# C1- S4-PRACTICE

# Exercice 1

Q1 – Complete the **attributes type**s of Book and Read entities (5 points)

Q2 – Complete the **relation** between the Book and Reader entities (5 points)

|  |  |
| --- | --- |
| **Reader** | |
| ReaderID  Name  Class  Address | Numeric  String  String  String |

|  |  |
| --- | --- |
| **Book** | |
| BookID  Title  Publishment date  Language | Numeric  String  DateTime  String |

many

many

|  |  |
| --- | --- |
| **Reader** | |
| ReaderID  Name  Address  …………. | Numeric  String  String |

|  |  |
| --- | --- |
| **Book** | |
| BookID  Title  Language  ……………… | Numeric  String  String |

Q3 – We have created an **additional Associative table** to manage the previous relation between the Book and the Reader

* Complete the missing parts!

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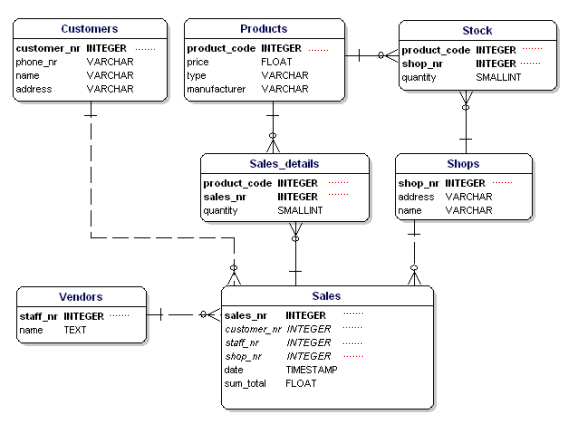
|  |  |
| --- | --- |
| **BookBorrow** | |
| BorrowID  Date borrow  Date return  ReaderID  BookID | PK  FK  FK |

many

many

# Exercise 2

Q1: complete the missing part of the model diagram below with PK as the primary or FK foreign key.

