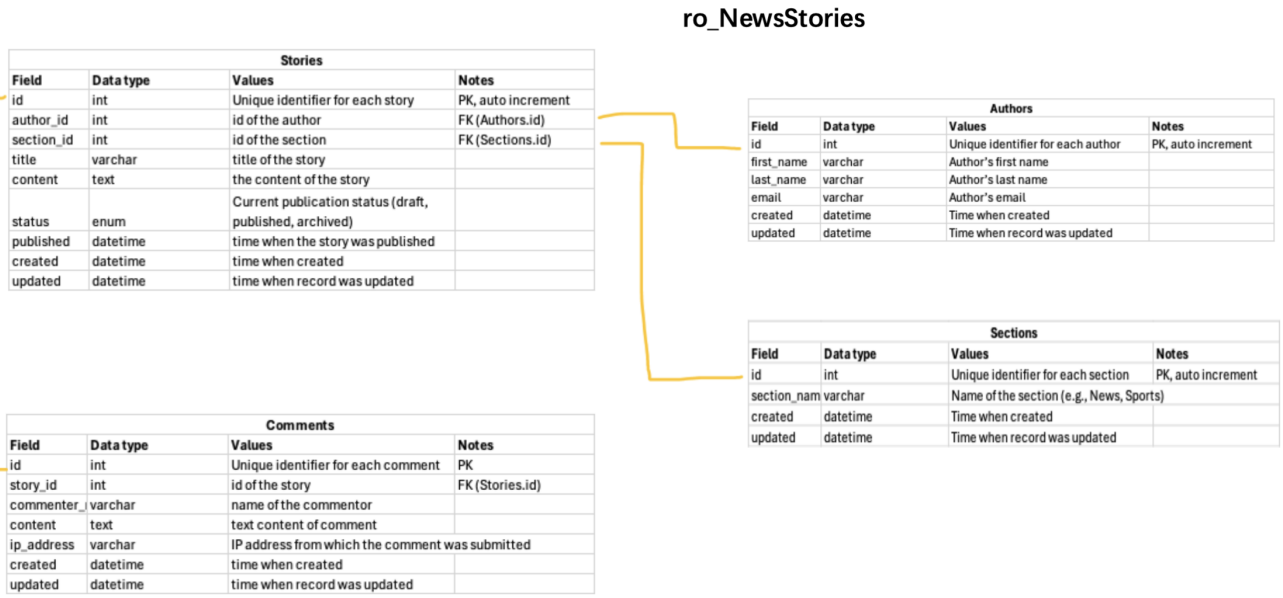
Homework 7

FROM: Jonas Zhonghan Xie
TO: Raj
SUBJECT: RE: Request from Raj

Hi Raj,

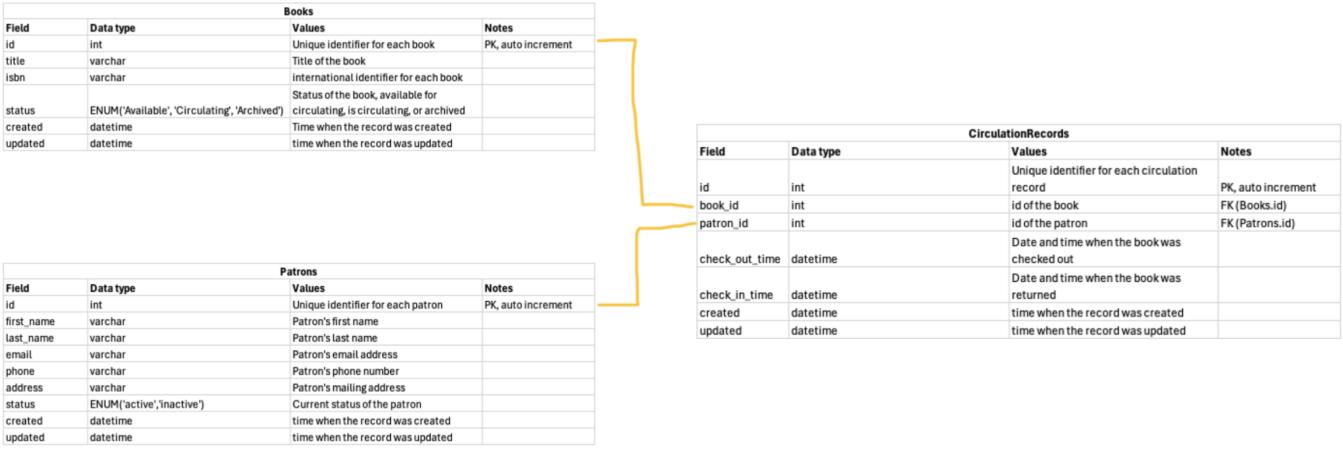
Thank you for reaching out. Hope you are doing well! I have installed the Data Grip on my laptop.

