Deep Dive

SQL

Data Types

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Data types:

- ✓ CHARACTER
- ✓ VARCHAR
- ✓ BOOLEAN
- ✓ SMALL INT
- ✓ INTEGER
- ✓ DECIMAL
- ✓ FLOAT
- ✓ DATETIME
- ✓ CLOB
- ✓ BLOB

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CHAR

- ✓ Fixed length strings
- ✓ Fastest lookup for strings if properly structured
- ✓ Takes 100% space allocated
- ✓ 1 to 255 characters

Use:

CHAR(10)

Proper Use:

“5555555555”

“999999999”

Improper Use:

5555555555

“Jon Snow”

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VARCHAR

- ✓ Variable length strings
- ✓ Slower performance than properly formatted CHAR
- ✓ Dynamic memory allocation
- ✓ 1 to 65,535 characters

Use:

VARCHAR(150)

Proper Use:

“Any type of string with variable sizes”

Improper Use:

5555555555

“5555555555”

“999999999”

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BOOLEAN

✓ True or false values

Use:

BOOLEAN

Proper Use:

true
false
TRUE
FALSE

Improper Use:

0, 1
T, F
Yes, No
‘Anything besides true/false’

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SMALLINT

- ✓ Integers ranging from 32768 through -32768
- ✓ Decimals are truncated

Use:

SMALLINT

Proper Use:

32768
-32768
42.5 # => 42

Improper Use:

32769
‘any string’
100000

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INTEGER

✓ Integers ranging from 2147483647 & -2147483647
✓ Decimals are truncated

Use:

INTEGER or INT

Proper Use:

2,147,483,647
- 2,147,483,647
42.5 # => 42

Improper Use:

2,147,483,648
‘any string’
3,000,000,000

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DECIMAL

- ✓ Allows for decimal based values
- ✓ Works with precision and scale
- ✓ No more than 38 digits

Use:

DECIMAL
DECIMAL(precision, scale)

Proper Use:

DECIMAL(4, 3) # => 9.834
DECIMAL(7, 2) # => 42215.85

Improper Use:

‘any string’
38493024859398723 40.9238472340293842 34

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FLOAT

- ✓ Large numeric values
- ✓ 179 followed by 306 zeros
- ✓ Doesn’t require explicit precision/scale
- ✓ Poor for comparison

Use:

FLOAT

Proper Use:

9.834
234234222422215.85232

Improper Use:

‘any string’
9.5 = 9.5 # may not be equal

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DATETIME

- ✓ Date/Time values
- ✓ January 1, 1753 through December 31, 9999

Use:

DATETIME

Proper Use:

1968-10-23 1:45:37.123
1972-11-05 00:00:00.000

Improper Use:

‘any string’
10-23-1968 1:45:37.123

CLOB

- ✓ Very large character based data
- ✓ Up to 2GB
- ✓ Character Large Object

Use:

CLOB

Proper Use:

“Very very large strings”

Improper Use:

‘any small string’
934

BLOB

- ✓ Very large binary based data
- ✓ Up to 2GB
- ✓ Binary Large Object

Use:

BLOB

Proper Use:

Binary based image file

Improper Use:

‘any small string’
934