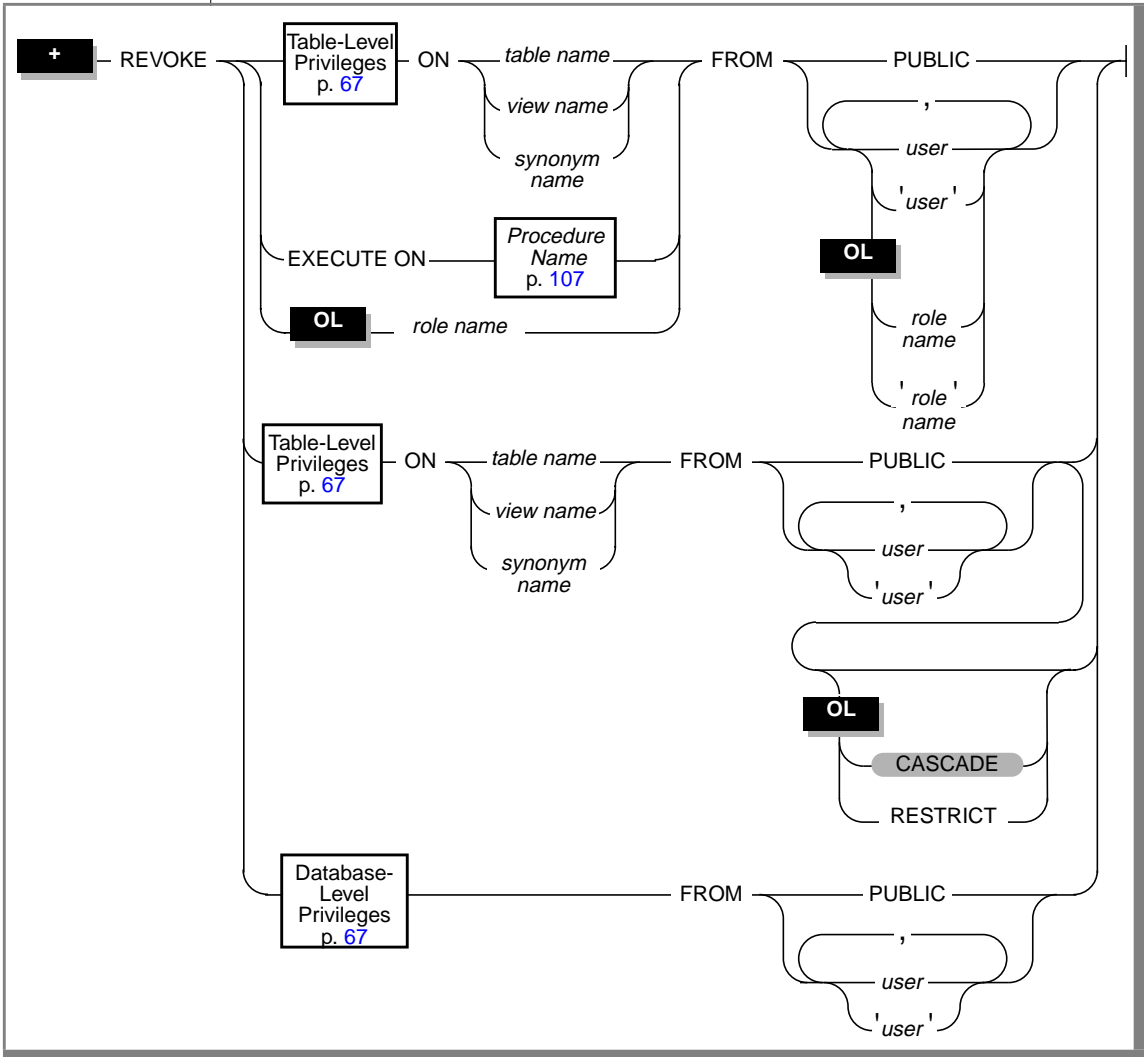
### RENAME TABLE



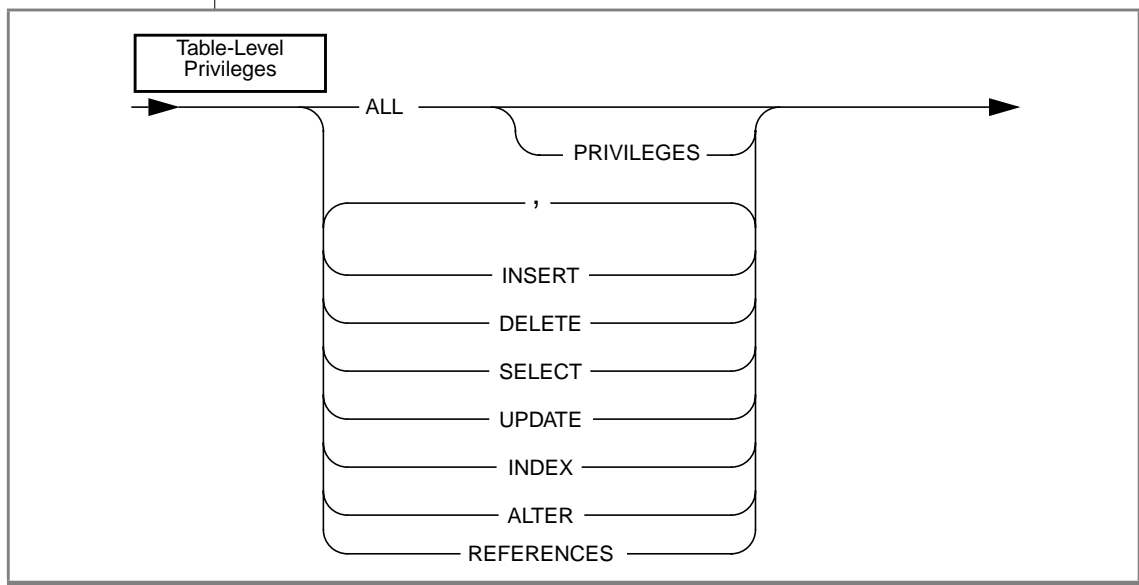
### REPAIR TABLE



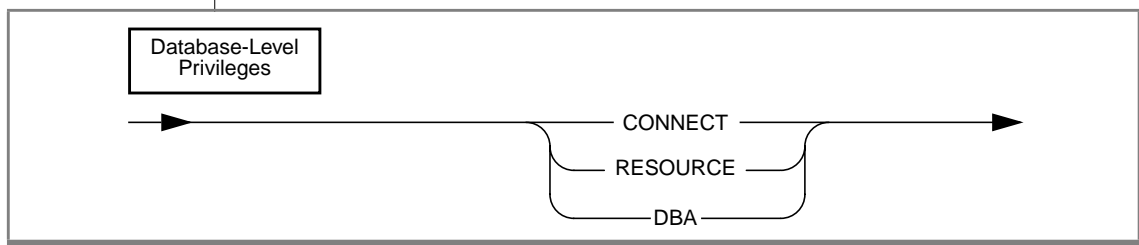
# REVOKE



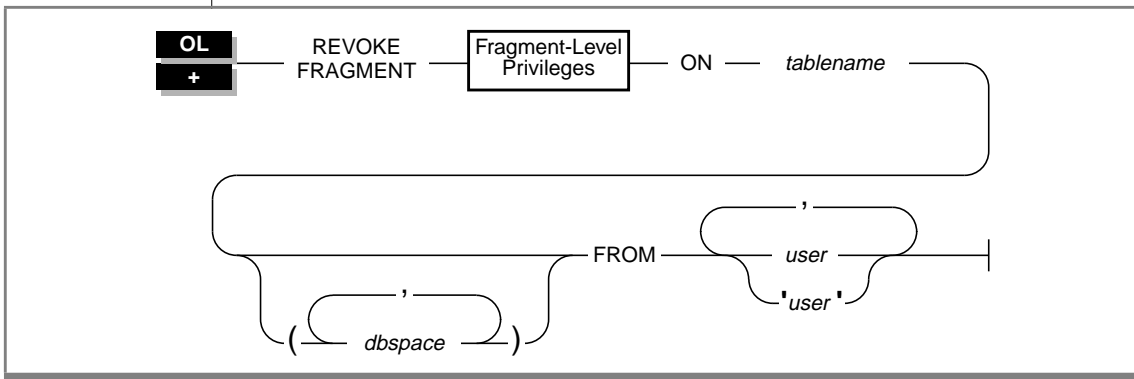
*Table-Level Privileges*



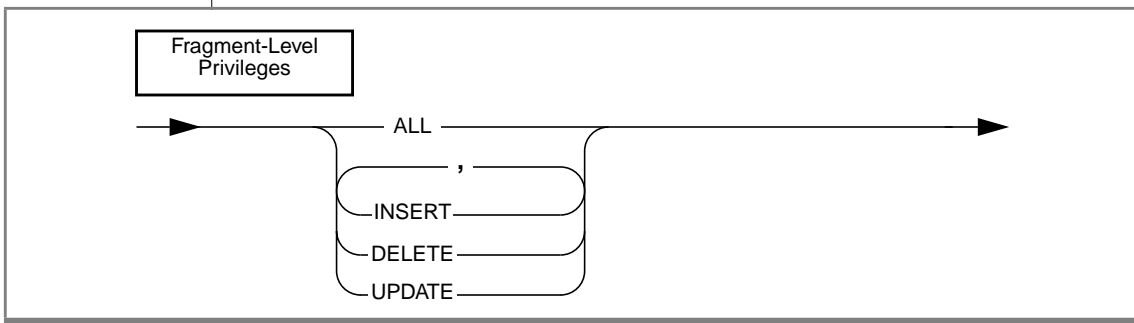
*Database-Level Privileges*



## REVOKE FRAGMENT



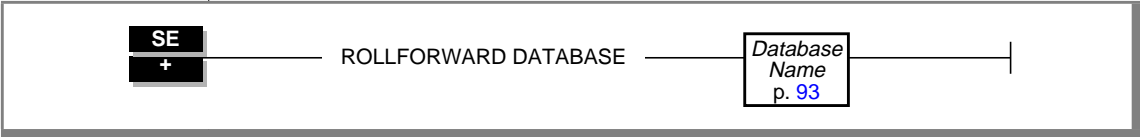
### *Fragment-Level Privileges*



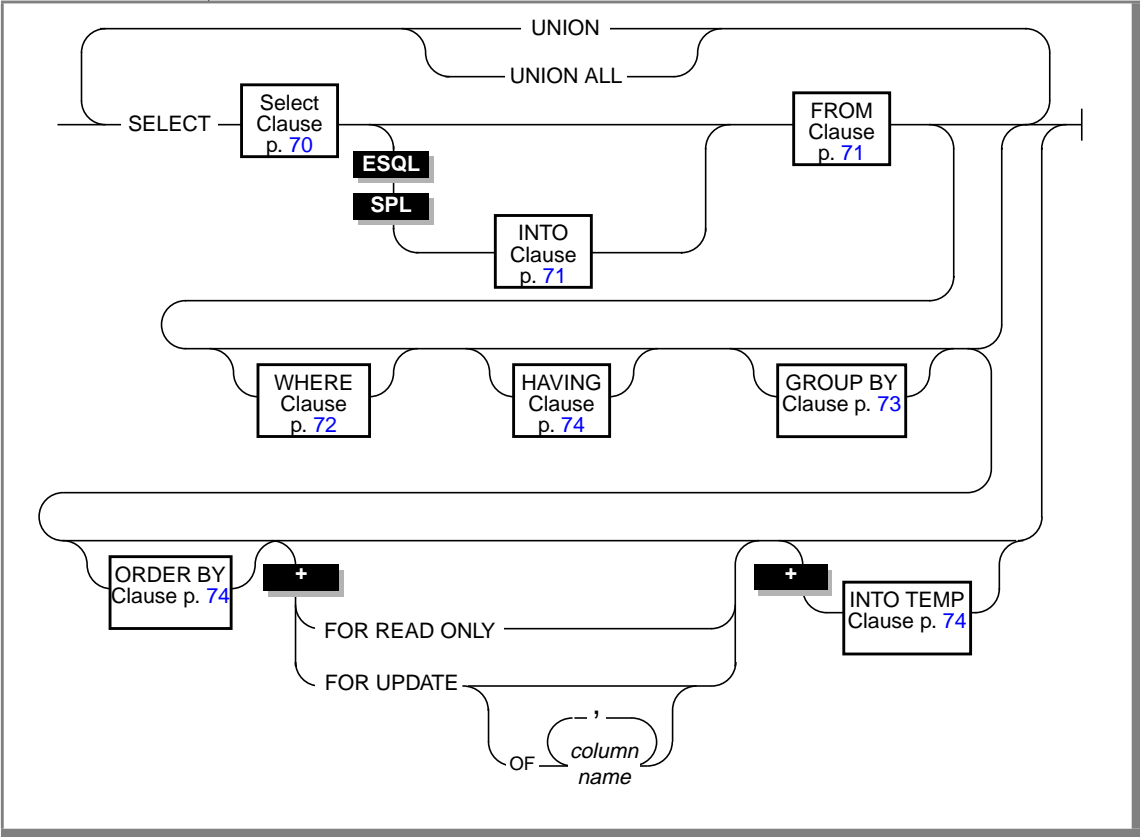
## ROLLBACK WORK



# ROLLFORWARD DATABASE

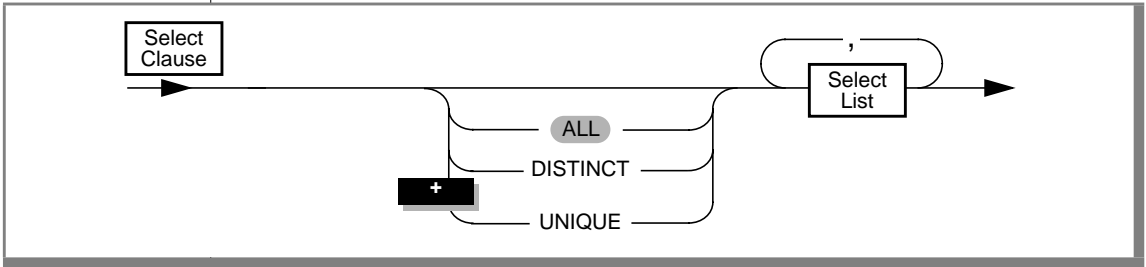


## SELECT

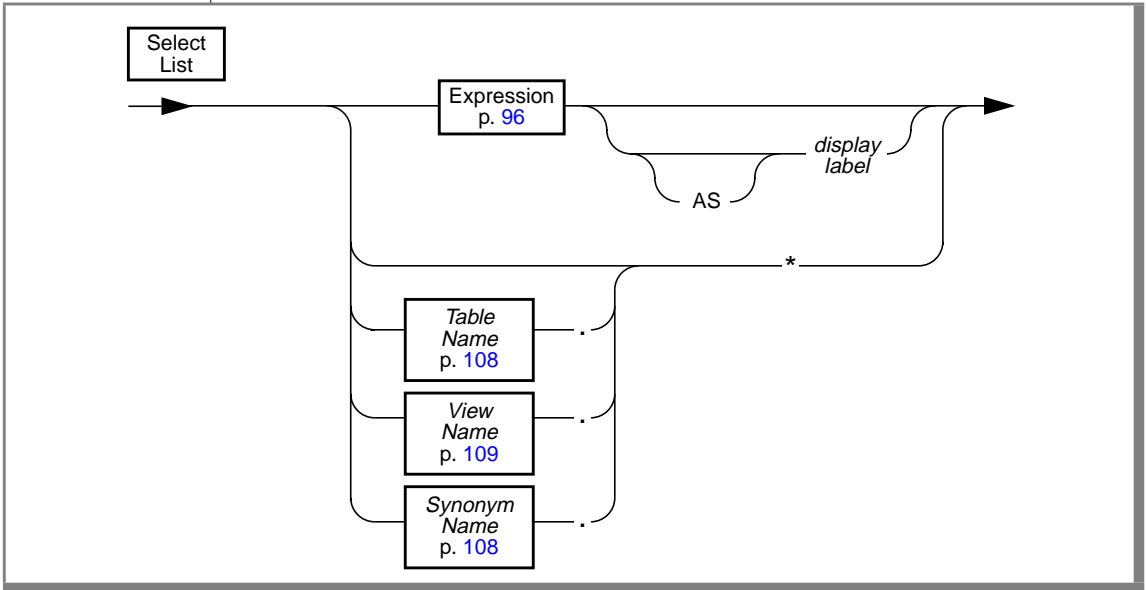


# SELECT

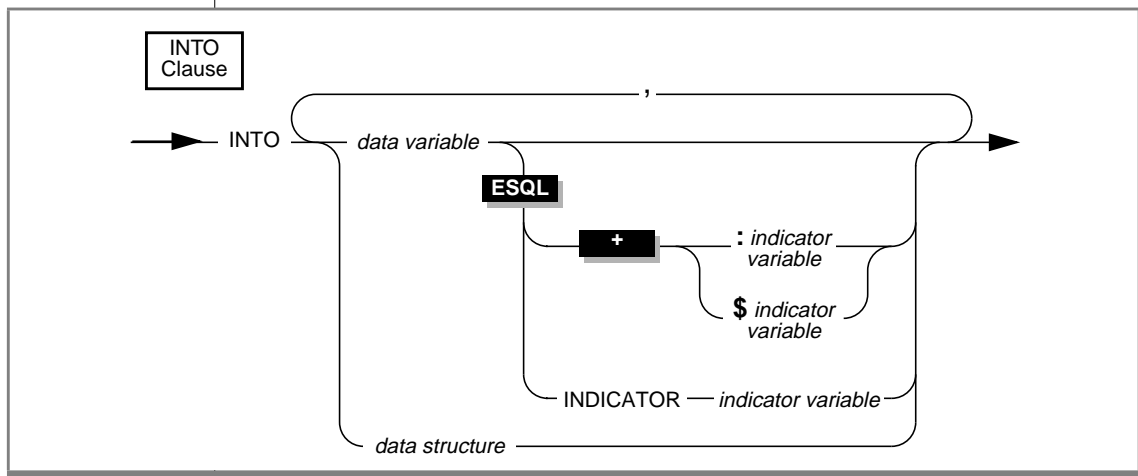
## SELECT Clause



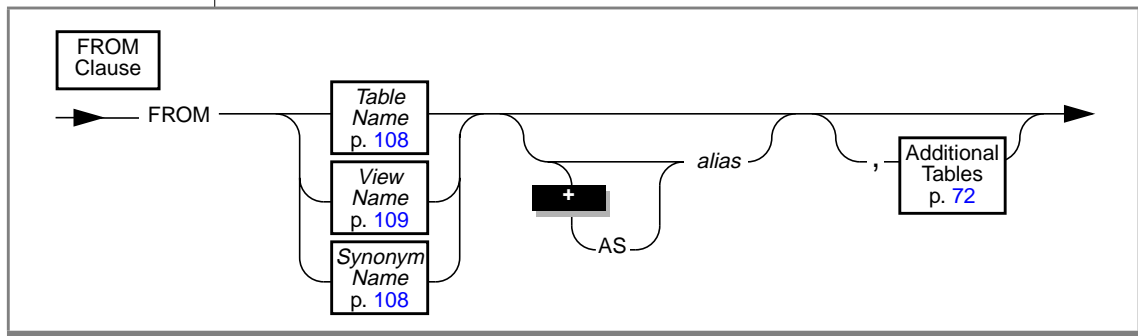
## Select List



INTO Clause

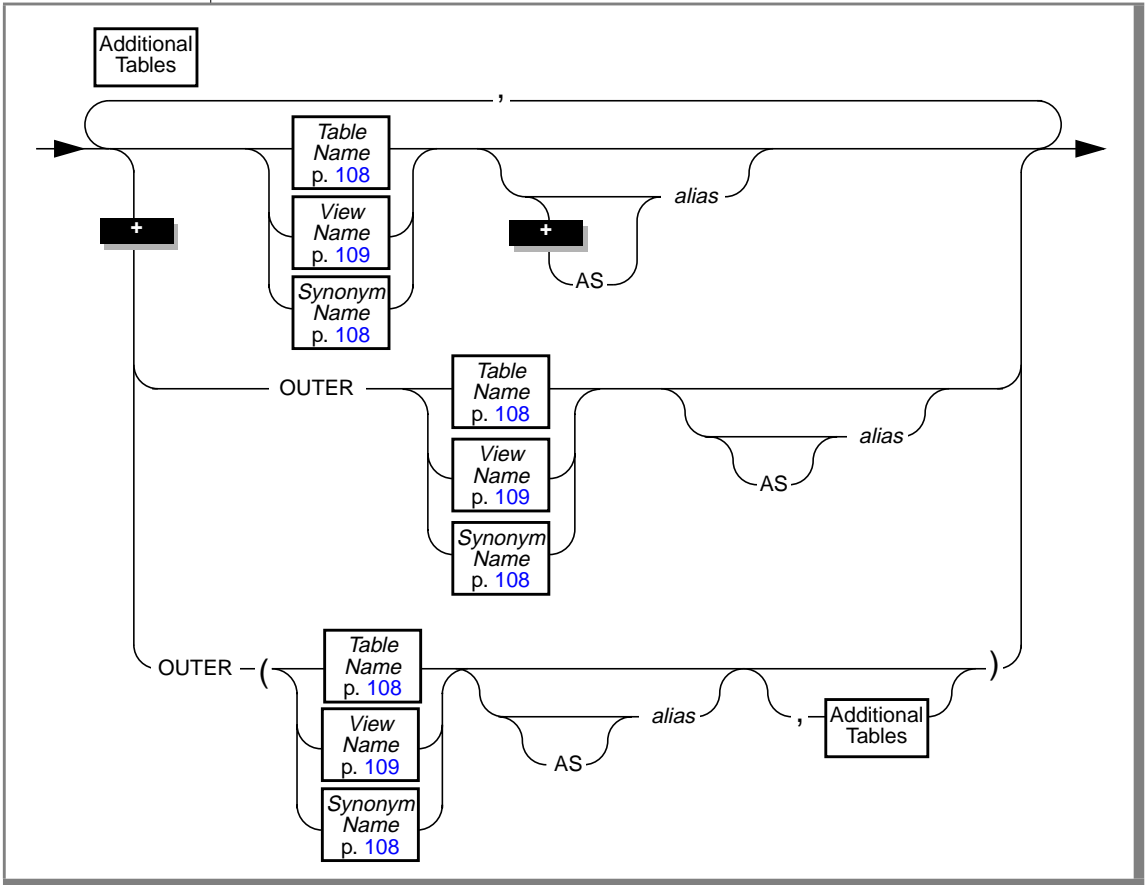


FROM Clause

