Integrity Constraints

Relational Database Design

Session Outline

- What are integrity constraints, and why do we need them?

Integrity Constraints

- What are integrity constraints?
- It’s a feature that you can set when designing tables
- It enforces data integrity
- Makes sure that the data is complete and accurate

Integrity Constraints

- What kind of constraints can you apply?
- This depends on your database
- You can specify general constraints
- Kind of like requirements for formatting and allowed values

Constraint Examples

- **Null** – value can be empty (or optional)
- **Not Null** – value must be present (or mandatory)
- **Data Range** – some data needs to be within a certain range
  - Dates must be after a certain date
  - Numbers might need to be a certain length (e.g. greater than 5 digits)

Applying Constraints

- How do you know what constraints to apply?
- Work out the kind of data that should be enforced or limited in your database
- Do dates need to be after a certain date?
- Do numbers need to be a certain size?
- Do text fields need to always contain a value

Summary

- Integrity constraints are conditions or rules that you can put on fields to ensure that data integrity is maintained
- Null, not null, and data range constraints are some examples of these

Action

1. Look at each of the fields in your database
2. Do you need to restrict them in some way?
3. Which of the fields are required for your database?

What's Next?

- Look at naming conventions for fields and tables