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PK

PK

PK

FK

FK

PK

FK

PK

PK

FK

PK

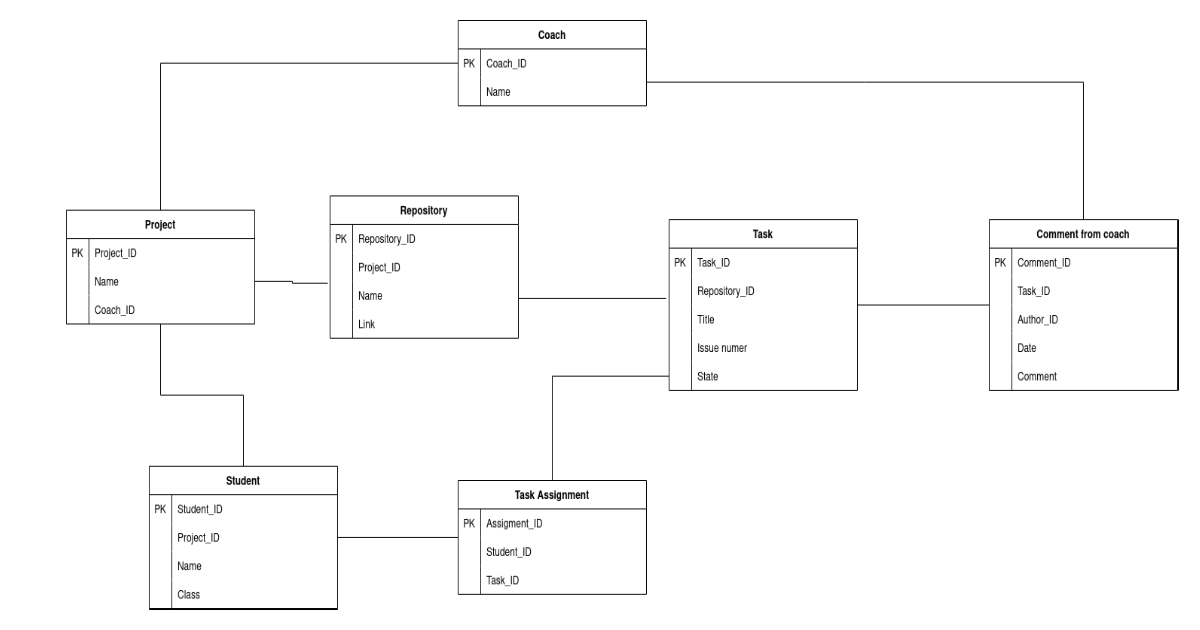
PK

FK

FK

# Exercise 3

Q1: Complete the relation between each entity on the database relation model. Take for example the relation between **STUDENTS** and **PROJECTS.**

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many

many

many

many

1

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1

1

1

1

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# Exercise 4

Google Classroom is the tool used to manage PNC classes, where the teacher can assign homework to the students of different classes.

**Q1**: Complete the attributes types in the following tables

|  |  |
| --- | --- |
| **User** | |
| user ID  email  password  name  role | **Numeric**  **String**  **Numeric**  **String**  **String** |

|  |  |
| --- | --- |
| **Classroom** | |
| classroom ID  name  section  subject | **Numeric**  **String**  **String**  **String** |

|  |  |
| --- | --- |
| **Assignment** | |
| assignment ID  title  description  deadline | **Numeric**  **String String**  **DateTime** |

|  |  |
| --- | --- |
| **Comment** | |
| comment ID  content  user ID  assignment ID | **Numeric**  **String Numeric**  **Numeric** |

Here are some observations that can help us design the Google Classroom database:

* A user can create many classrooms as a teacher
* A user can join many classrooms as a student
* A classroom can have many teachers
* A classroom can have many students
* A teacher can post many assignments in a classroom, and the same assignment can be posted in several classrooms
* An assignment post can have many comments from students or teachers

**Q2**   **CLASSROOM** and **ASSIGNMENT**

1. Type of relation: *one to one, one to many, many to many*?

* Many to many

1. Do you need to create an intersection table? Why?

* Yes, I do. because it’s many to many relationships.

1. Create the ERD representing to represent those 2 entities and their relation

1 1 many

|  |  |
| --- | --- |
| **Classroom** | |
| classroom ID  name  section  subject | **Numeric**  **String**  **String**  **String** |

|  |  |  |
| --- | --- | --- |
| **Classroom\_Assignment** | | |
| ID | classroom ID | Assignment ID |

|  |  |
| --- | --- |
| **Assignment** | |
| assignment ID  1 many 1  title  description  deadline | **Numeric**  **String String**  **DateTime** |

**Q3:**   **COMMENT** and **ASSIGNEMENT**

1. Type of relation: *one to one, one to many, many to many*

* One to many

1. Do you need to create an intersection table or not? Why?

* No, I don’t. Because it’s one to many relationships.

1. Update the previous ERD to represent those 2 entities and their relation

|  |  |
| --- | --- |
| **Comment** | |
| comment ID  content  user ID  assignment ID | **Numeric**  **String Numeric**  **Numeric** |

|  |  |
| --- | --- |
| **Assignment** | |
| assignment ID  title  description  deadline | **Numeric**  **String String**  **DateTime** |

Many 1

**Q4:**   **COMMENT** and **USER**

1. Type of relation: *one to one, one to many, many to many?*

* One to many

1. Do you need to create an intersection table or not? Why?

* No, I don’t. Because it’s one to many relationships.

1. Update the previous ERD to represent those 2 entities and their relation

|  |  |
| --- | --- |
| **Comment** | |
| comment ID  content  user ID  assignment ID | **Numeric**  **String Numeric**  **Numeric** |

|  |  |
| --- | --- |
| **User** | |
| user ID  email  password  name  role | **Numeric**  **String**  **Numeric**  **String**  **String** |

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