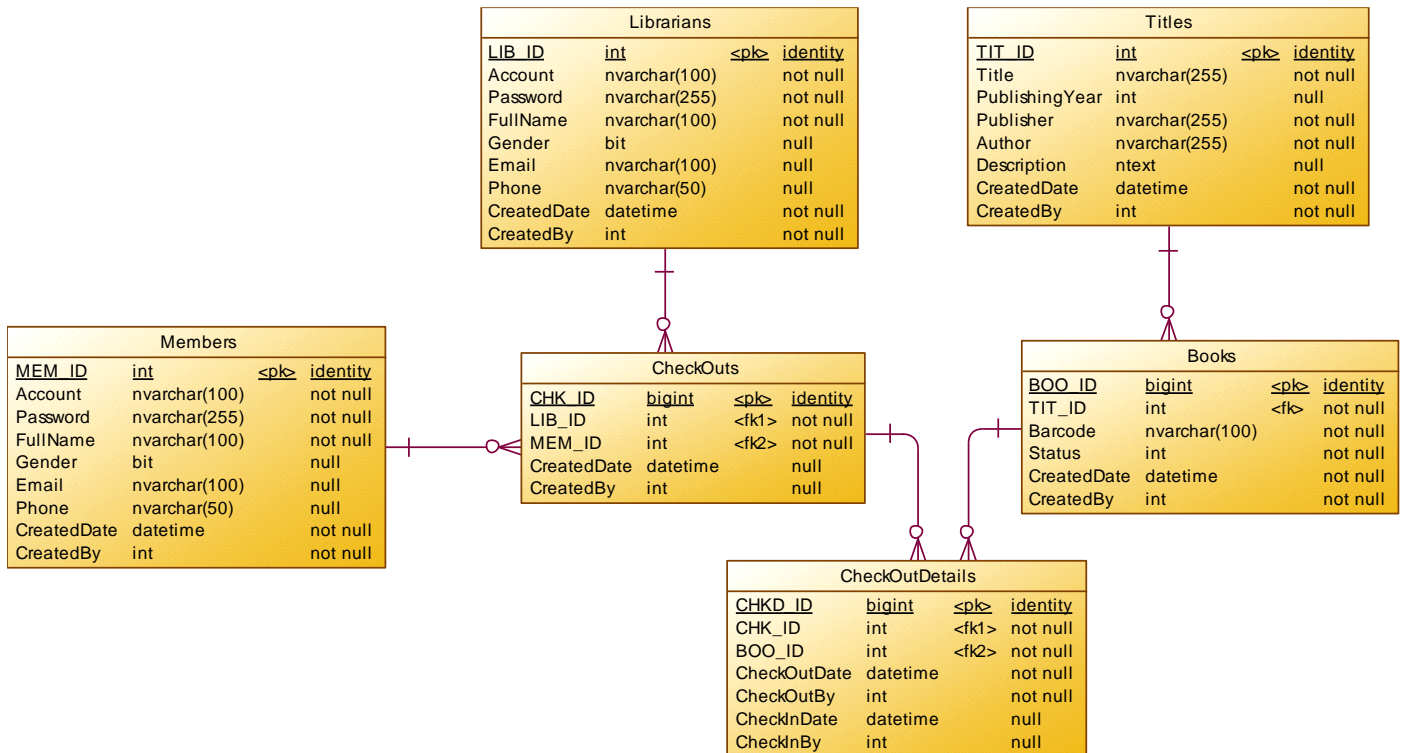


# FINAL EXAM: BACK-END

Date: **Friday, October 10<sup>th</sup>, 2018**

Duration: **180 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/member/login>
  - Input body: username, password
- (25 points)** Create apis for title

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

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

6. **(10 points)** Create an api to search available books in library
  - a. Requirement: when a member wants to search available books in library, he or she has to input: book title or publisher name or author name. The api should find the book titles or publisher names or author names contains the search key, then return the list of available books include the following information:
    - i. Book Id (BOO\_ID)
    - ii. Title Id (TIT\_ID)
    - iii. Book title
    - iv. Author
    - v. Publisher
    - vi. Available (Number of books have the status value equal to 0)
  - b. Method: GET
  - c. Url: </api/title/search-books/<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 --