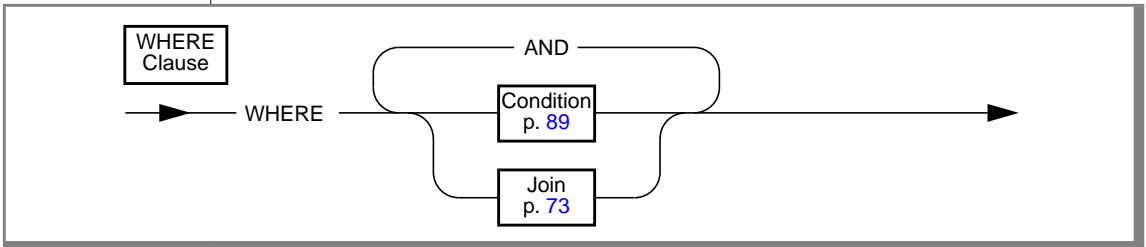


# SELECT

## Additional Tables

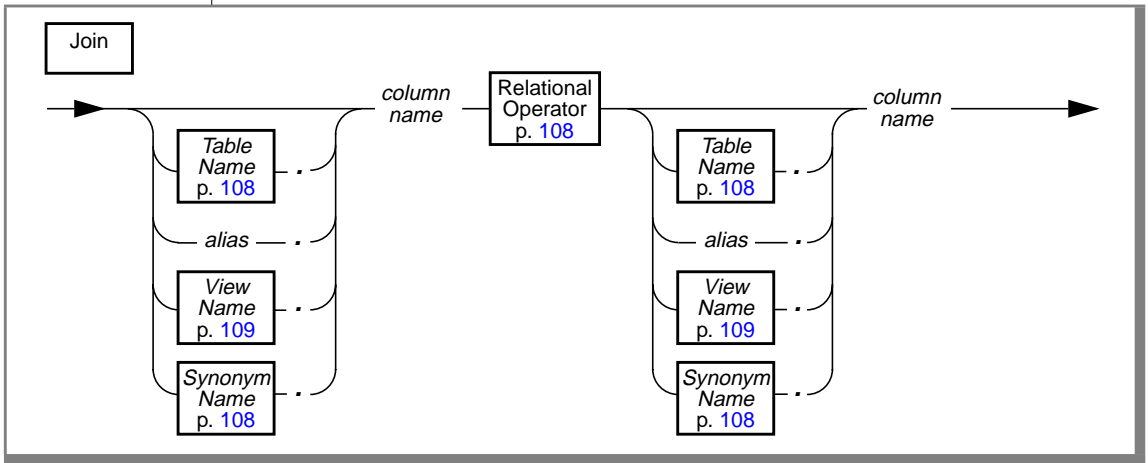


## WHERE Clause

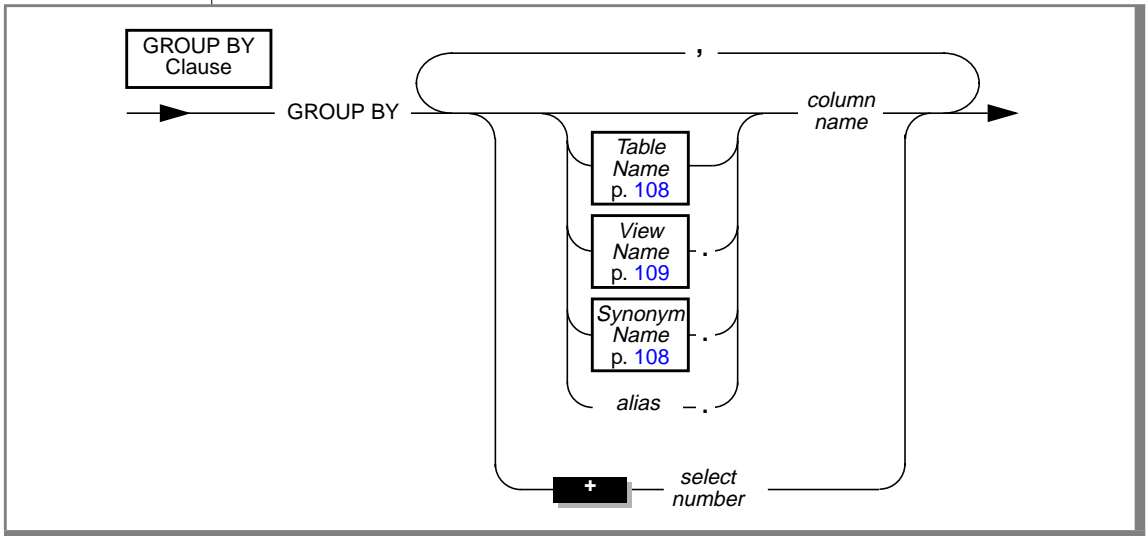




Join Option

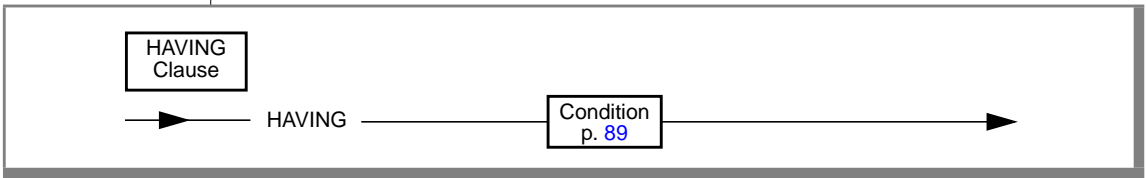


GROUP BY Clause

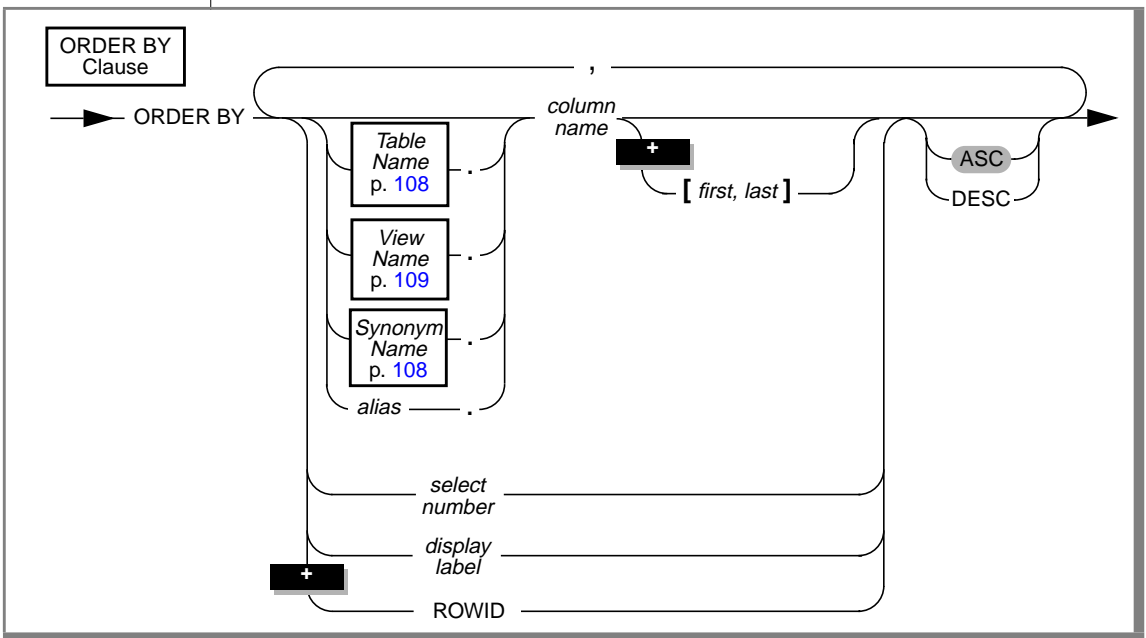


# SELECT

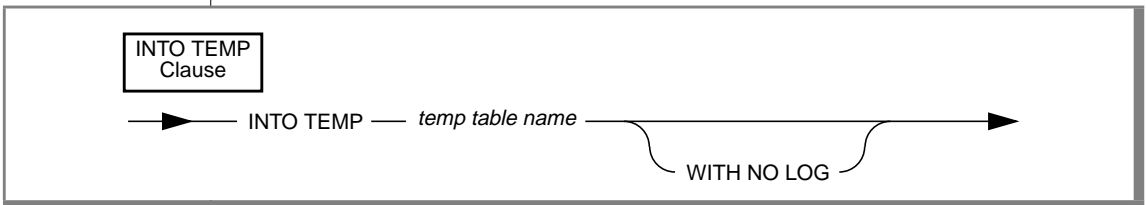
## HAVING Clause



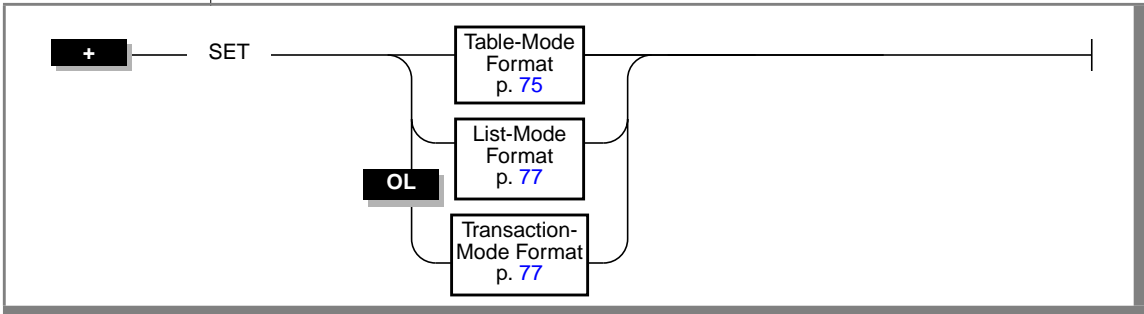
## ORDER BY Clause



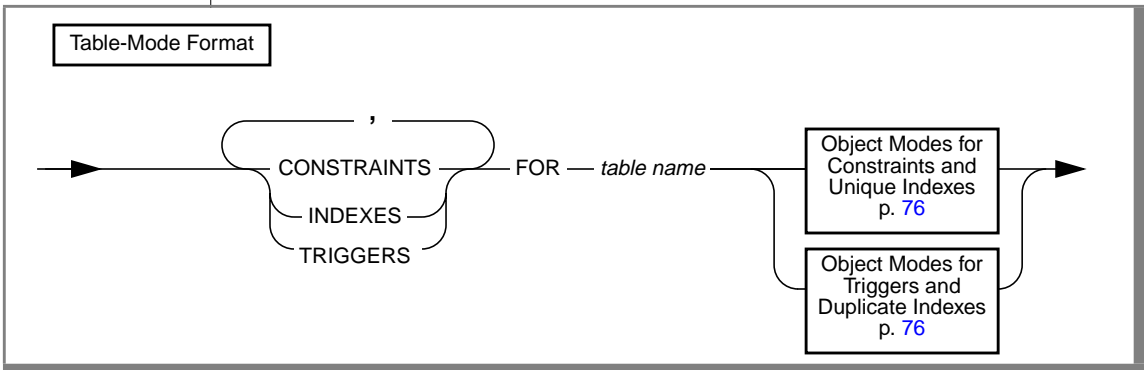
## INTO TEMP Clause



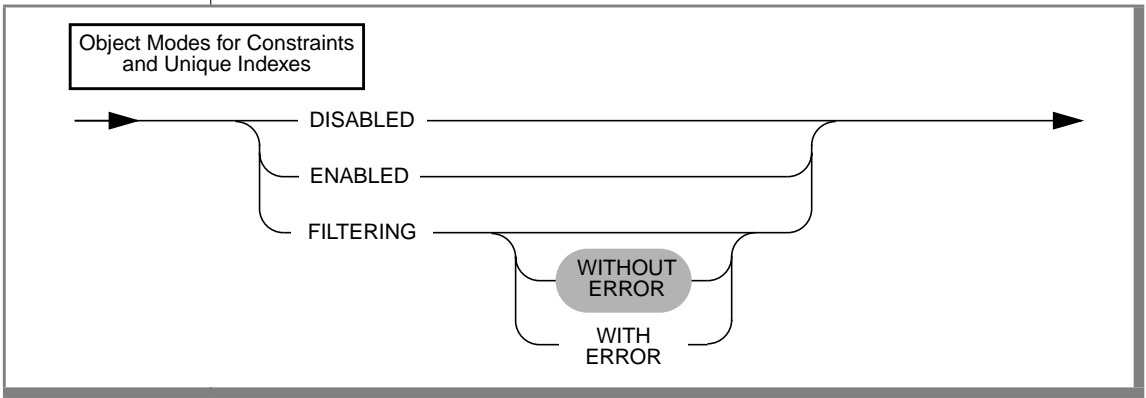
# SET



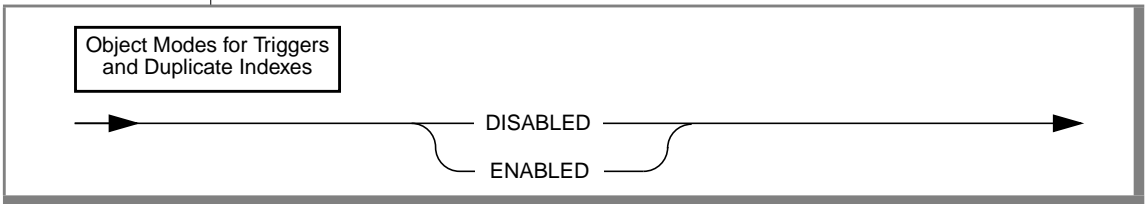
## Table-Mode Format



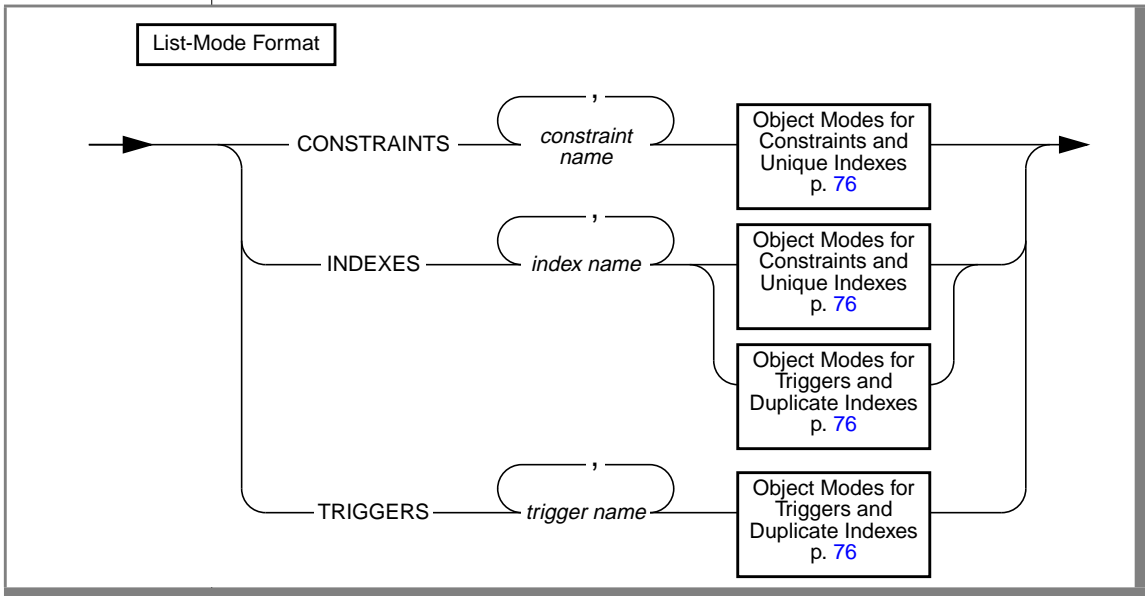
*Object Modes for Constraints and Unique Indexes*



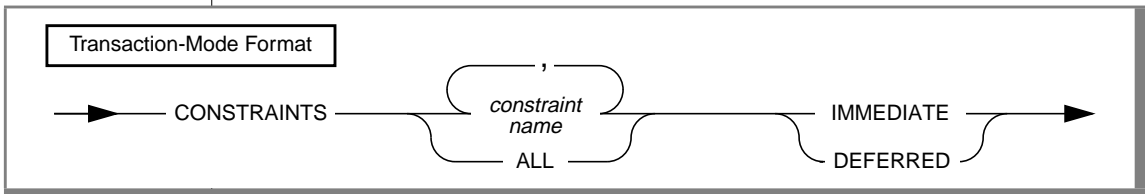
*Object Modes for Triggers and Duplicate Indexes*



