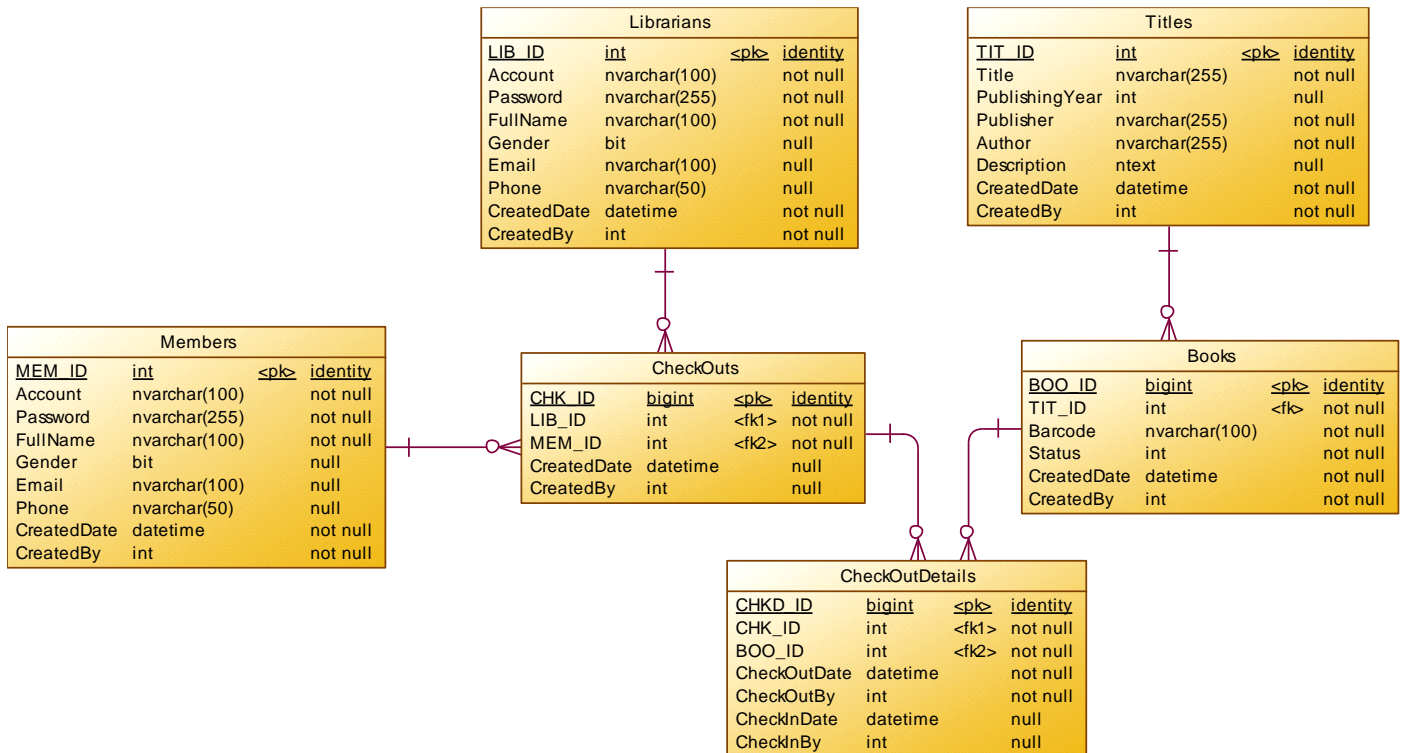


FINAL EXAM: BACK-END

Date: **Monday, Sep 23th, 2019**

Duration: **120 minutes**

Given a database diagram as below



Students have to complete the following requirements:

- (5 points)** Create a new Microsoft SQLServer database named "<StudentName>Final", then create tables using above diagram. (use given database script file)
- (5 points)** Create a new Web Api project project named "<StudentName>Final".
- (30 points)** Create model objects for tables above.
- (10 points)** Create a login api for librarian
 - Requirement:
 - If users provide wrong username or password, return failed status "**wrong user name or password**".
 - If users provide correct username and password, return success information
 - Method: POST
 - Url: </api/librarian/login>
 - Input body: username, password
- (25 points)** Create apis for title

Method	Url	Description	Input	Output
GET	/api/ title	List all title information		List of title information in JSON format
GET	/api/ title /<id>	Get 1 title information	Title Id	A title information in JSON format

POST	/api/ title	Add new new title	Title object	Created title information in JSON format
PUT	/api/ title /<id>	Update an existing title	Title Id Title object	New information of title in JSON format
DELETE	/api/ title /<id>	Delete an existing title	Title Id	Successful or Failed message.

6. **(10 points)** Create an api to search “**checkout**” information
 - a. Requirement: when a member wants to search “**checkout**” information, he or she has to input: book member or librarian name. The api should find the member names or librarian names contains the search key, then return the list of checkouts include the following information:
 - i. Checkout Id (CHK_ID)
 - ii. Created Date
 - iii. Member Name
 - iv. Librarian Name
 - v. Number of book was/were borrowed
 - b. Method: GET
 - c. Url: [/api/checkout/search/<search key>](#)
7. **(5 points)** Configure system to enable CORS.
8. **(10 points)** Configure system protects all apis except login apis.
 - a. Must return token key when members or librarians login successfully.
 - b. Have to pass token key to use protected apis.

-- The end --