Midterm 2 Review

Important Topics:

Primary Key Violations:

• Pointing to a column that does not exist
• Having two or more primary keys in a table
• Mismatched Data type

Foreign Key violations:

• Referencing a table that does not exist
• Partial Key violation

Triggers: Before and After Triggers

JDBC:

• executeQuery
• preparedStatements
• resultSet (getInt, getString, getFloat, getBoolean)
• 1,......n
• try catch or throw
• rs.next() -> Query through each row

TABLE students(int id, name varchar, age int)

rs.getInt(1) -> id
rs.getString(2) -> name
rs.getInt(3) -> age

Exception Catching:

```
public static void main throws SQLException

try{

}catch(Error e){

}
```

Stored Procedures:

CREATE Procedure InsertIntoTable
     (IN id int,
  IN name varchar,
  IN date Date)
INSERT into x VALUES(id, name, date)

CALL Procedure InsertIntoTable(1, "hello" 2023-04-03);

Persistent Stored Modules(PSMs):

Bunch of Procedures put together, stored to the database

Transactions:

Atomicity - All or none, cannot have partial

T1   Table

(read)

Consistent - Consistency of data

T1   Table

INSERT into x(Date, Varchar, INT)   x(Varchar, Date, INT)

Isolated - Must not interfere

T1   T2

(read)   (read)
              (write)
Durabliity - Transaction is saved even with system failure

View Serializability:

A schedule is view serializable if its view equivalent to a serial schedule

View Equivalency:

1. Initial Read - Reads must happen from same transaction:

T1	T2		T1	T2
				Write(A)
Read(A)			Read(A)	
	Write(A)			

Schedule 1   Schedule

2. Updated Read:

In schedule S1, if Ti is reading A which is updated by Tj, then S2, Ti should read A which is updated by Tj

3. Final Write

The final write must be the same between 2 schedules.In S1, If a transaction T1 updates A at last then in S2, final write operations should also be done by T1.

Good luck on your midterm, feel free to reach out anytime before with questions