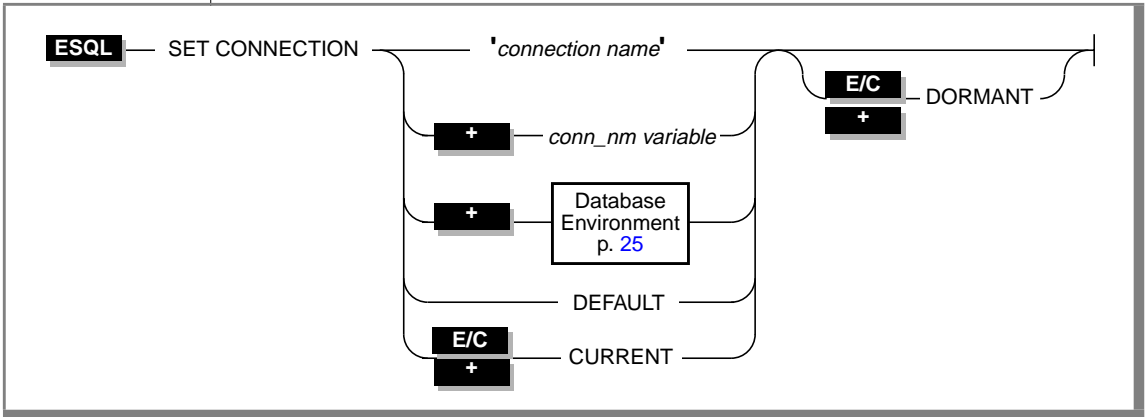
List-Mode Format



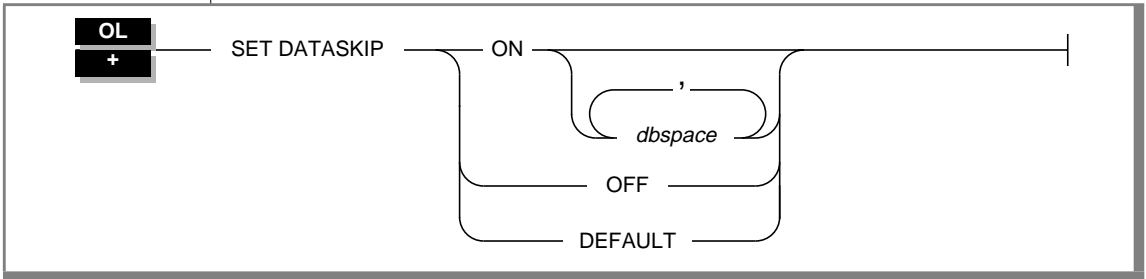
Transaction-Mode Format



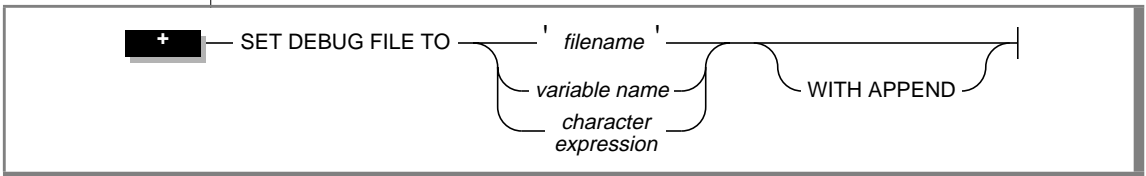
## SET CONNECTION



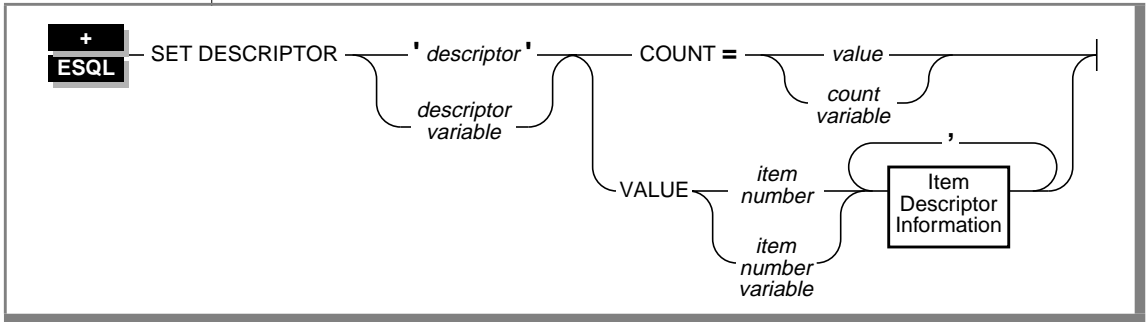
## SET DATASKIP



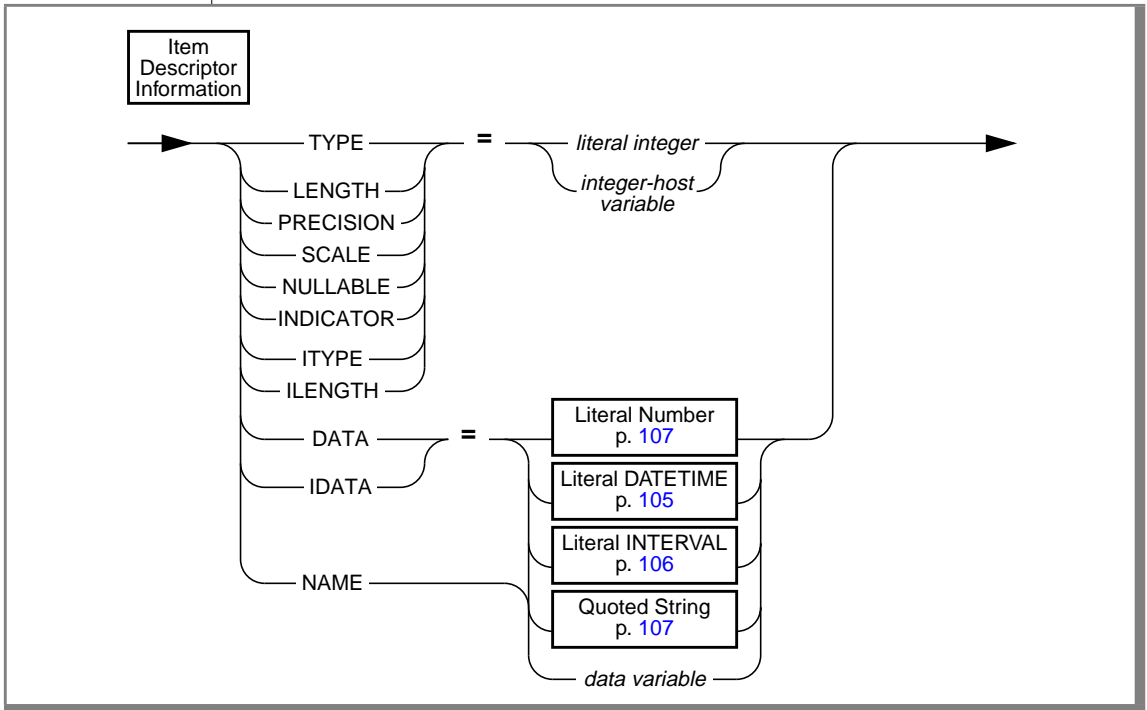
## SET DEBUG FILE TO



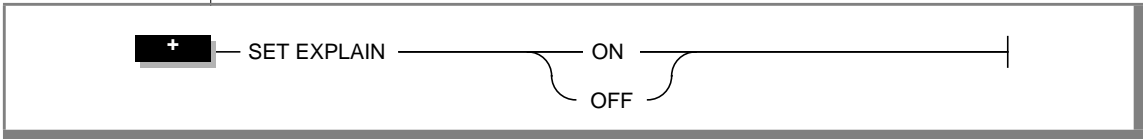
## SET DESCRIPTOR



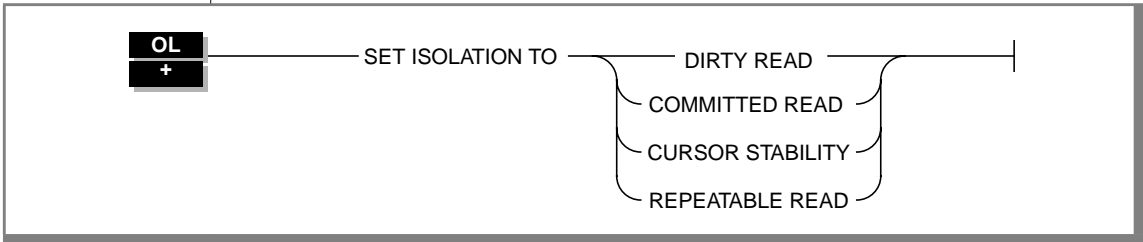
### Item Descriptor Information



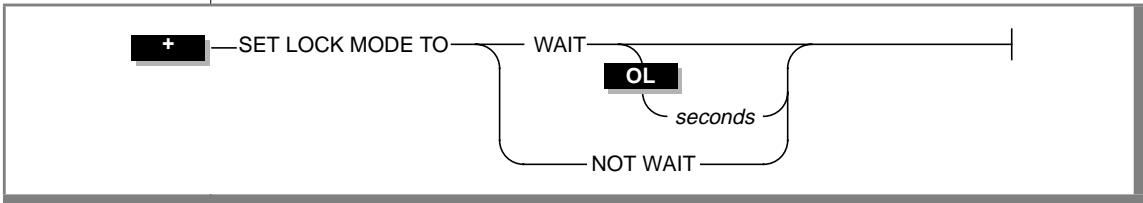
### SET EXPLAIN



### SET ISOLATION



### SET LOCK MODE TO

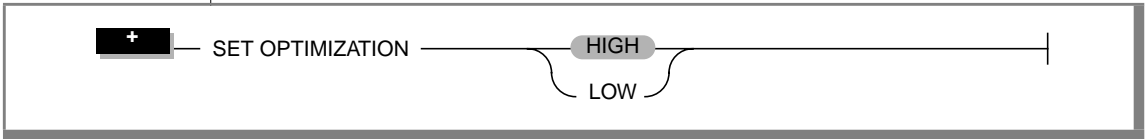


### SET LOG

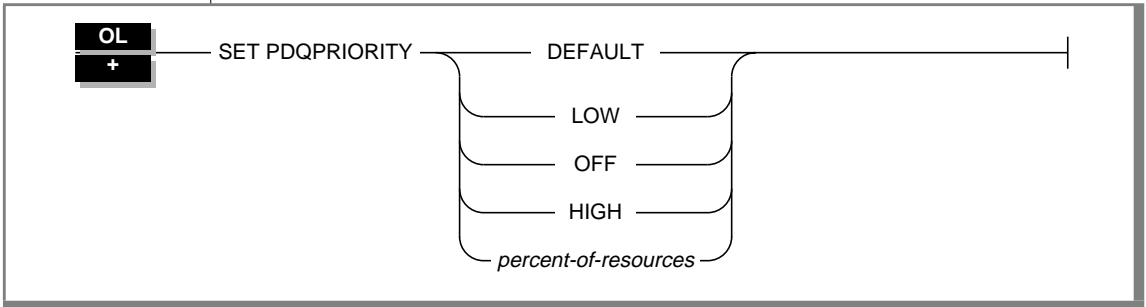




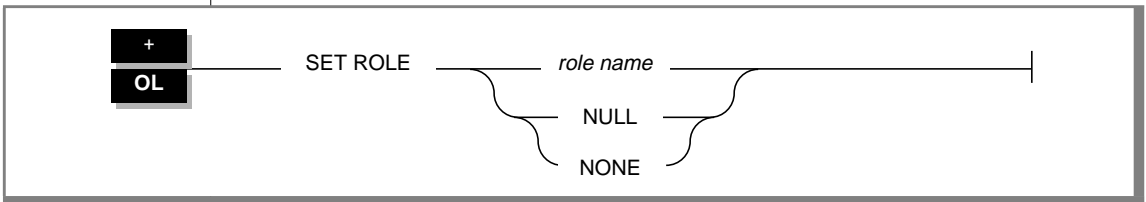
## SET OPTIMIZATION



## SET PDQPRIORITY



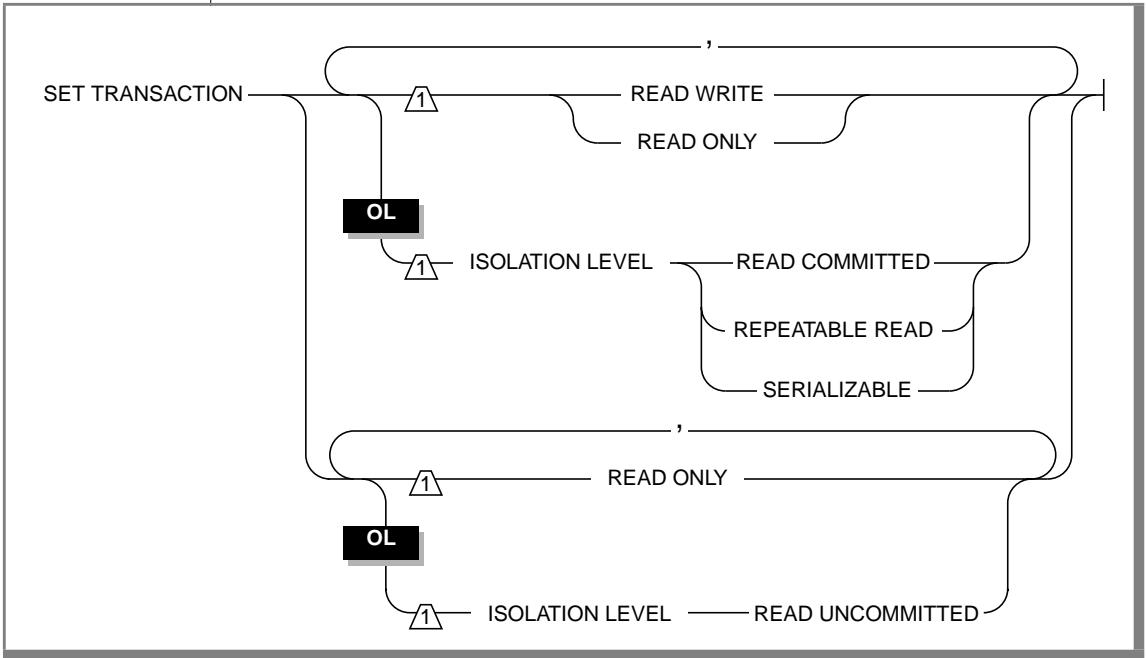
## SET ROLE



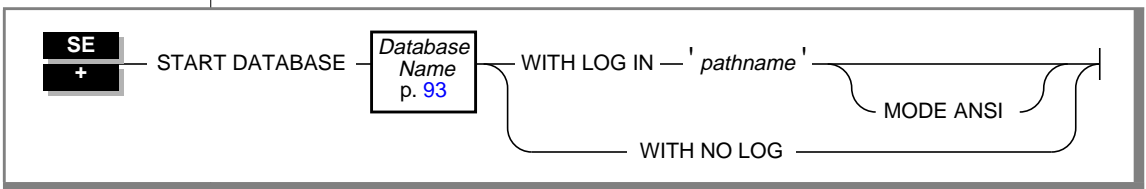
