Dating... Nothing

What's a Computer to Make of These?

3/18/71	**Take 3, divide by 18. Then divide the result by 71**
12-2-1999	**Take 12, subtract 2. Then subtract 1999.**
Jul 4 1776	**Ummm…**
9-11	**9 minus 11**

Which is Greater?

3/18/71	0.00234741784
12-2-1999	-1989
Jul 4 1776	Ummm...
9-11	-2

MySQL: Date and DATETIME

- DATE field format is YYYY-MM-DD

  ```
  1000-01-01

  9999-12-31
  ```

- DATETIME field format is YYYY-MM-DD HH:MM:SS

  ```
  1000-01-01 00:00:00
  9999-12-31 23:59:59
  ```

You Do The Math...

- How many days between...?

  ```
  1960-03-18
  2014-02-26
  ```

- How many people added to DB in the last 600 days?

- What was the busiest week of the year?

- Average pizza delivery time on weekends?

- What is a month of Sundays?

Really, it's all integer to me…

- Databases really store dates and times as integers.

  `21993 = 1960-03-18`

- MySQL accepts and presents the following:

  `YYYY-MM-DD (or YY-MM-DD)`

  `YYYY-MM-DD HH:MM:SS (or YY-MM-DD…)`

- Client takes this and presents it to the user in hundreds of permutations

Really, it's all integer to me...

```php
<?php
// Assuming today is March 10th, 2001, 5:16:18 pm, and that we are in the
// Mountain Standard Time (MST) Time Zone

$today = date("F j, Y, g:i a");                       // March 10, 2001, 5:16 pm
$today = date("m.d.y");                               // 03.10.01
$today = date("j, n, Y");                             // 10, 3, 2001
$today = date("Ymd");                                 // 20010310
$today = date('h-i-s, j-m-y, it is w Day');           // 05-16-18, 10-03-01, 1631 1618 6 Satpm01
$today = date('\i\t \i\s \t\h\e jS \d\a\y.');         // it is the 10th day.
$today = date("D M j G:i:s T Y");                     // Sat Mar 10 17:16:18 MST 2001
$today = date('H:m:s \m \i\s\ \m\o\n\t\h');           // 17:03:18 m is month
$today = date("H:i:s");                               // 17:16:18
$today = date("Y-m-d H:i:s");                         // 2001-03-
10 17:16:18 (the MySQL DATETIME format)
?>
```

NULLS

- Indicates that a data value does not exist
- Not the same as "zero" or "no" or "N/A"
- Controversial (several ways to "read" its meaning.)
- Even Codd regrets the NULL
- Can throw off aggregate functions
- Most commonly used as a placeholder

It's Not My Default!

- Lacking any user-supplied value, the field will contain…
- NULL is most common
- Integer ('0' is standard for numeric fields)
- String (Bob's BBQ is Best!)
- CURRENT_TIMESTAMP (Timestamp field type only)
- Not for text and BLOB field types

Triggers

- Code that is run automatically when one executes...
  - Insert
  - Update
  - Delete

```
CREATE TRIGGER `PersonsBeforeInsert`  BEFORE INSERT ON `persons`
FOR EACH ROW
SET
  NEW.NickName = 'Bubba';
```