

DB - Tutorial 3

1. List the main categories of MS SQL Data Types

SQL Server data types are grouped into the following categories:

- Numeric Data Types
- Character (String) Data Types
- Date and Time Data Types
- Binary Data Types
- Special Data Types

2. List different types of Numeric data Types stating the storage and range for each one.

Data Type	Storage	Range	Example
BIT	1 bit	0 or 1	1
TINYINT	1 byte	0 to 255	200
SMALLINT	2 bytes	-32,768 to 32,767	15000
INT	4 bytes	±2 billion	1000
BIGINT	8 bytes	Very large integers	9000000000
DECIMAL(p,s)	Variable	Exact decimal	12.50
NUMERIC(p,s)	Variable	Same as DECIMAL	99.99
MONEY	8 bytes	Currency values	1500.75
SMALLMONEY	4 bytes	Smaller currency	500.25

3. Compare between char(50), varchar(50), and nvarchar(50) regarding Length type, Unicode (multi-language), storage for entry example "Ali", Max Size, and when to use it.

Feature	CHAR(50)	VARCHAR(50)	NVARCHAR(50)
Length Type	Fixed	Variable	Variable
Unicode	✗ No	✗ No	✓ Yes
Storage for 'Ali'	50 bytes	5 bytes	8 bytes
Max Size	50 bytes	50 bytes	100 bytes
Best For	Fixed codes	English text	Multilingual text

Type	Meanin	
Char (50)	Each entry has a fixed size 50 character	