## SET SESSION AUTHORIZATION



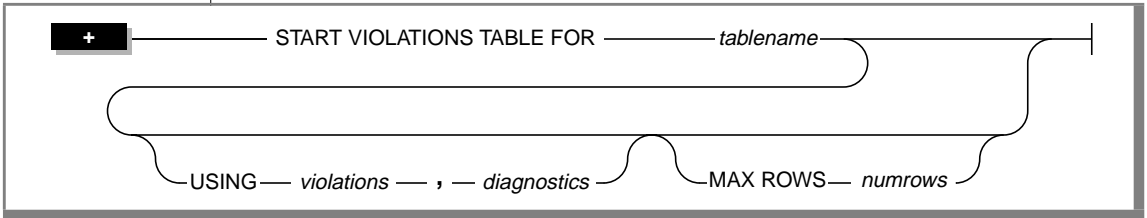
## SET TRANSACTION



## START DATABASE



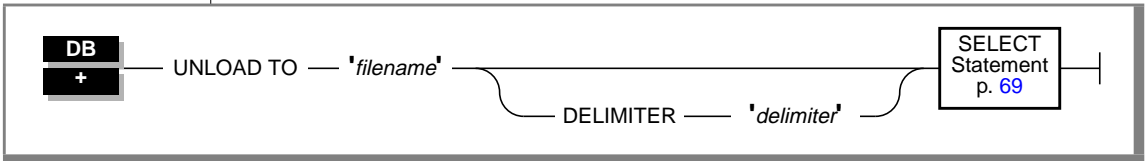
## START VIOLATIONS TABLE



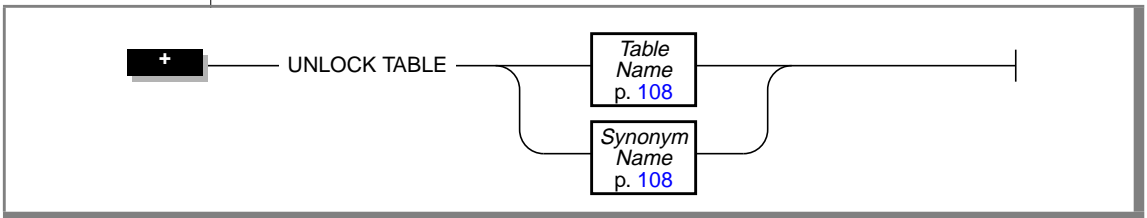
## STOP VIOLATIONS TABLE



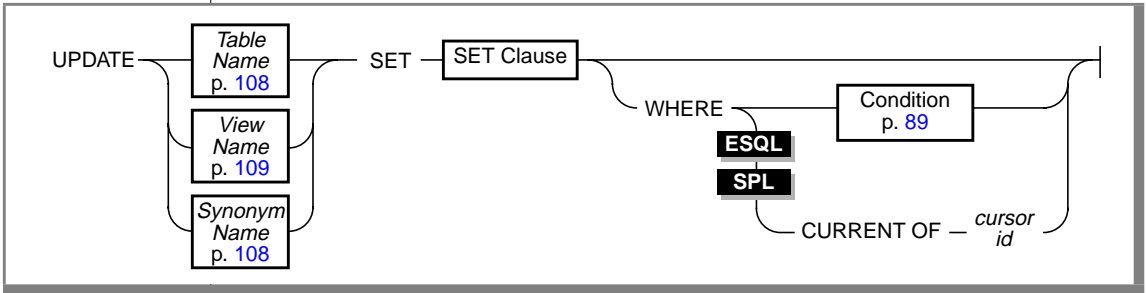
## UNLOAD



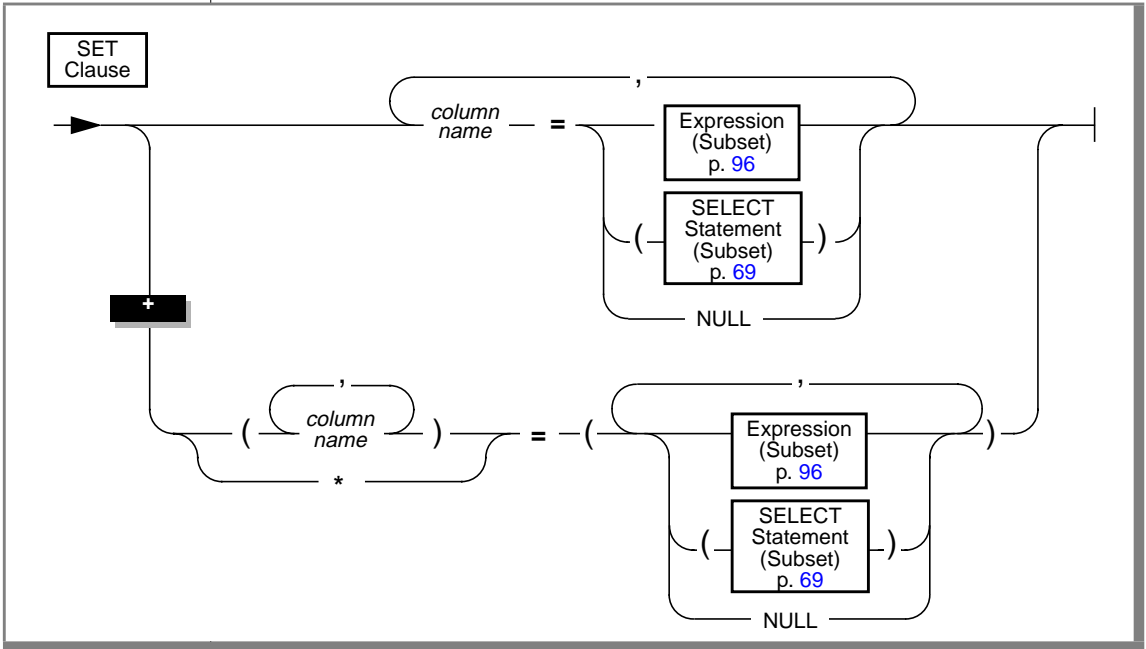
## UNLOCK TABLE



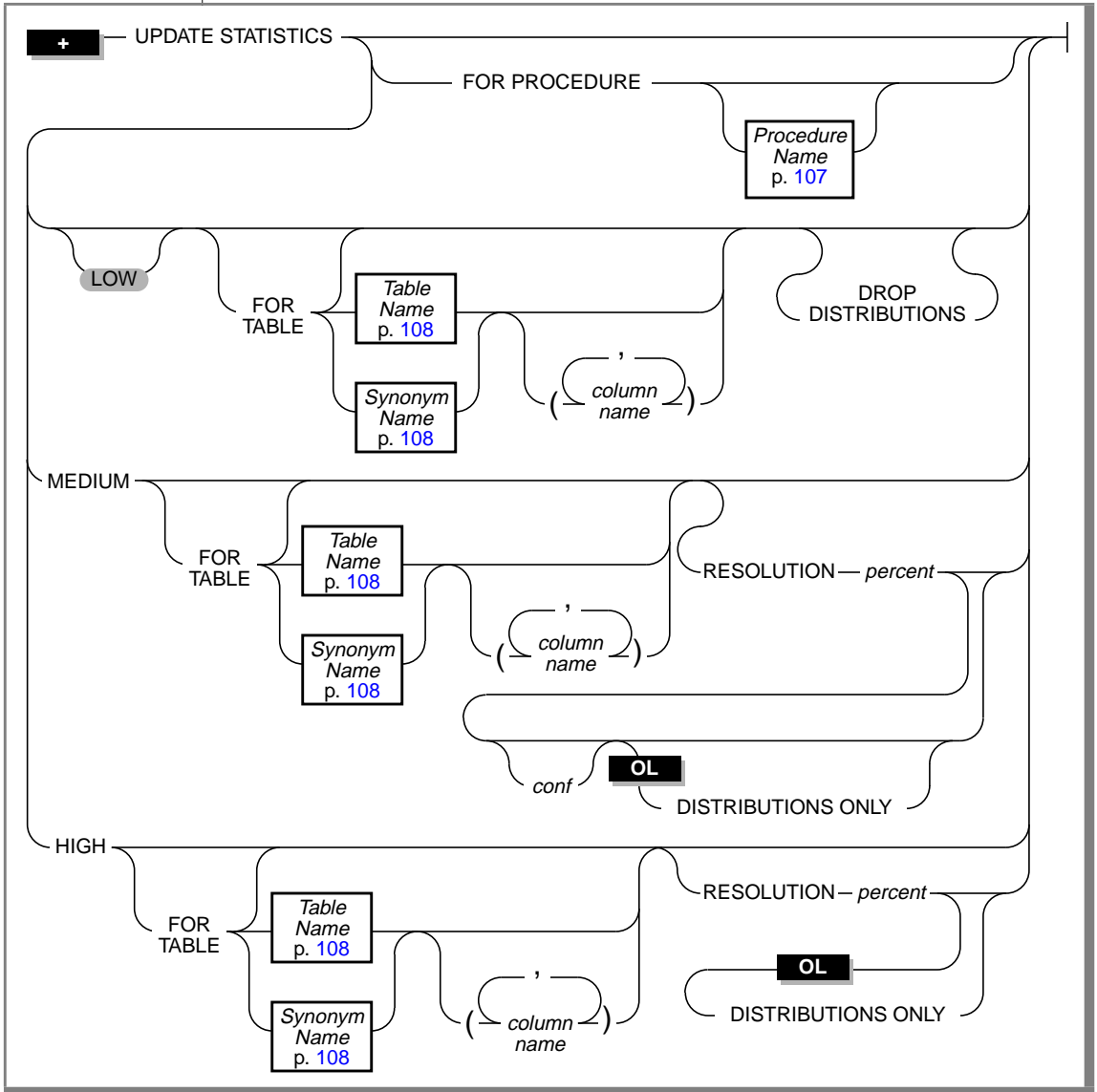
## UPDATE



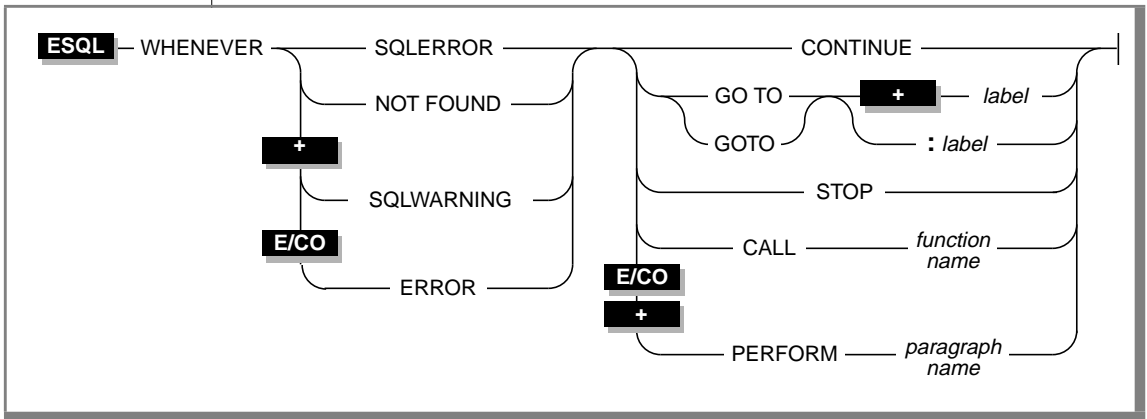
## SET Clause



# UPDATE STATISTICS



## WHENEVER



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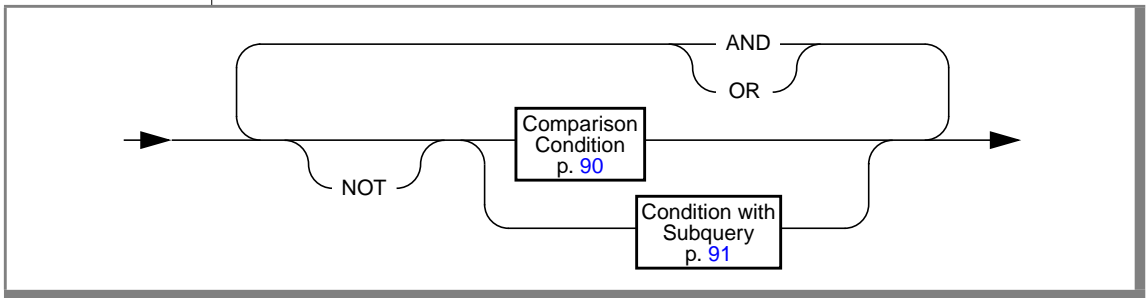
# SQL Segments

# Section

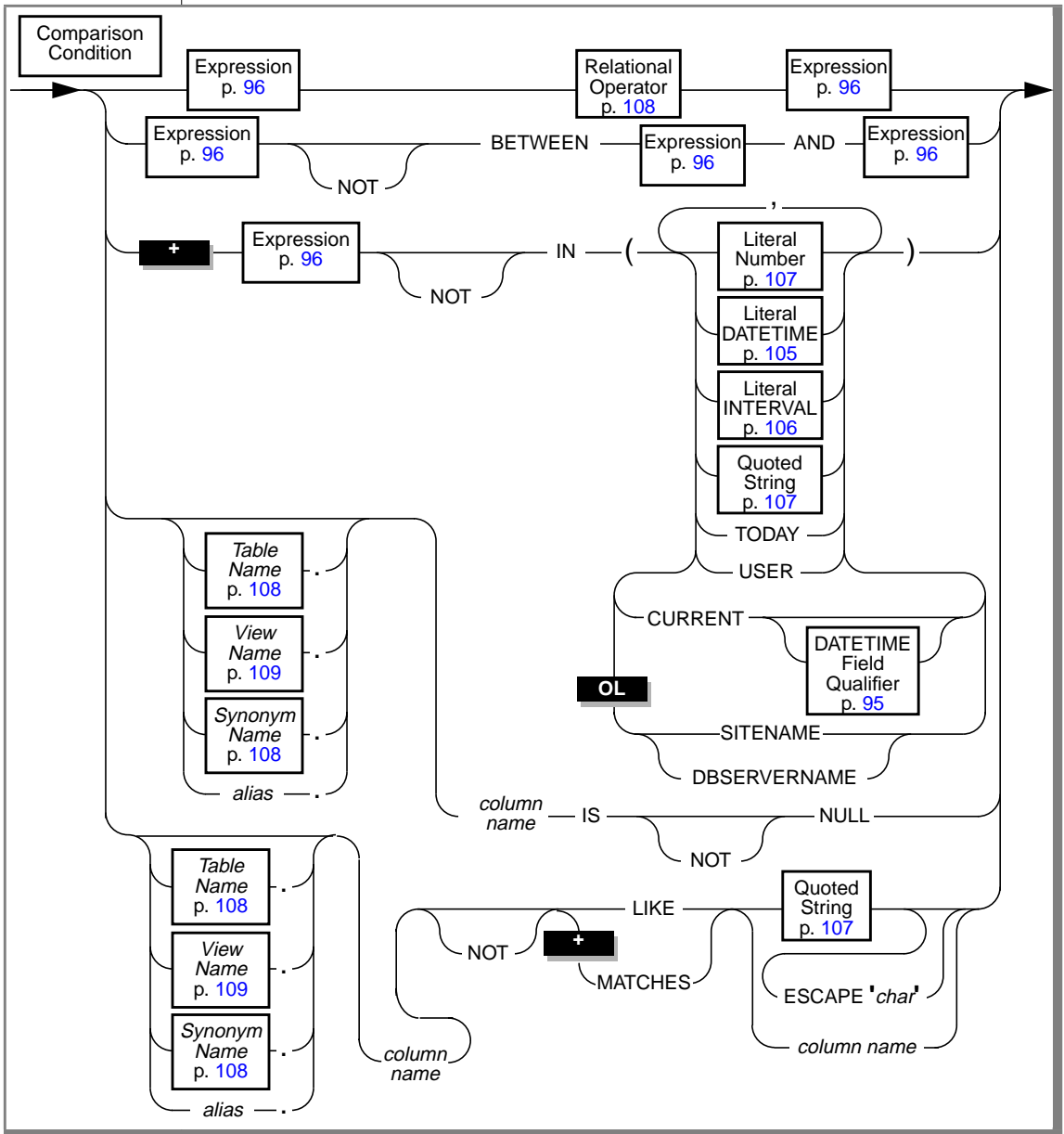




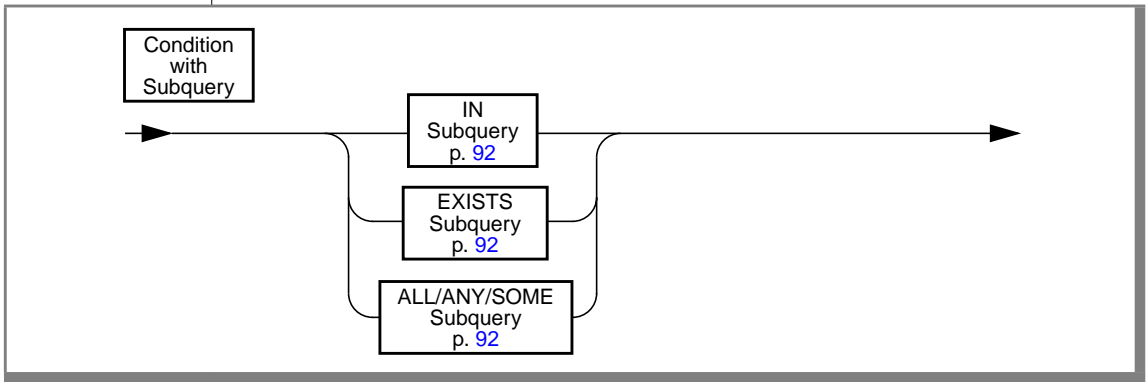
## Condition



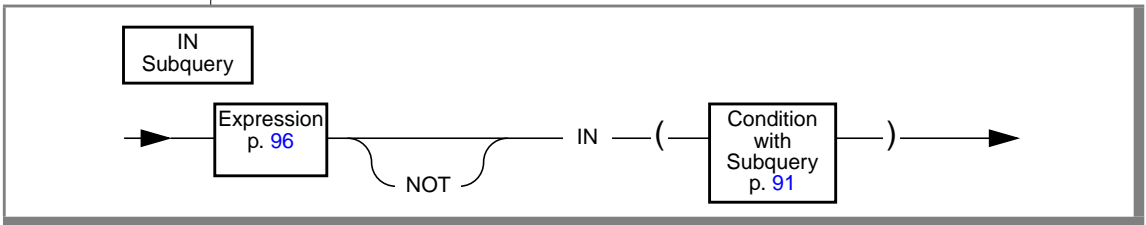
### Comparison Conditions (Boolean Expressions)



