1. Why do they call it a relational database?

Data has a more structured relationship to each other view keys in a one:many or many:many quantity relationship.

1. What is SQL?

Language to retrieve/edit/delete/update/join data inside of a relational database.

1. There are two predominant views into a relational database. What are they, and how are they different?

Schema view and data view. Schema view is structure for how data and tables are organizes and data view is what is actually inside the tables as the data itself.

1. In a table, what do we call the column that serves as the main identifier for a row of data? We're looking for the general database term, not the column name.

Primary key.

1. What is a foreign key, and how is it used?

A foreign key is the primary key of another table, used on the “many” side of one:many or many:many relationships. Used as unique identifier to link tables.

1. At a high level, describe the ActiveRecord pattern. This has nothing to do with Rails, but the actual pattern that ActiveRecord uses to perform its ORM duties.

Each row is an object and each column has getter/setter methods.

1. If there's an ActiveRecord model called "CrazyMonkey", what should the table name be?

crazy\_monkies

1. If I'm building a 1:M association between Project and Issue, what will the model associations and foreign key be?

Project model has “has\_many :issues” and Issue model has “belongs\_to :project”

Foreign key will be “project\_id” on the issues table

1. Given this code

class Zoo < ActiveRecord::Base

has\_many :animals

end

* What do you expect the other model to be and what does database schema look like?

class Animal < ActiveRecord::Base

belongs\_to :Zoo

end

Database schema would probably have a string for the name of the animal, an automatically generated unique id for the animal, and a foreign key of zoo\_id

* What are the methods that are now available to a zoo to call related to animals?

Standard array calls like size, find

* How do I create an animal called "jumpster" in a zoo called "San Diego Zoo"?

animal = Animal.new

animal.name = “Jumpster”

animal.zoo = “San Diego Zoo”

1. What is mass assignment? What's the non-mass assignment way of setting values?

Mass assignment is adding data across a lot of “cells” at once.

The non-mass way is to use the setter method on the row object

1. What does this code do? Animal.first

Returns the first object in the animal table array

1. If I have a table called "animals" with columns called "name", and a model called Animal, how do I instantiate an animal object with name set to "Joe". Which methods makes sure it saves to the database?

a = Animal.new

a.name = “Joe”

a.save

1. How does a M:M association work at the database level?

Joined via a third table with two columns of foreign keys

1. What are the two ways to support a M:M association at the ActiveRecord model level? Pros and cons of each approach?

One is “belongs to and has many” 🡨 quicker to build, but causes problems if need to add columns later.

Other is “has many, through” 🡨 better practice these days and helpful for unknown columns that will be needed later

1. Suppose we have a User model and a Group model, and we have a M:M association all set up. How do we associate the two?

Under both models add “has many” and “has many, through”… set up migration/model for a joined table filled with two separate foreign keys