Data Types

There's More to Discuss!

Storing Text

VARCHAR

CHAR

What's The Difference?

CHAR has a fixed length

CHAR has a fixed length

Char(3) -> Only 3 Characters Allowed

Some Really Boring Explanatory Text

The length of a CHAR column is fixed to the
length that you declare when you create the table.
The length can be any value from 0 to 255.
When CHAR values are stored, they are right-padded
with spaces to the specified length. When CHAR
values are retrieved, trailing spaces are removed
unless the PAD_CHAR_TO_FULL_LENGTH SQL mode is enabled.

CHAR is faster for fixed length text

State Abbreviations: CA, NY

Yes/No Flags: Y/N

Sex: M/F

Otherwise...

Otherwise...

USE

VARCHAR

Check out this table!

Value	Char(4)	Storage	Varchar(4)	Storage
' '	' '	4 bytes	' '	1 byte
'ab'	'ab '	4 bytes	'ab'	3 bytes
'abcd'	'abcd'	4 bytes	'abcd'	5 bytes
'abcdefg'	'abcd'	4 bytes	'abcdefg'	5 bytes

NUMBERS

INT
WHOLE NUMBERS

DECIMAL

DECIMAL(13, 2)

DECIMAL(5, 2)

Total Number Of Digits

↓

DECIMAL(5, 2)

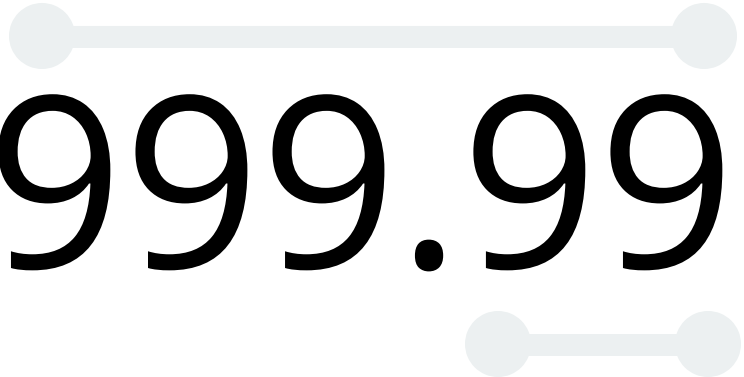Total Number Of Digits

DECIMAL(5, 2)

Digits After Decimal

DECIMAL(5, 2)

5 Digits

999.99

2 Digits

But there's also...

But there's also...
FLOAT

But there's also...
FLOAT
and DOUBLE???

Store larger numbers using less space

Store larger numbers using less space

BUT.....

Store larger numbers using less space

BUT.....

(and it's a big BUT)

Store larger numbers using less space

BUT.....

(and it's a big BUT)

It comes at the cost of precision

Look, I made a table!

Data Type	Memory Needed	Precision Issues
FLOAT	4 Bytes	~7 digits
DOUBLE	8 Bytes	~15 digits

So Which Do I Use?

On To
Dates & Times

DATE

Values With a Date But No Time

DATE

Values With a Date But No Time

'YYYY-MM-DD' Format

TIME

Values With a Time But No Date

TIME

Values With a Time But No Date

'HH:MM:SS' Format

DATETIME

Values With a Date AND Time

DATETIME

Values With a Date AND Time

'YYYY-MM-DD HH:MM:SS' Format

I Typically Use DATETIME

Let's Try It Out!

Some Useful Date Functions

Formatting
DATES

DATE
MATH

TIMESTAMPS?!

YOUR
TURN

What's a good use case for CHAR?

(just make one up)

Fill In The Blanks

```
CREATE TABLE inventory (
    item_name _____,
    price _____,
    quantity _____
);
```

(price is always < 1,000,000)

What's the difference between DATETIME and TIMESTAMP?

Print Out The Current Time

Print Out The Current Date (but not time)

Print Out The Current Day Of The Week

(The Number)

Print Out The Current Day Of The Week

(The Day Name)

Print out the current day and time using this format:

mm/dd/yyyy

Print out the current day and time using this format:

January 2nd at 3:15

April 1st at 10:18

Create a tweets table that stores:

- The Tweet content
- A Username
- Time it was created

Pat Yourself On The Back