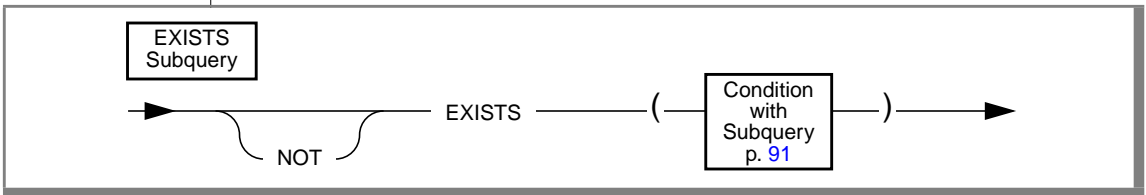
*Condition with a Subquery*



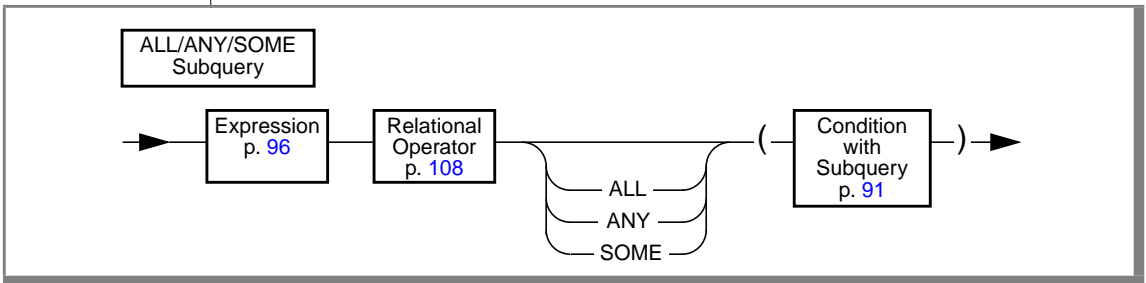
*IN Subquery*



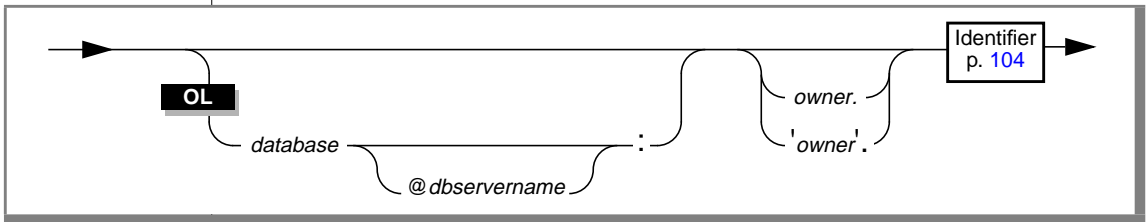
*EXISTS Subquery*



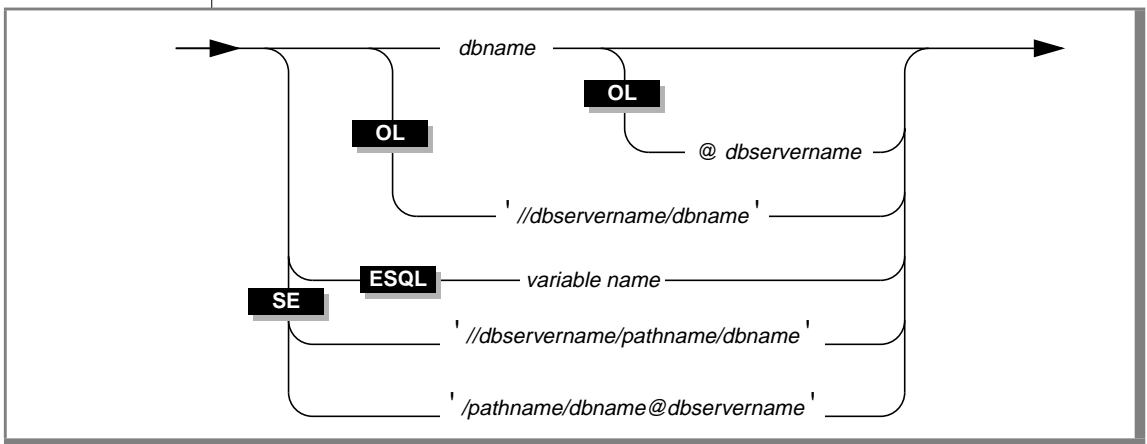
*ALL/ANY/SOME Subquery*



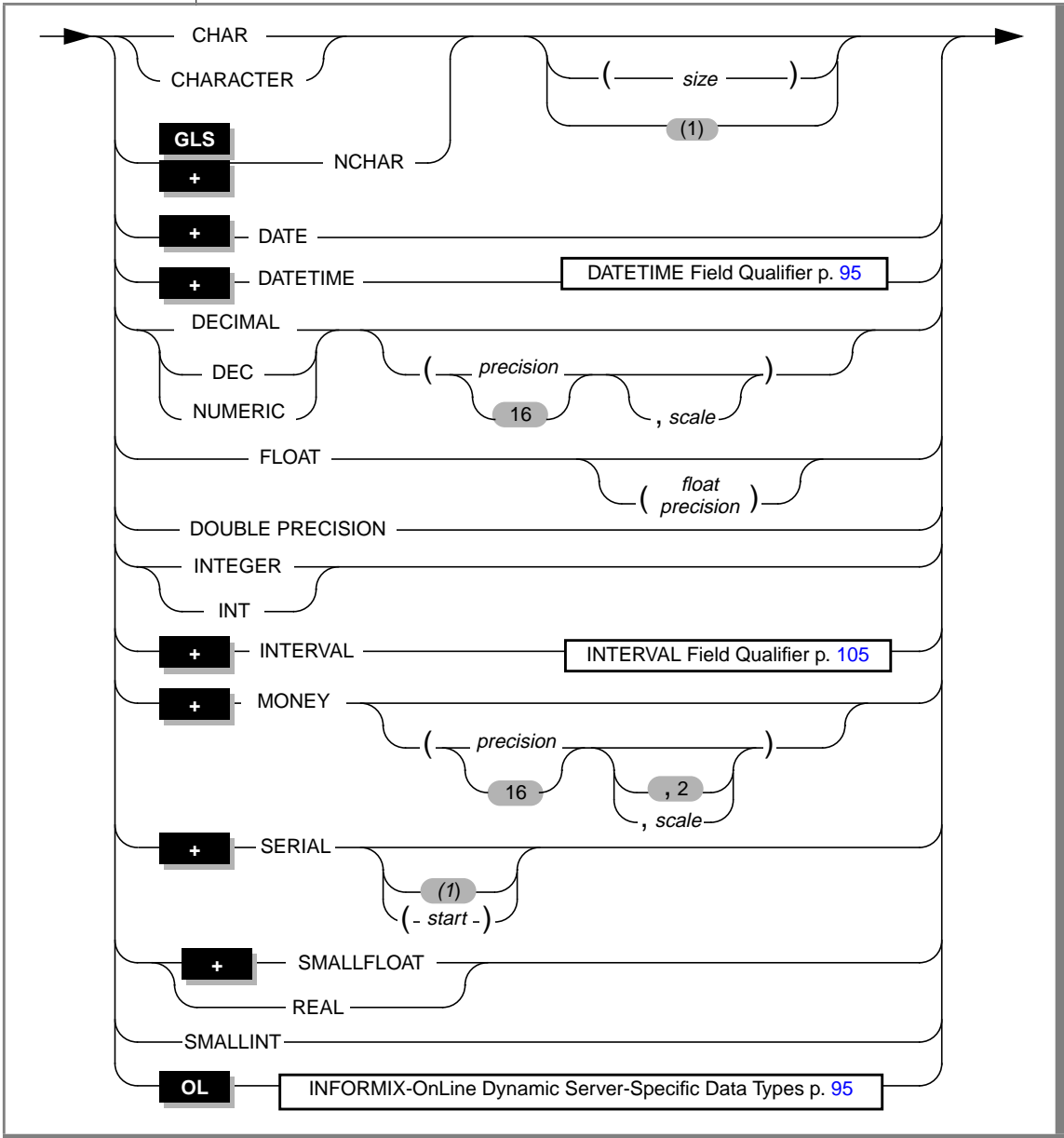
### Constraint Name



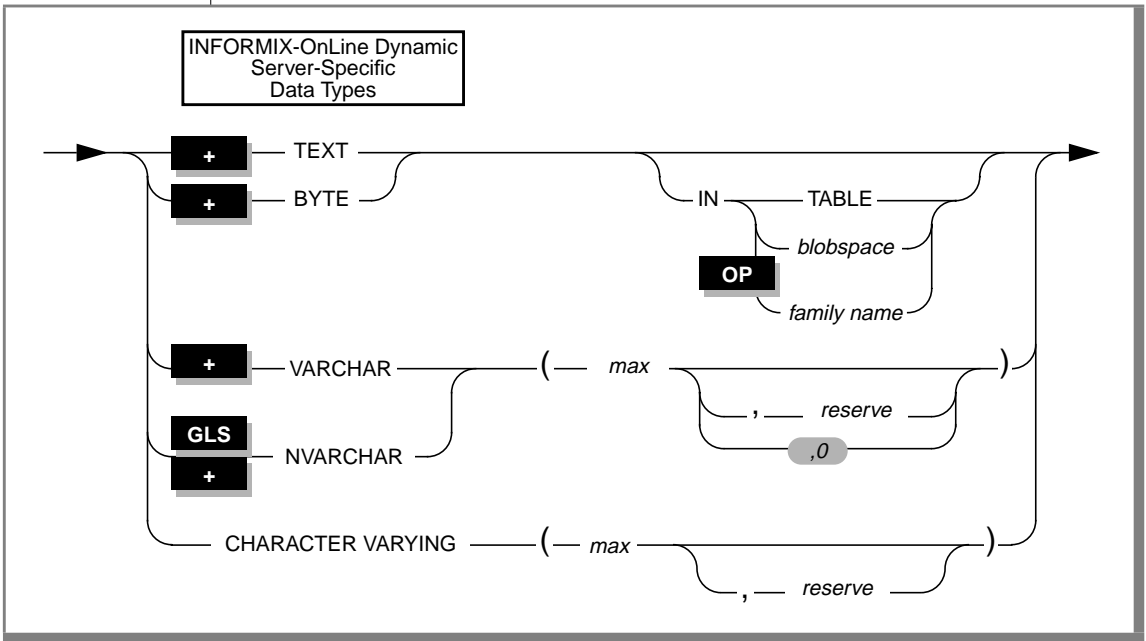
### Database Name



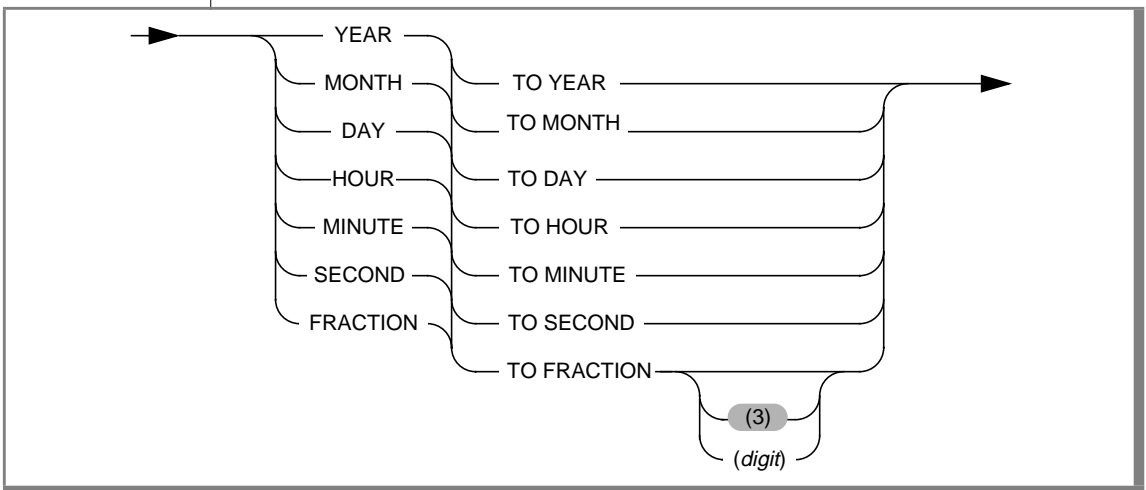
# Data Type



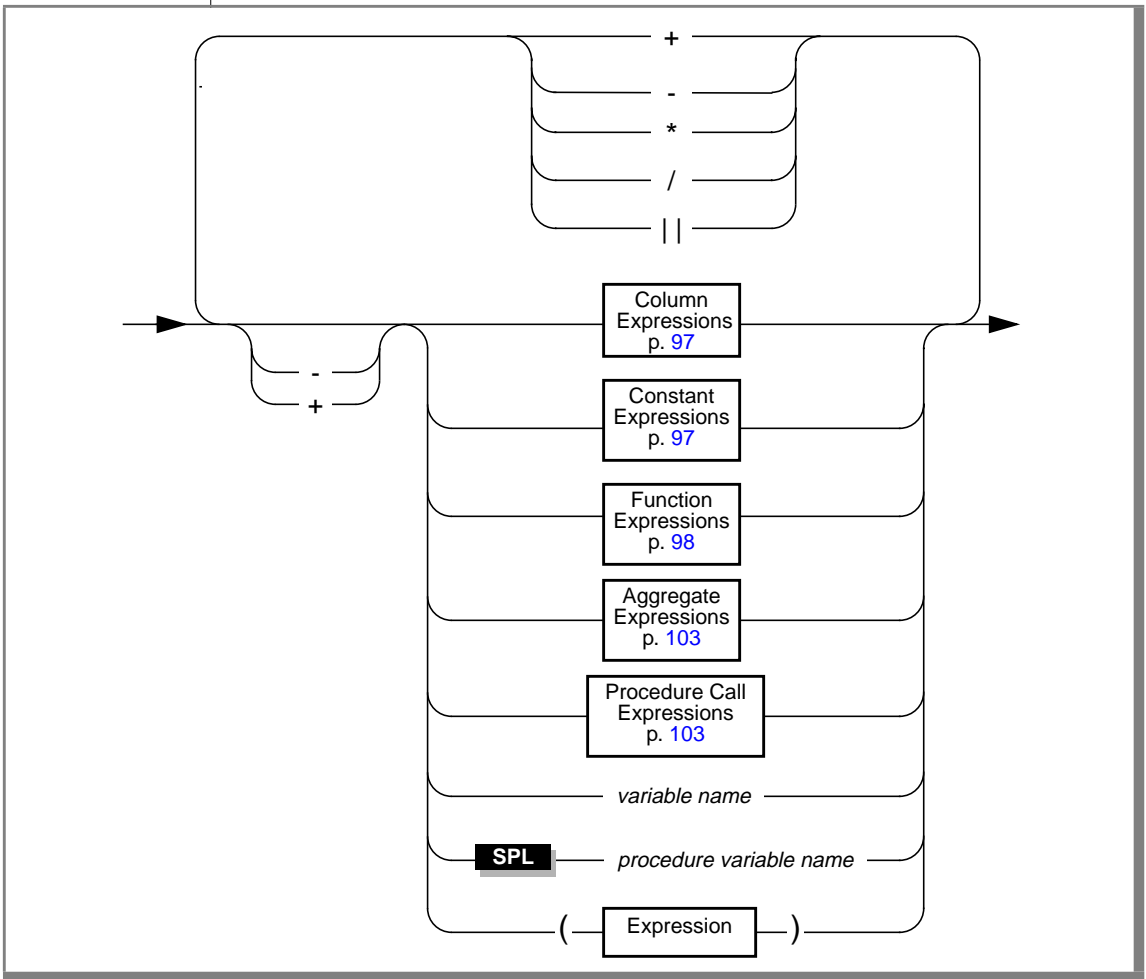
INFORMIX-OnLine Dynamic Server-Specific Data Types



