**ENSF 612**

**Assignment #2**

Due Date: October 22, 2023

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Question 1

Method 8A below shows the entire relational schema diagram and referential integrity. Methods 8B, C, and D only show the changes in the model to implement each method.

*Method 8A:*

Sale

|  |  |  |
| --- | --- | --- |
| Company | Shipname | Ticket ID |

Cruise

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Port Locations | Dept  Date | Return  Date | Company | Shipname | Captain | Num  Of  Crew |

Passenger

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Ticket ID | Booking Date | Street | City | Province | Legal  Name |

Disney

|  |  |  |
| --- | --- | --- |
| Theme Park Visited | Company | Shipname |

Transatlantic

|  |  |  |
| --- | --- | --- |
| Visa Required | Company | Shipname |

River

|  |  |  |
| --- | --- | --- |
| Season | Company | Shipname |

*Method 8B:*

Disney

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Port Locations | Dept  Date | Return  Date | Company | Shipname | Captain | Num  Of  Crew | Theme  Park Visited |

Transatlantic

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Port Locations | Dept  Date | Return  Date | Company | Shipname | Captain | Num  Of  Crew | Visa  Required |

River

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Port Locations | Dept  Date | Return  Date | Company | Shipname | Captain | Num  Of  Crew | Season |

*Method 8C:*

Cruise

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Port Locations | Dept  Date | Return  Date | Company | Shipname | Captain | Cruise  Type | Num  Of  Crew | Theme Park Visited | Visa Required | Season |

*Method 8D:*

Cruise

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Port Locations | Dept  Date | Return  Date | Company | Ship  name | Captain | Num  Of  Crew | D  Flag | Theme Park Visited | T  Flag | Visa Required | R  Flag | Season |

Question 2

A diagram of a company

Description automatically generated with medium confidence

Assumptions:

* A book has only one publisher, they cannot have the same name as another publisher (therefore name is a primary key)
* A library branch can only have one, unique Branch ID
* A card holder can only have one, unique Card ID
* A book can only have one ISBN, making it a primary key
* Name is the foreign key of Writer because a writer cannot exist without a book to write
* Book copies, book holds, and book loans all represent the relationships between Cardholder, Library Branch, and Book entities