

Quiz 3 - DB & Active Record

Full name

Q1 - What's a relational database?

Q2 - What are the different "table relationships" you know?

Q3 - Consider this e-library service. An author, defined by his name has several books. A book, defined by its title and publishing year, has one author only. What's this simple database scheme. Please draw it!

Authors	Books
author_id	book_id
name	title
	year
	author_id_FK

Q4 - A user, defined by his email, can read several books. A book (e-book!!) can be read by several users. We also want to keep track of reading dates. Improve your e-library DB scheme with relevant tables and relationships.

Q5 - What's the language to make queries to a database?

Q6 - What's the query to get books written before 1985?

Q7 - What's the query to get the 3 most recent books written by Jules Verne?

Q8 - What's the purpose of Active Record?

Q9 - What's a migration? How do you run a migration?

Q10 - Complete migrations to create your e-library database.

```
1 class CreateAuthors < ActiveRecord::Migration[5.1]
2   def change
3     create_table :authors do |t|
4
5
6
7   end
8 end
```

```
1 class CreateBooks < ActiveRecord::Migration[5.1]
2   def change
3
4
5
6
7   end
8 end
```

```
1 class CreateUsers < ActiveRecord::Migration[5.1]
2   def change
3
4
5
6
7   end
8 end
```

```
1 class CreateReadings < ActiveRecord::Migration[5.1]
2   def change
3
4
5
6
7   end
8 end
```

Q11 - Write a migration to add a `category` column to the `books` table.

```
1 class AddCategoryToBooks < ActiveRecord::Migration[5.1]
2   def change
3
4
5   end
6 end
```

Q12 - Define an Active Record model for each table of your DB. Add the Active Record associations between models.

```
1 class
2
3
4
```

```
1 class
2
3
4
```

```
1 class
2
3
4
```

```
1 class
2
3
4
```

Q13 - Complete the following code using the relevant Active Record methods.

```
1 #1. Add your favorite author to the DB
2
3 #2. Get all authors
4
5 #3. Get author with id=8
6
7 #4. Get author with name="Jules Verne", store it in a variable: jules
8
9 #5. Get Jules Verne's books
10
11 #6. Create a new book "20000 Leagues under the Seas", it's missing
12 # in the DB. Store it in a variable: twenty_thousand
13
14 #7. Add Jules Verne as this book's author
15
16 #8. Now save this book in the DB!
17
18 # The end
```

Q14 - Add validations of your choice to the `Author` class. Can we save an object in DB if its validations do not pass?