DATE TIME Field Qualifier

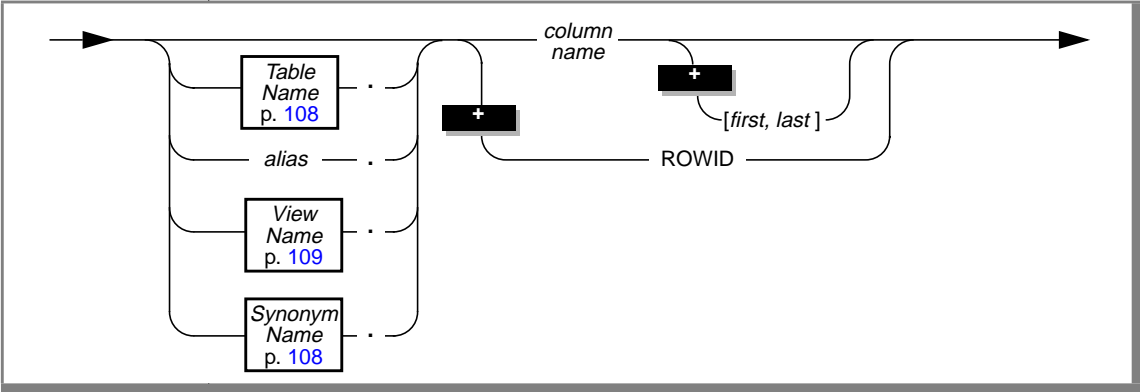


## Expression

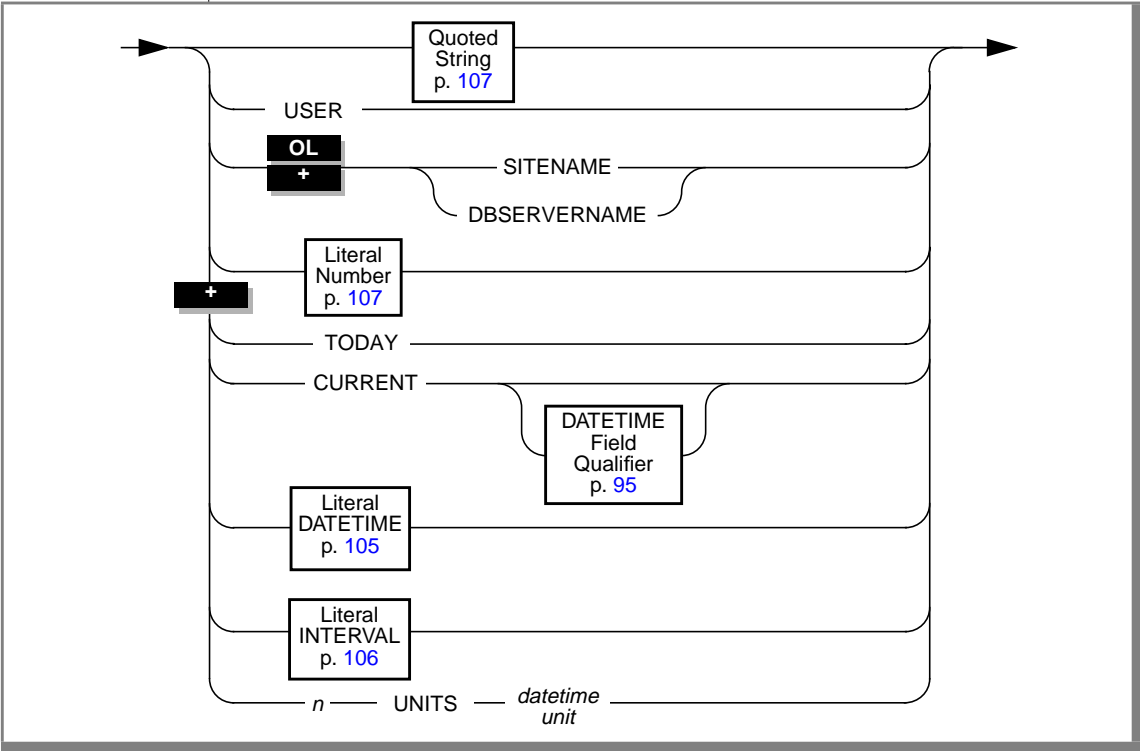




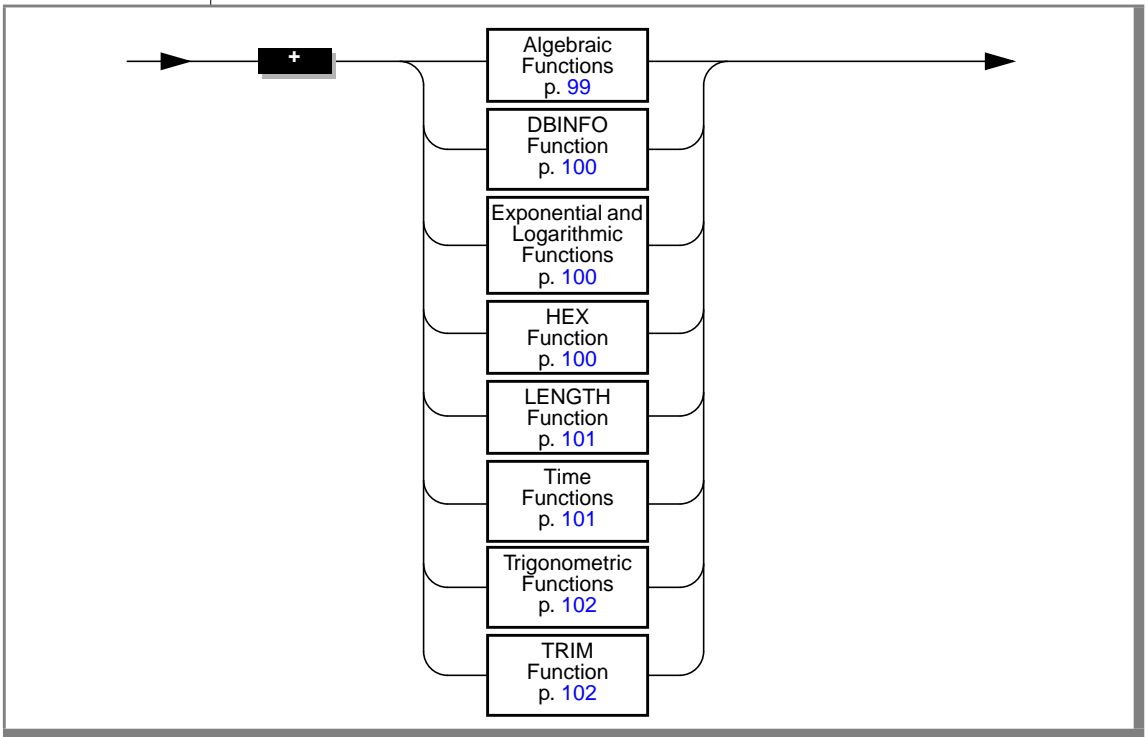
Column Expressions



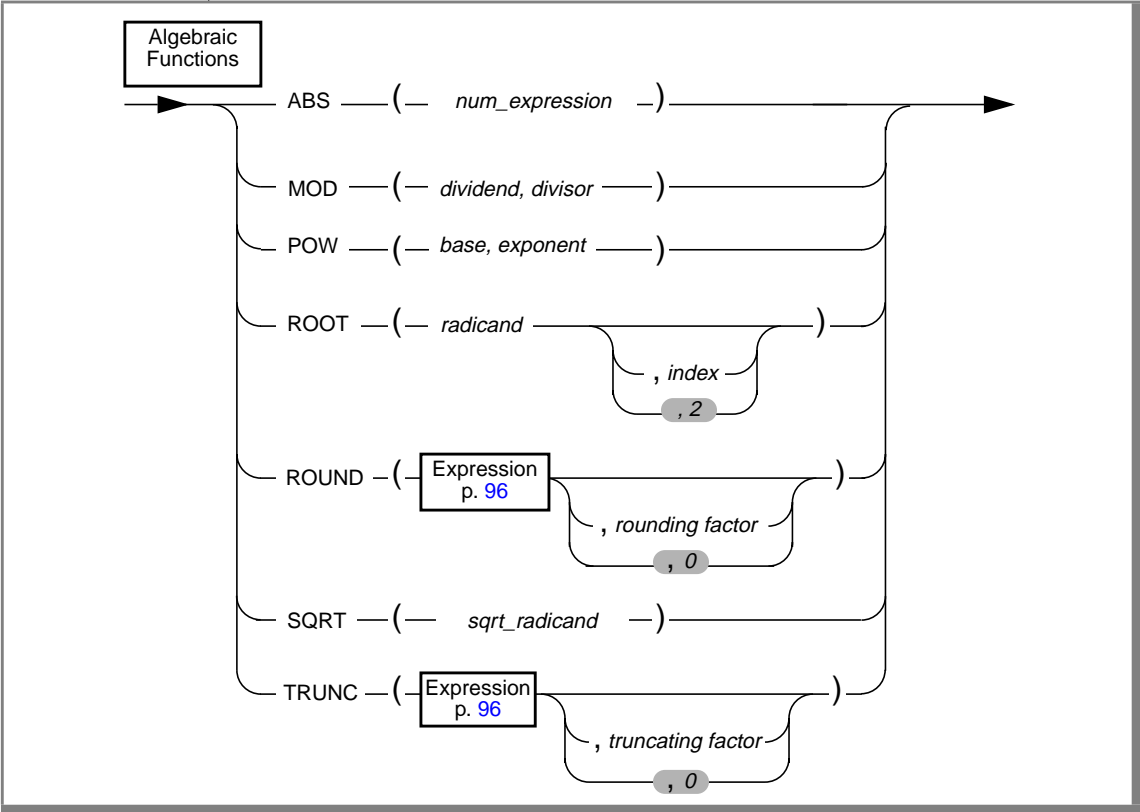
Constant Expressions



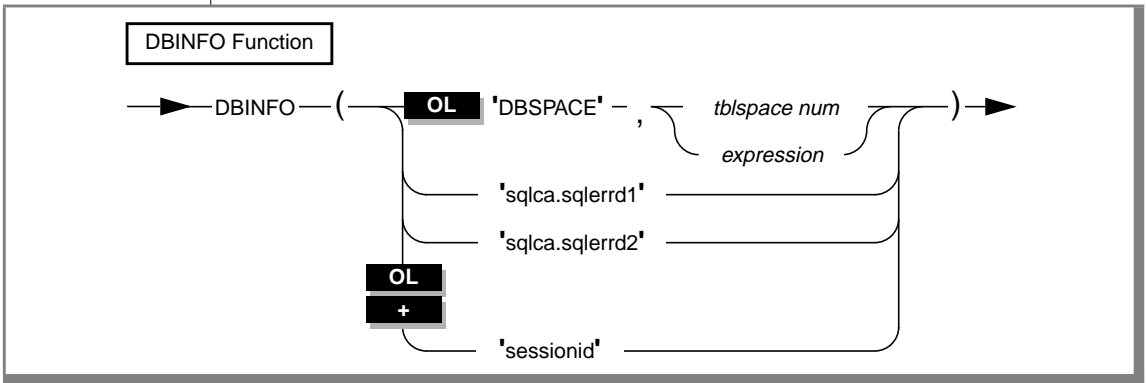
Function Expressions



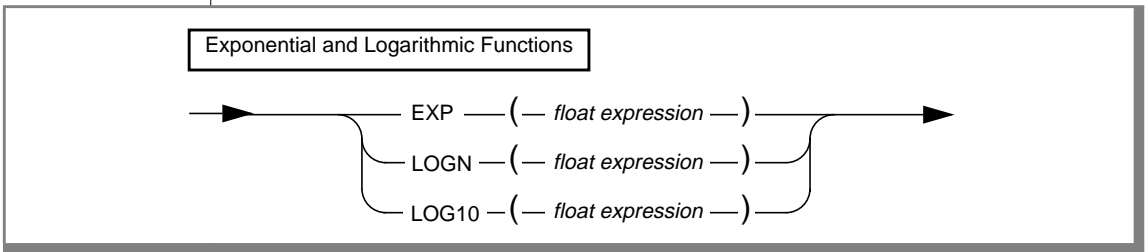
Algebraic Functions



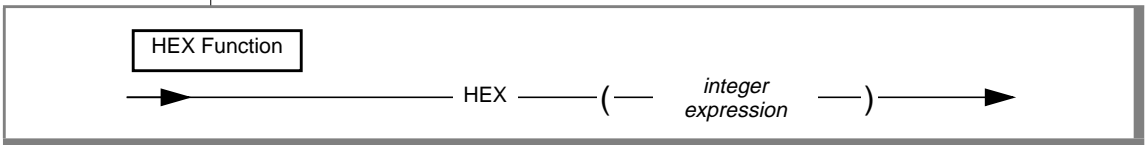
*DBINFO Function*



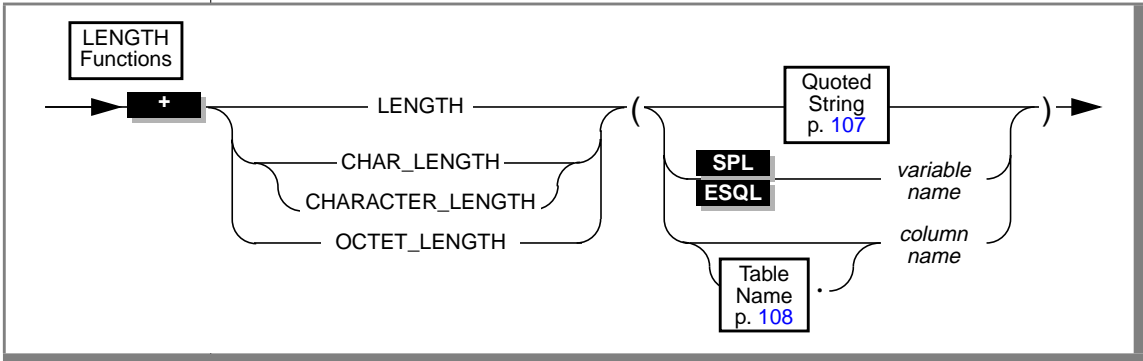
*Exponential and Logarithmic Functions*



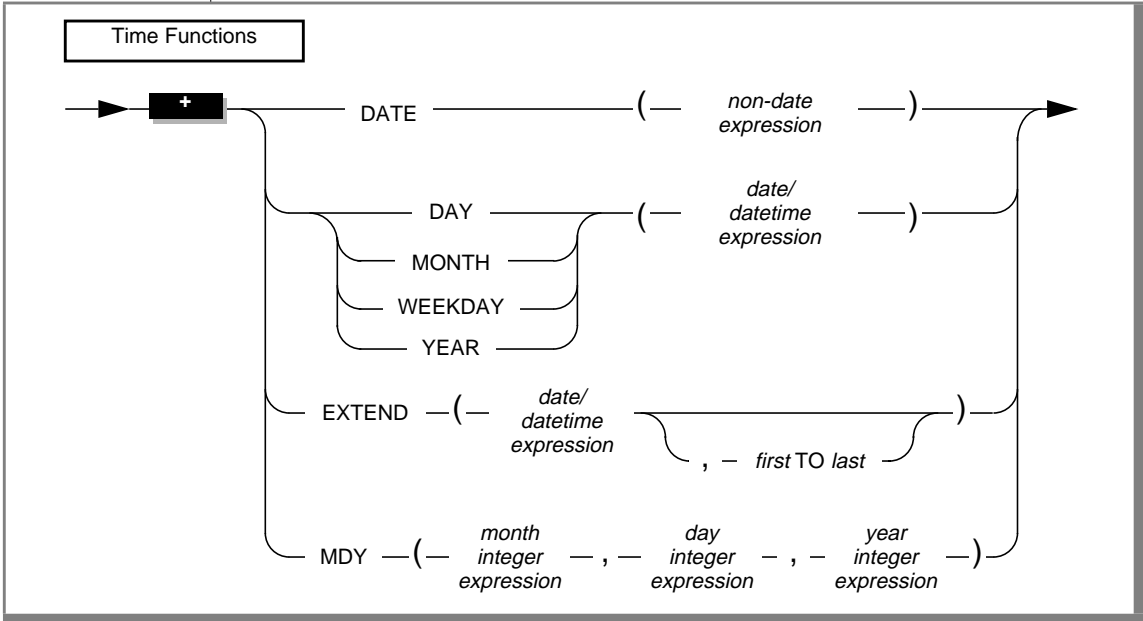
*HEX Function*



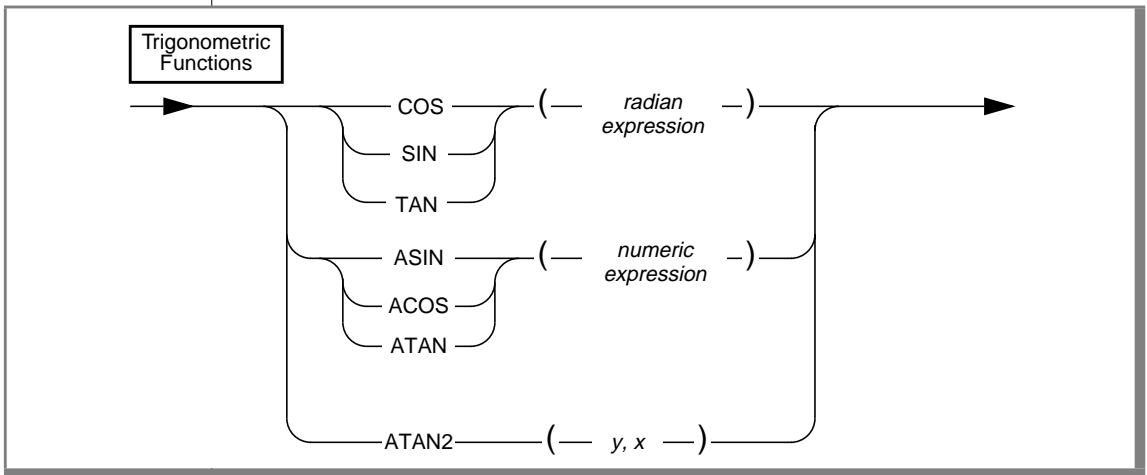
LENGTH Function



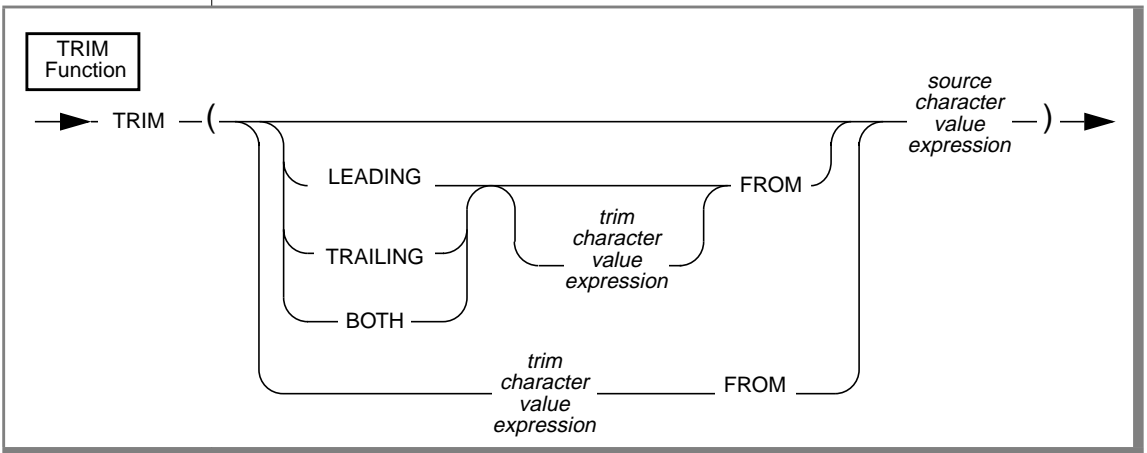
Time Functions



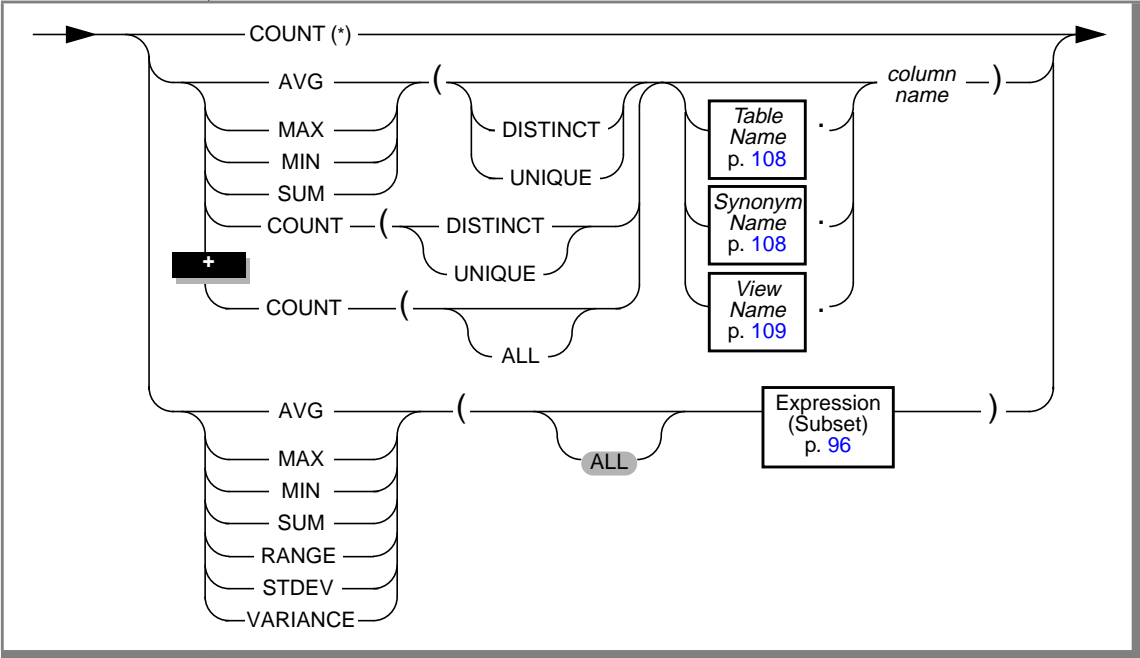
### Trigonometric Functions



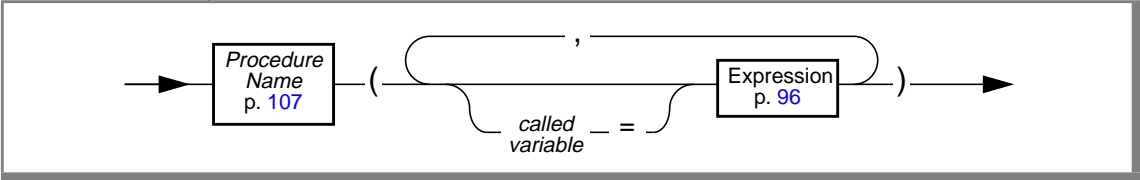
### TRIM Function



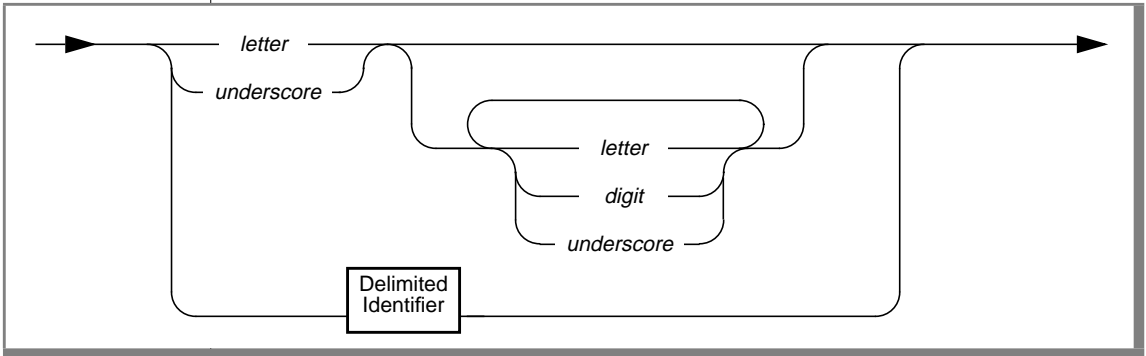
Aggregate Expressions



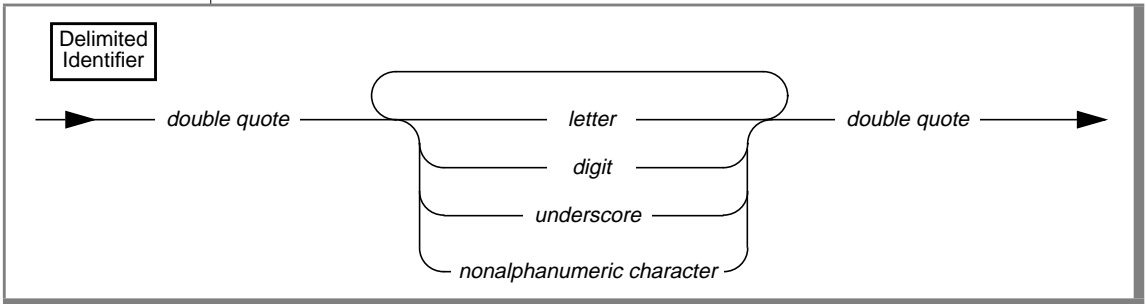
