CS 649 Database Management Systems

Oracle Data Types

CHAR (size [BYTE CHAR])	Fixed-length character data of length <i>size</i> bytes or characters.	Fixed for every row in the table (with trailing blanks); maximum size is 2000 bytes per row, default size is 1 byte per row. Consider the character set (single-byte or multibyte) before setting <i>size</i> .
VARCHAR2 (size [BYTE CHAR])	Variable-length character data, with maximum length <i>size</i> bytes or characters.	Variable for each row, up to 4000 bytes per row. Consider the character set (single-byte or multibyte) before setting <i>size</i> . A maximum <i>size</i> must be specified.
NCHAR (size)	Fixed-length Unicode character data of length <i>size</i> characters.	Fixed for every row in the table (with trailing blanks). Column <i>size</i> is the number of characters. (The number of bytes is 2 times this number for the AL16UTF16 encoding and 3 times this number for the UTF8 encoding.) The upper limit is 2000 bytes per row. Default is 1 character.
NVARCHAR2 (size)	Variable-length Unicode character data of length <i>size</i> characters. A maximum <i>size</i> must be specified.	Variable for each row. Column <i>size</i> is the number of characters. (The number of bytes may be up to 2 times this number for a the AL16UTF16 encoding and 3 times this number for the UTF8 encoding.) The upper limit is 4000 bytes per row. Default is 1 character.
CLOB	Single-byte character data	Up to 2 ³² - 1 bytes, or 4 gigabytes.
NCLOB	Unicode national character set (NCHAR) data.	Up to 2 ³² - 1 bytes, or 4 gigabytes.
LONG	Variable-length character data.	Variable for each row in the table, up to 2^{32} - 1 bytes, or 2 gigabytes, per row. Provided for backward compatibility.
NUMBER (p, s)	Variable-length numeric data. Maximum precision <i>p</i> and/or scale <i>s</i> is 38.	Variable for each row. The maximum space required for a given column is 21 bytes per row.
DATE	Fixed-length date and time data, ranging from Jan. 1, 4712 B.C.E. to Dec. 31, 4712 C.E.	Fixed at 7 bytes for each row in the table. Default format is a string (such as DD-MON-RR) specified by the NLS_DATE_FORMAT parameter.
	4712 C.E.	

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BLOB	Unstructured binary data	Up to 2 ³² - 1 bytes, or 4 gigabytes.
BFILE	Binary data stored in an external file	Up to 2 ³² - 1 bytes, or 4 gigabytes.
RAW (size)	Variable-length raw binary data	Variable for each row in the table, up to 2000 bytes per row. A maximum <i>size</i> must be specified. Provided for backward compatibility.
LONG RAW	Variable-length raw binary data	Variable for each row in the table, up to 2 ³¹ - 1 bytes, or 2 gigabytes, per row. Provided for backward compatibility.
ROWID	Binary data representing row addresses	Fixed at 10 bytes (extended ROWID) or 6 bytes (restricted ROWID) for each row in the table.