I have also designed the two normalized database schemas for the newspaper website and the library circulation system. The ERD is attached to this email. For the newspaper website, I have designed a schema with 4 tables: `Stories`, `Authors`, `Sections`, and `Comments`.



For the library circulation system, I have designed a schema with 3 tables as you required: `Books`, `Patrons`, and `CirculationRecords`.

ro_BookCirculation



Books

Field	Data type	Values	Notes
id	int	Unique identifier for each book	PK, auto increment
title	varchar	Title of the book	
isbn	varchar	international identifier for each book	
status	ENUM('Available', 'Circulating', 'Archived')	Status of the book, available for circulating, is circulating, or archived	
created	datetime	Time when the record was created	
updated	datetime	time when the record was updated	

Patrons

Field	Data type	Values	Notes
id	int	Unique identifier for each patron	PK, auto increment
first_name	varchar	Patron's first name	
last_name	varchar	Patron's last name	
email	varchar	Patron's email address	
phone	varchar	Patron's phone number	
address	varchar	Patron's mailing address	
status	ENUM('active','inactive')	Current status of the patron	
created	datetime	time when the record was created	
updated	datetime	time when the record was updated	

CirculationRecords

Field	Data type	Values	Notes
id	int	Unique identifier for each circulation record	PK, auto increment
book_id	int	id of the book	FK (Books.id)
patron_id	int	id of the patron	FK (Patrons.id)
check_out_time	datetime	Date and time when the book was checked out	
check_in_time	datetime	Date and time when the book was returned	
created	datetime	time when the record was created	
updated	datetime	time when the record was updated	

For creating the backup of the `world` database, I first saved the `world` database on my personal laptop using the command:

```
mysqldump -h 34.45.141.24 --port 12373 -u jonasxie-rw -p world --set-gtid-purged=OFF > mars.sql
```

I created the database called `mars` on the server using the command: `CREATE SCHEMA mars;`

Then I uploaded the `mars.sql` to the server using the command:

```
mysql -h 34.45.141.24 --port 12373 -u jonasxie-rw -p mars < mars.sql
```

```
mysql> CREATE SCHEMA mars;
Query OK, 1 row affected (0.06 sec)

mysql> SHOW DATABASES;
+--------------------+
| Database           |
+--------------------+
| bikes              |
| classicmodels      |
| information_schema |
| kubedb_system      |
| mars               |
| mysql              |
| performance_schema |
| ro_company1        |
| ro_employees       |
| ro_query           |
| ro_recipes         |
| ro_research1       |
| ro_twitter         |
| sakila             |
| sys                |
| world              |
+--------------------+
16 rows in set (0.06 sec)

mysql> exit
Bye
zhonghanxie@Zhonghans-Laptop ~ % mysql -h 34.45.141.24  --port 12373 -u jonasxie-rw -p mars < mars.sql
Enter password:
```

```
mysql> SHOW DATABASES;
+--------------------+
| Database           |
+--------------------+
| bikes              |
| classicmodels      |
| information_schema |
| kubedb_system      |
| mars               |
| mysql              |
| performance_schema |
| ro_company1        |
| ro_employees       |
| ro_query           |
| ro_recipes         |
| ro_research1       |
| ro_twitter         |
| sakila             |
| sys                |
| world              |
+--------------------+
16 rows in set (0.05 sec)

mysql> USE mars;
Reading table information for completion of table and column names
You can turn off this feature to get a quicker startup with -A

Database changed
mysql> SHOW TABLES;
+-----------------+
| Tables_in_mars  |
+-----------------+
| city            |
| country         |
| countrylanguage |
+-----------------+
3 rows in set (0.06 sec)
```

Let me know if you have any additional questions about the ERDs and the backup of database. Thank you!

Best,

Jonas