Procedure Call Expressions



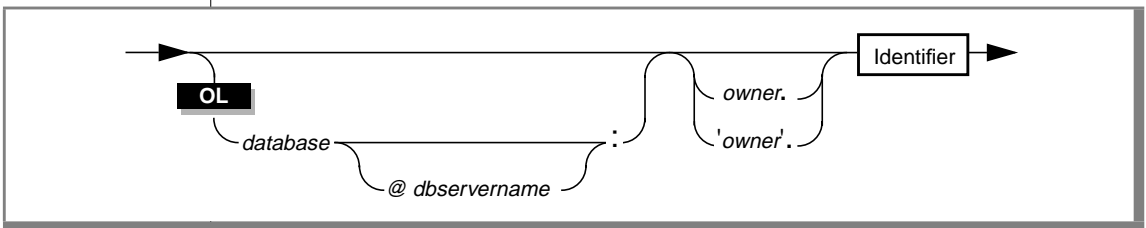
### Identifier



### Delimited Identifiers

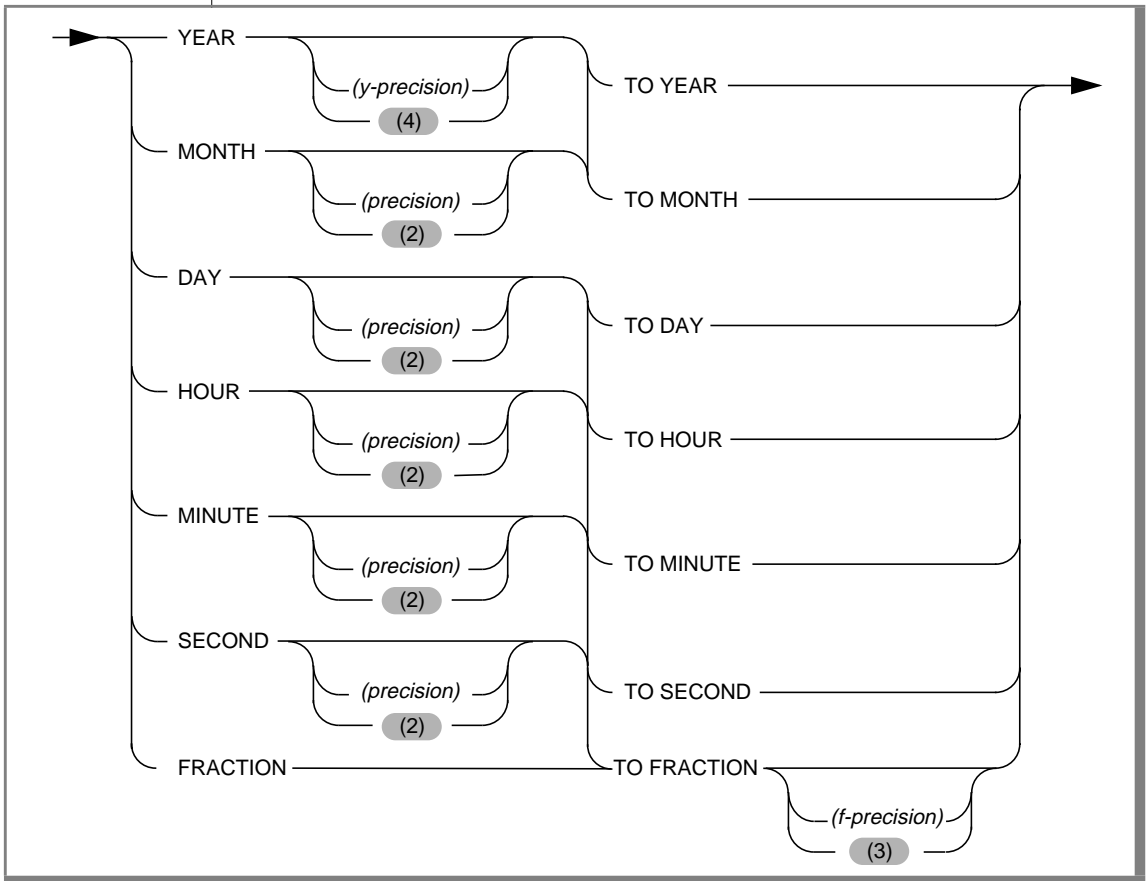


### Index Name

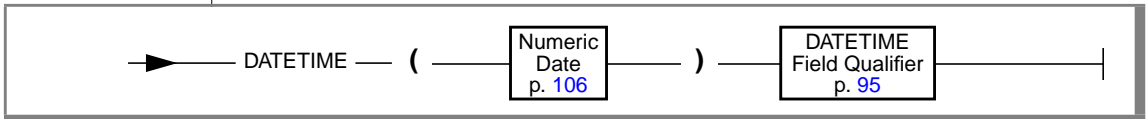




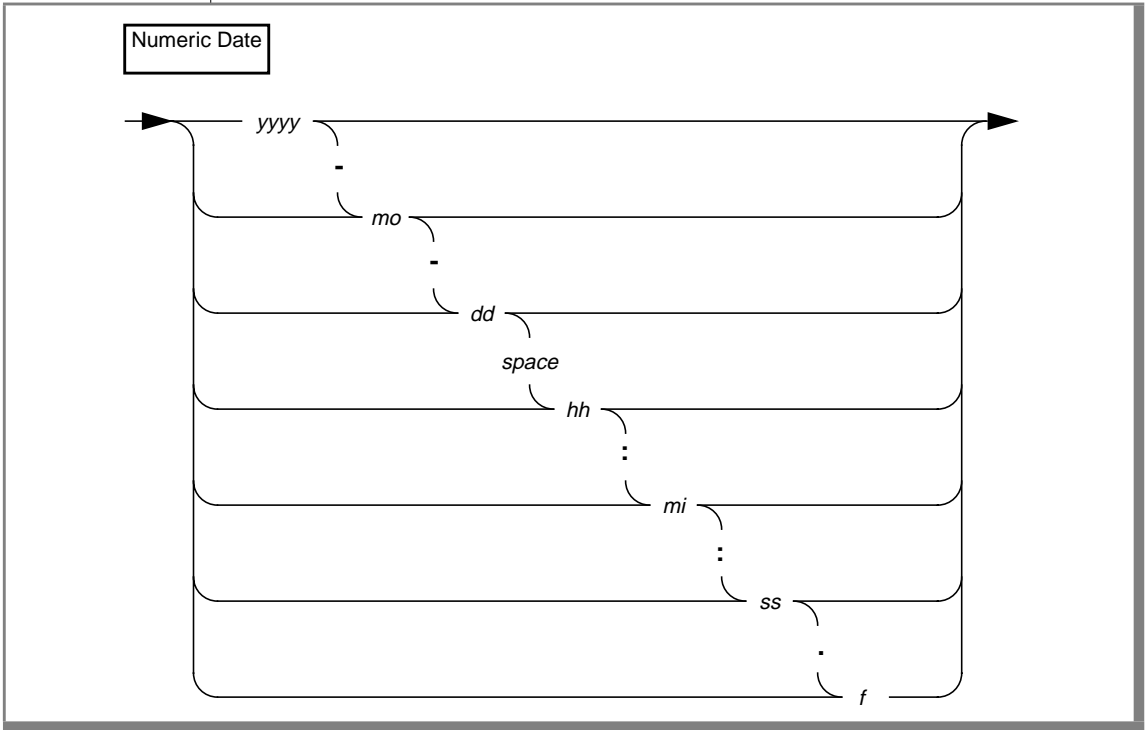
## INTERVAL Field Qualifier



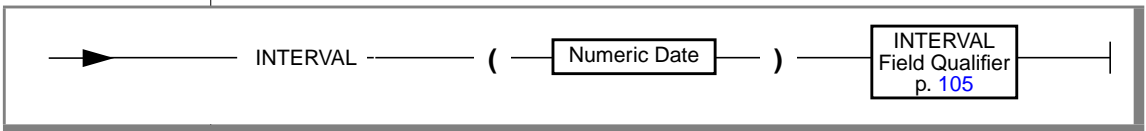
## Literal DATETIME



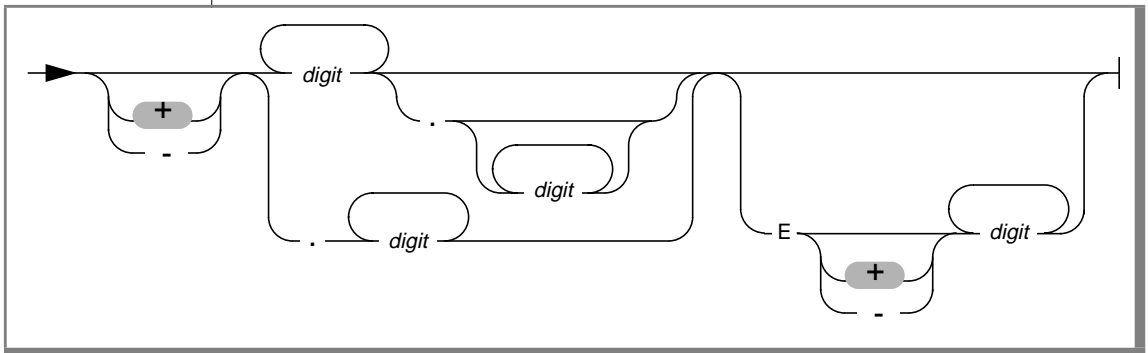
*Numeric Date*



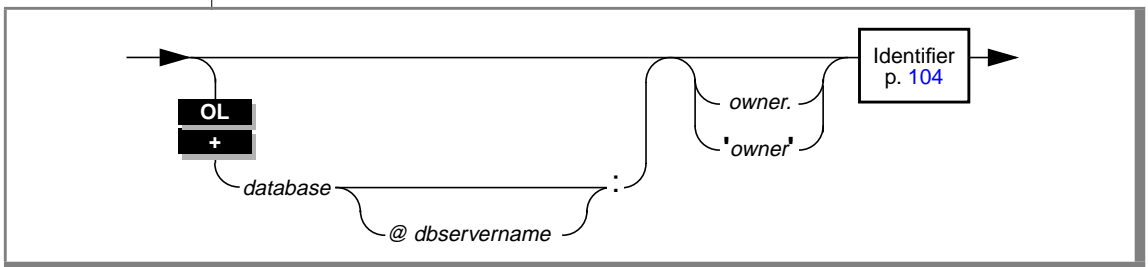
**Literal Interval**



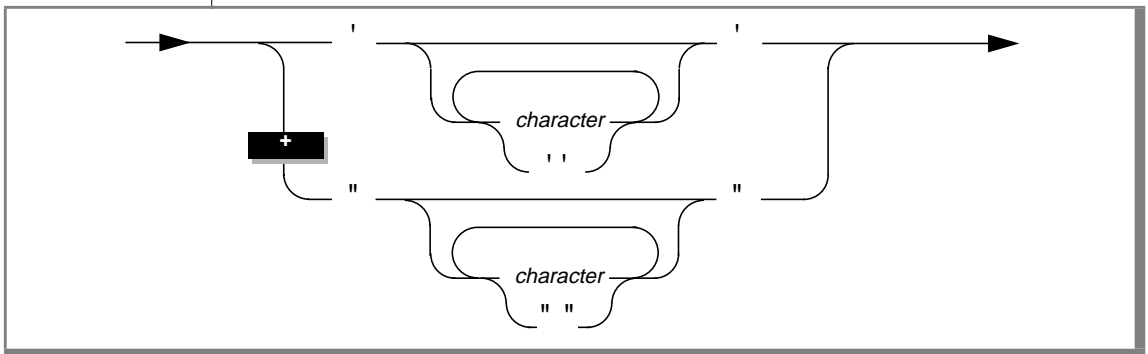
### Literal Number



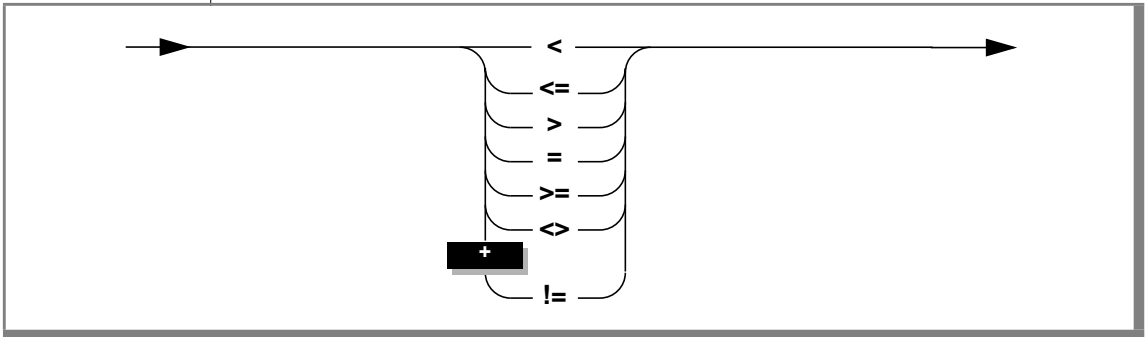
### Procedure Name



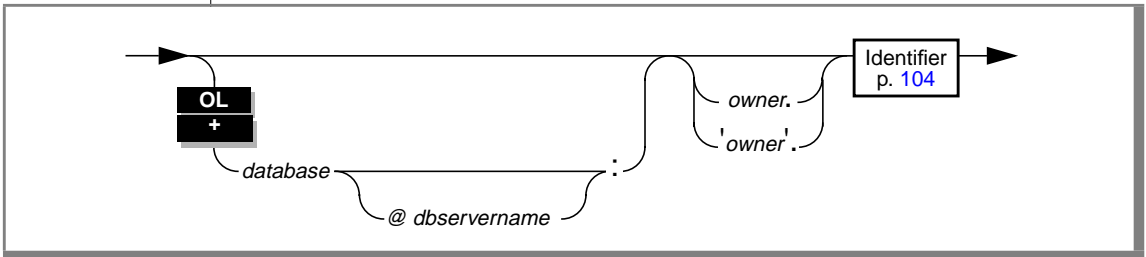
### Quoted String



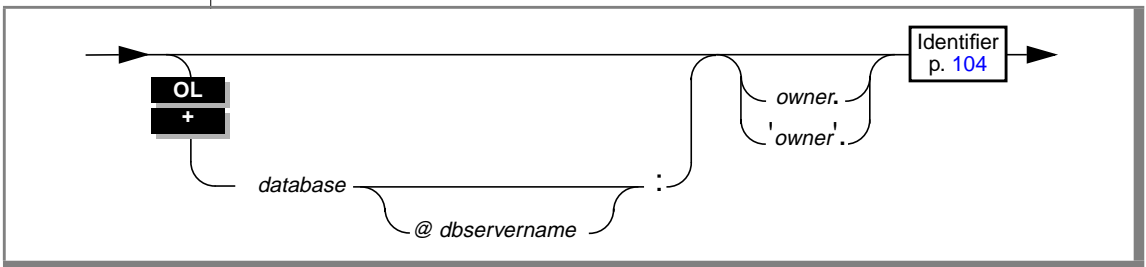
## Relational Operator



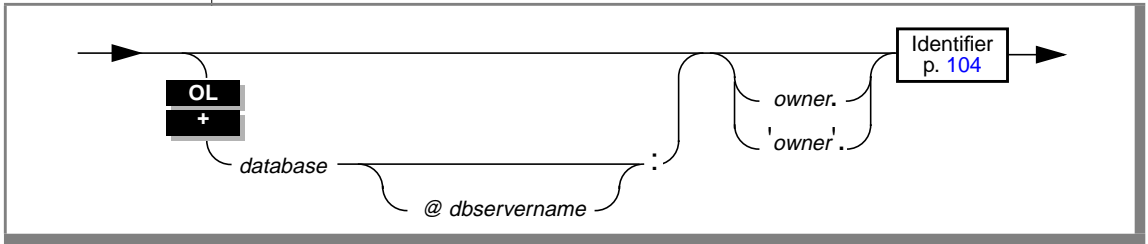
## Synonym Name



## Table Name



## View Name





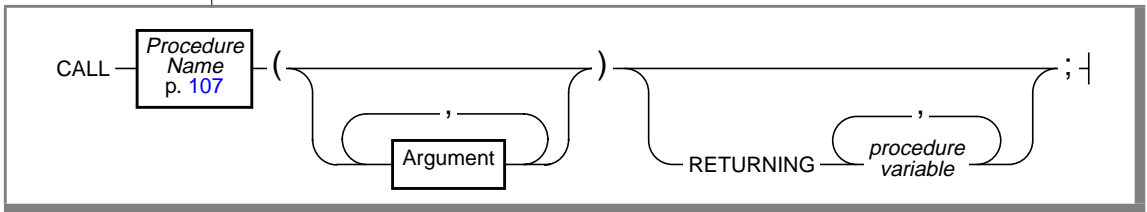
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# Stored Procedure Language Statements

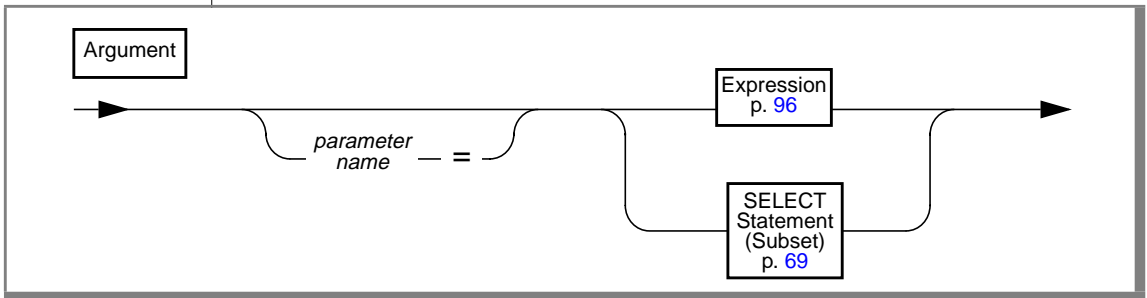




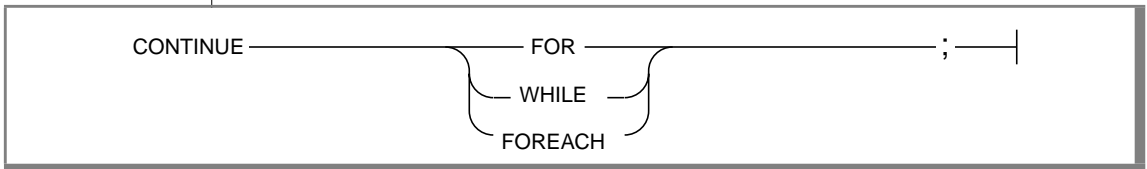
## CALL



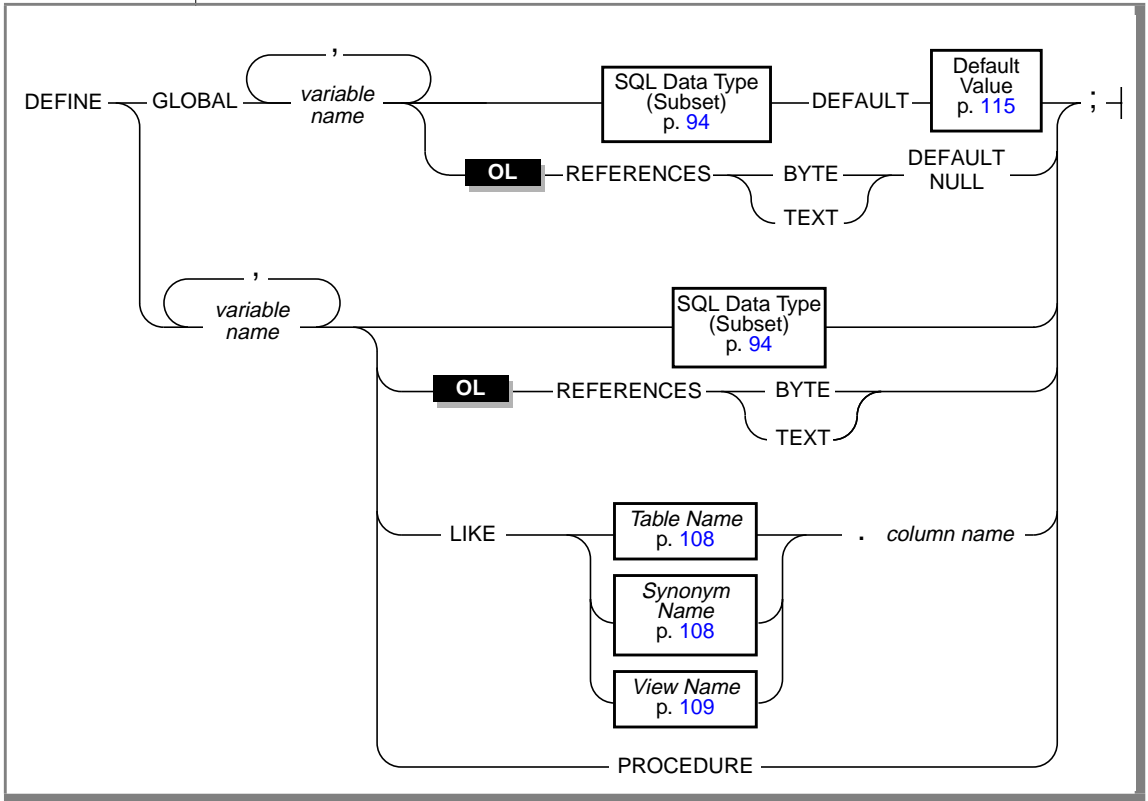
## Argument



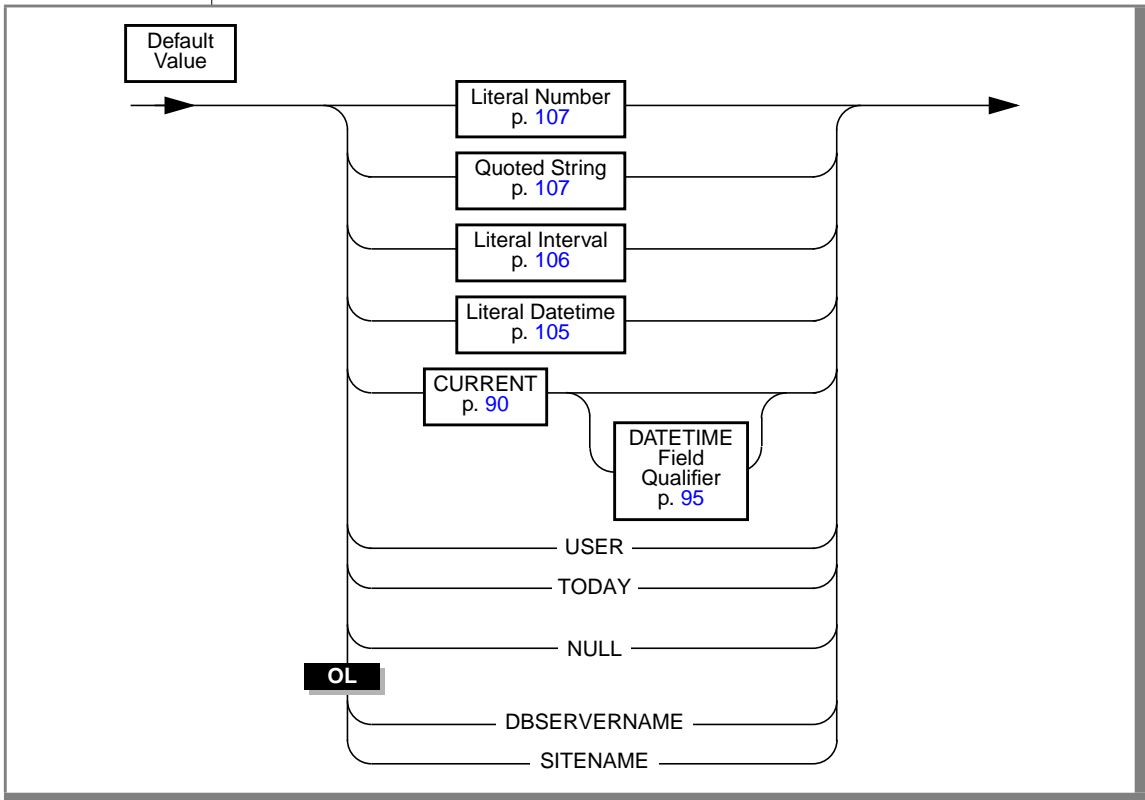
## CONTINUE



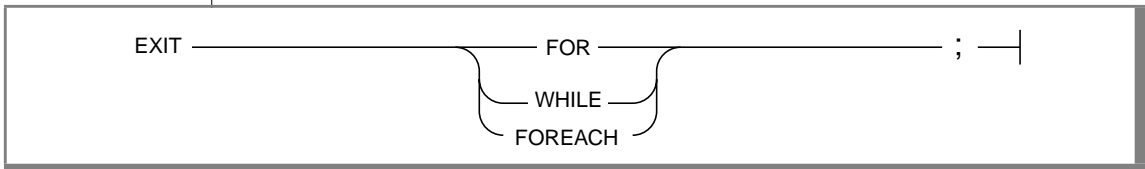
# DEFINE



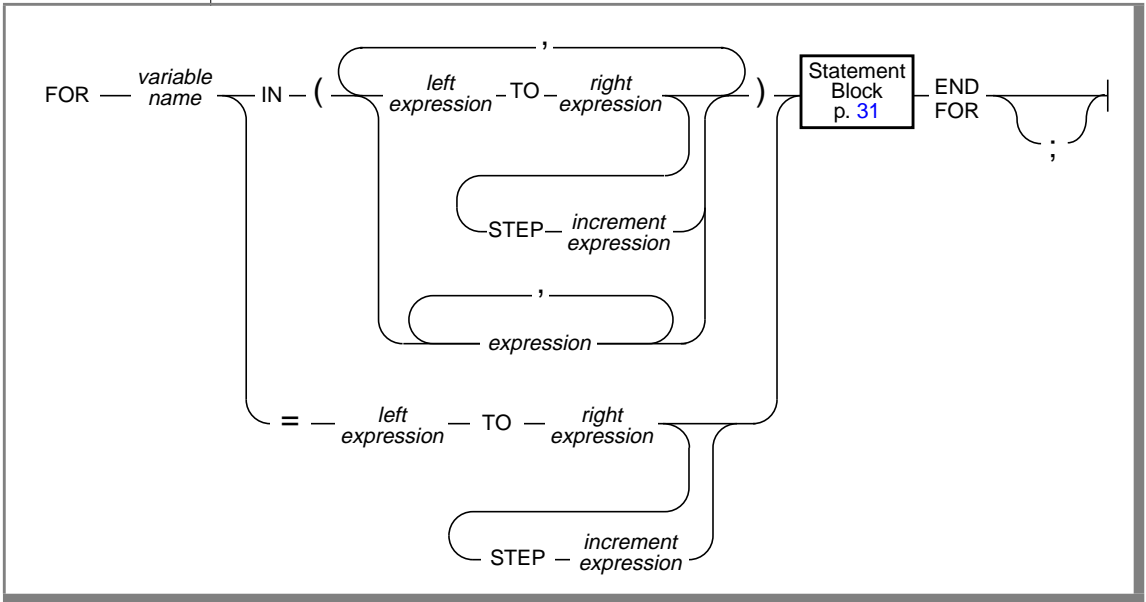
Default Value Clause



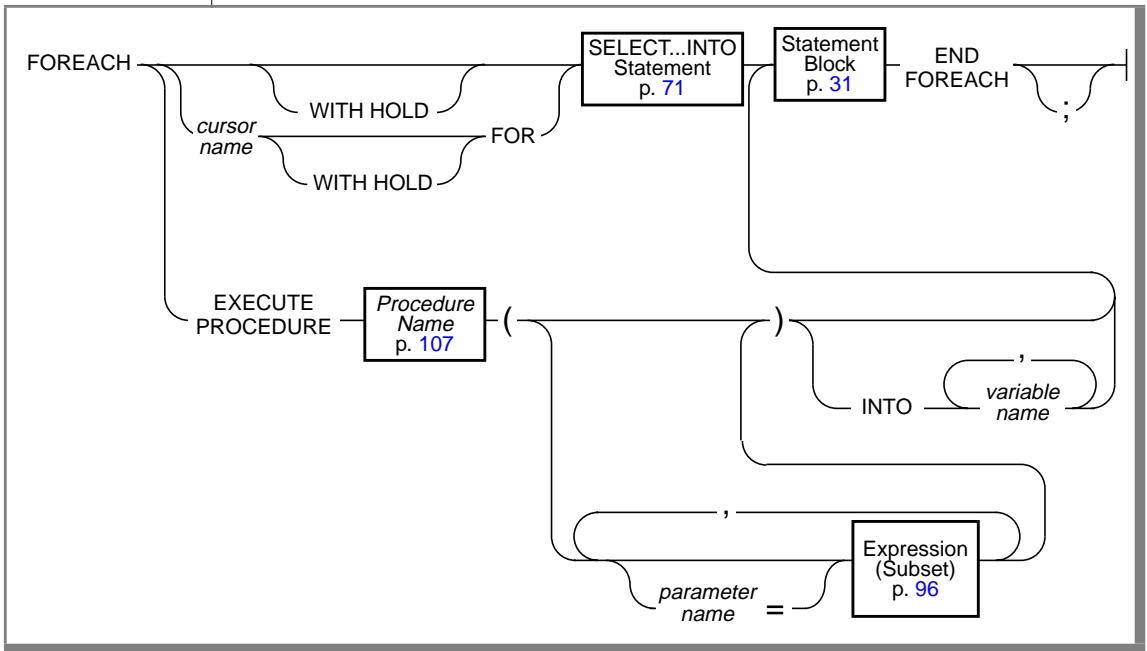
EXIT



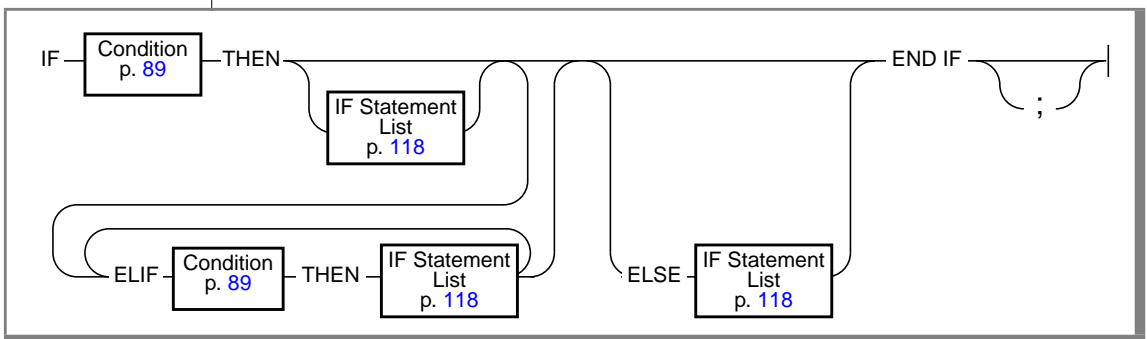
# FOR



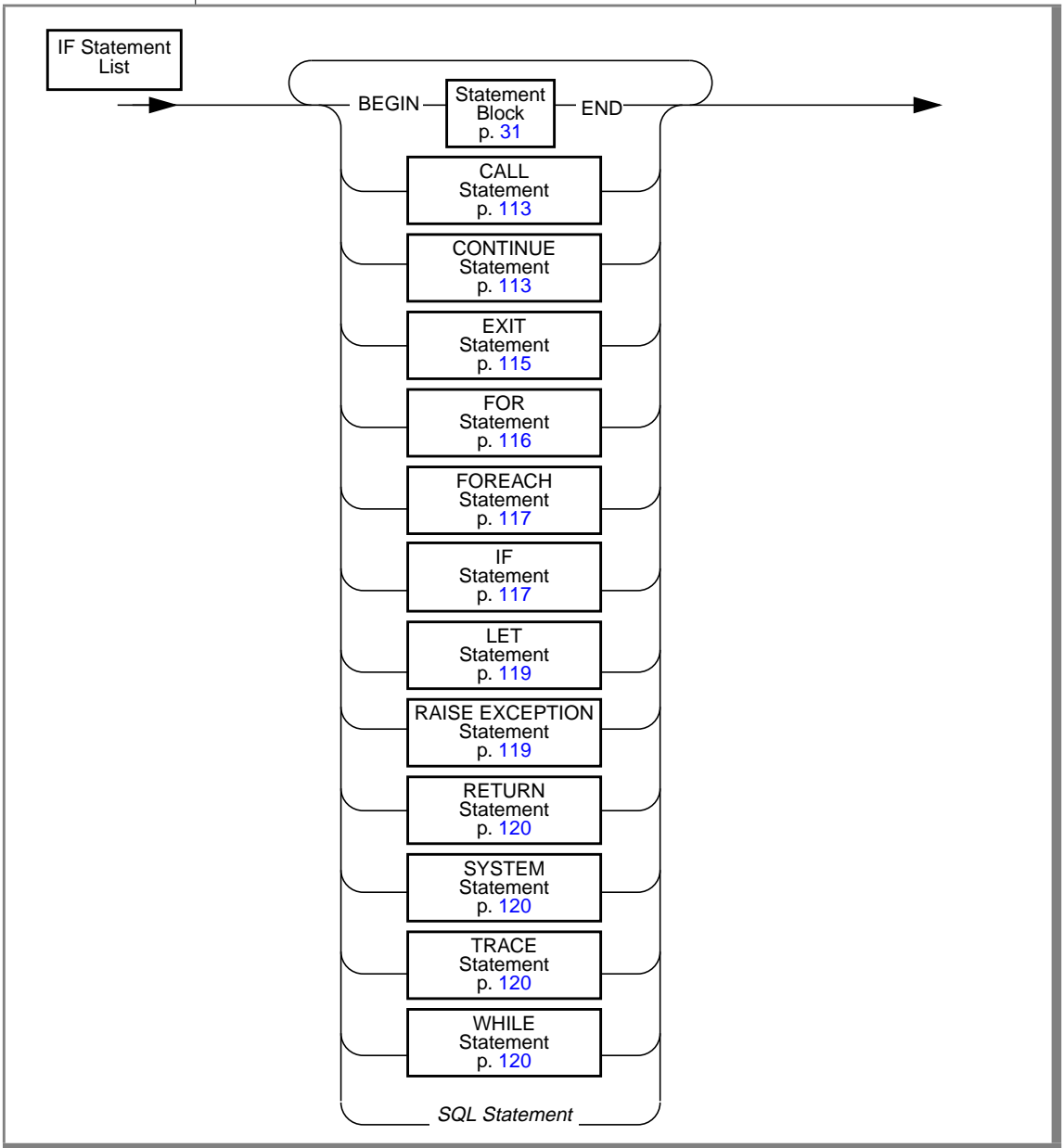
## FOREACH



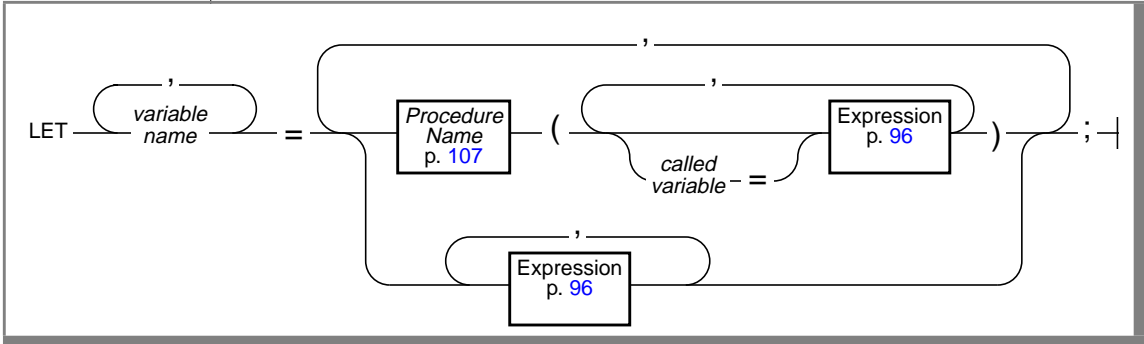
## IF



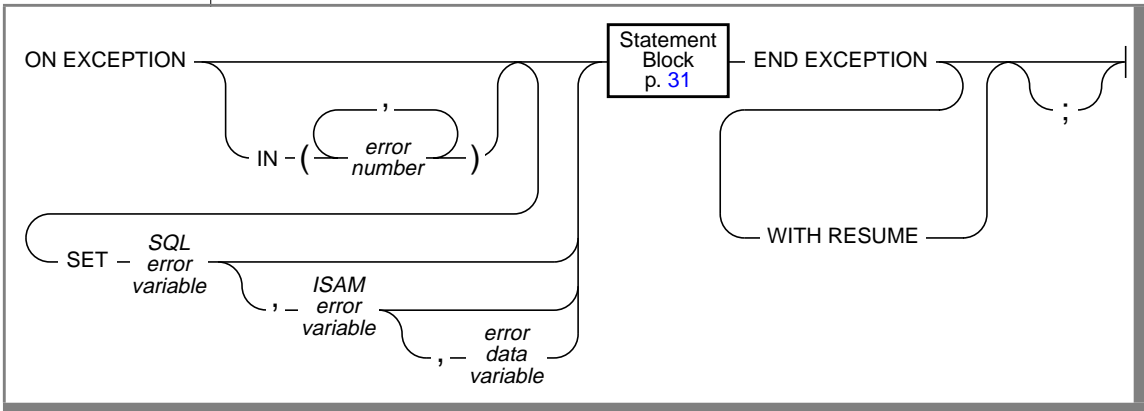
IF Statement List



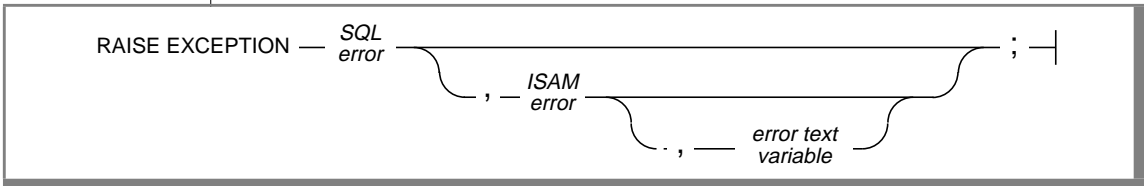
### LET



### ON EXCEPTION

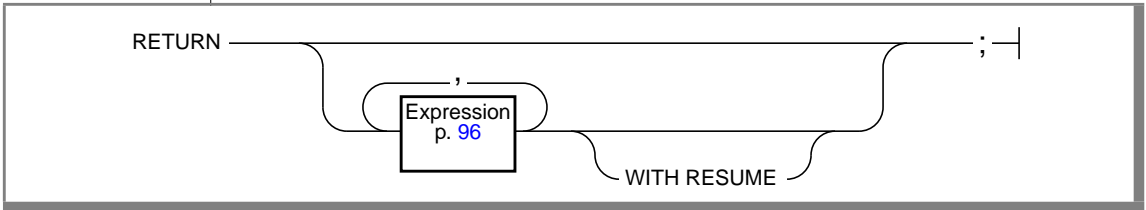


### RAISE EXCEPTION

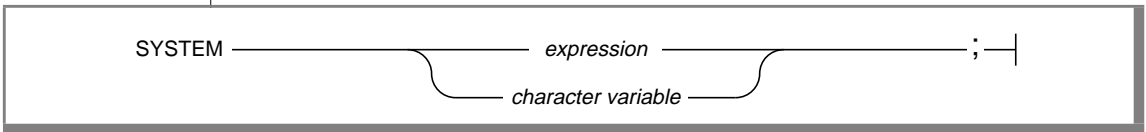


# RETURN

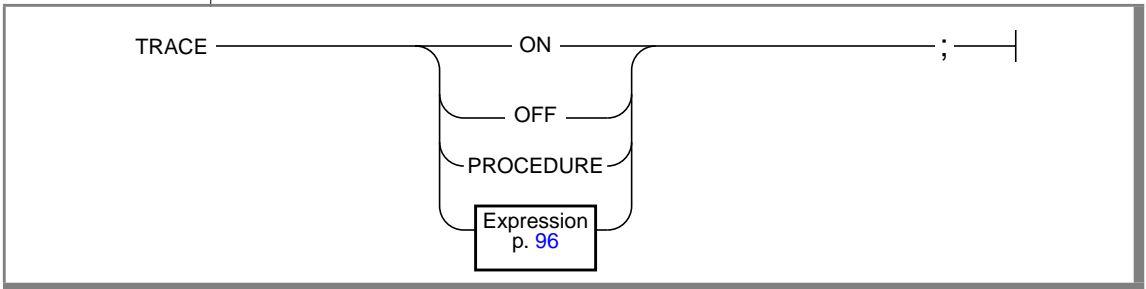
## RETURN



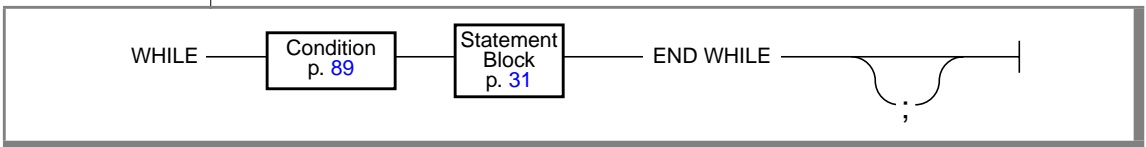
## SYSTEM



## TRACE



## WHILE





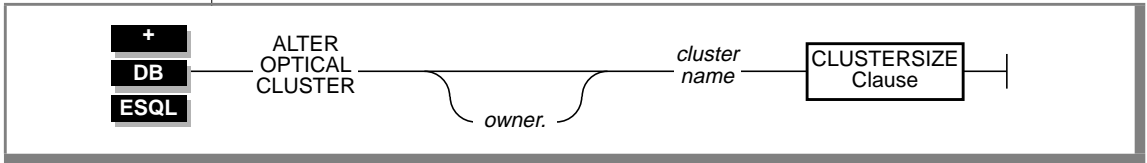
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# **INFORMIX-OnLine Optical Statements**

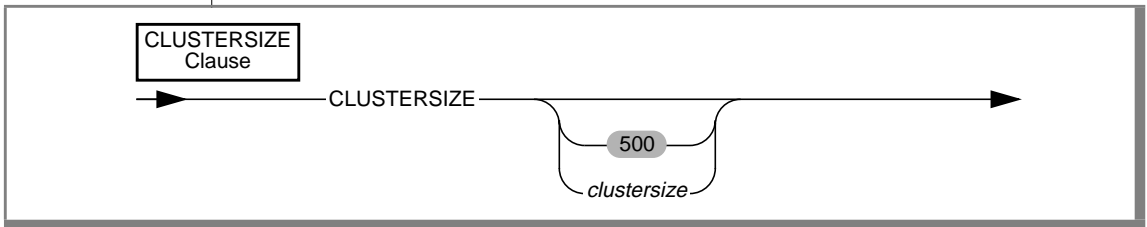
## **Section IV**



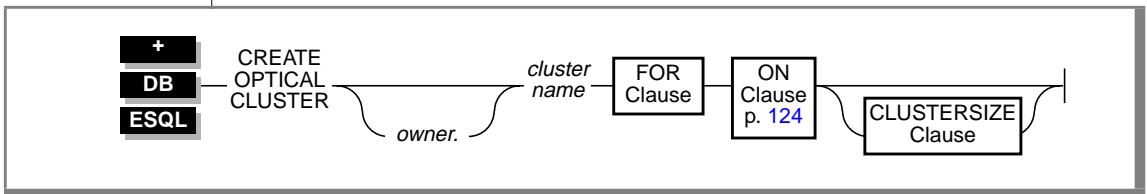
## ALTER OPTICAL CLUSTER



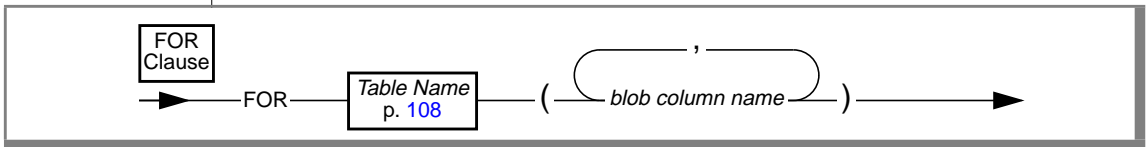
### CLUSTERSIZE Clause



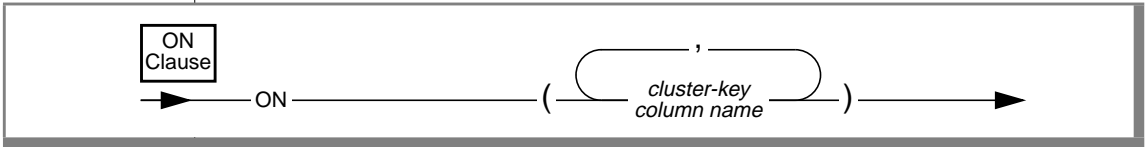
## CREATE OPTICAL CLUSTER



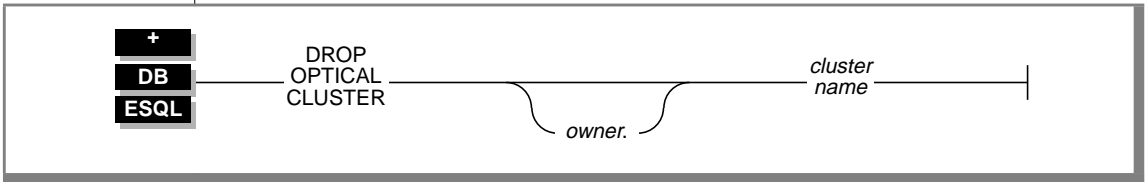
### FOR Clause



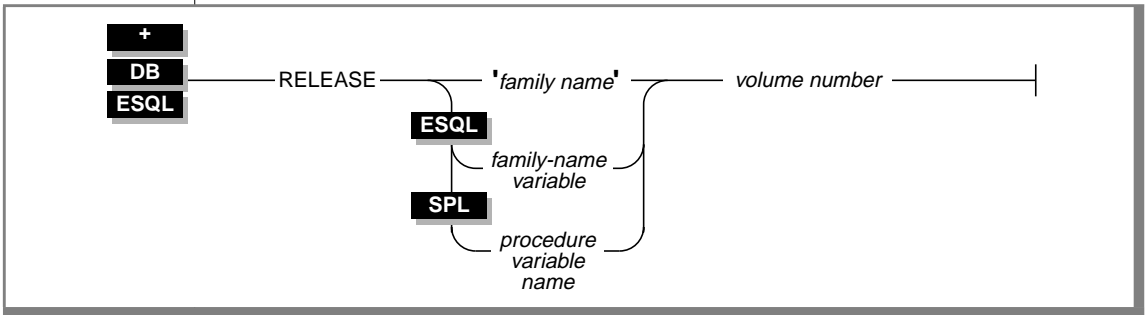
ON Clause



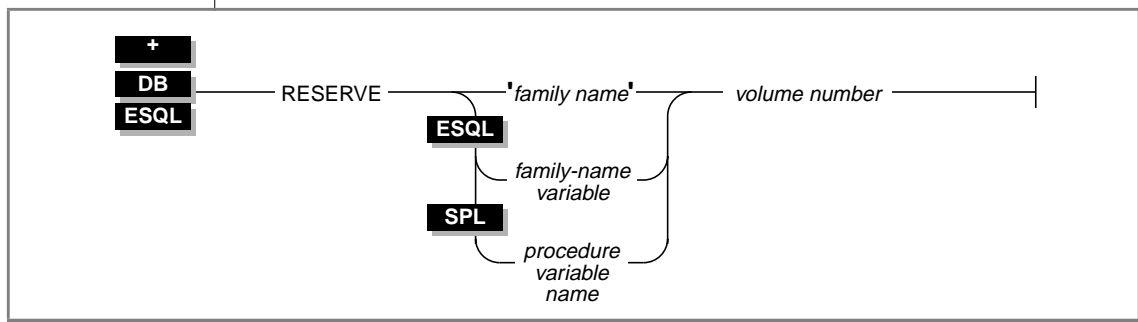
**DROP OPTICAL CLUSTER**



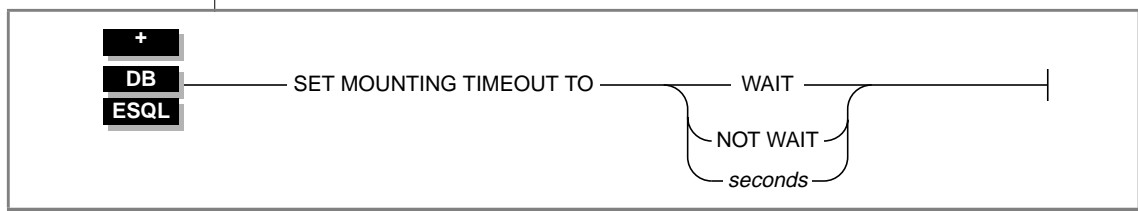
**RELEASE**



## RESERVE



## SET MOUNTING TIMEOUT



## Function Expressions

