Shireen Taha
#500581584

Lab 2: Entity-Relation Diagram Design

Entities & Attributes

1. **Branch:** the library management branch that has a name, address and the manager
2. **Employee:** library has many employees, therefore have different names, positions, salaries and unique IDs
3. **Customer:** library has many different customers, therefore have name, unique IDs, addresses, and their registration date into the library
4. **Books:** library books consist of titles, authors, publishers, genres, ISBNs, and the status indicating whether its borrowed or available
5. **Devices:** devices such as computer, tablets etc., can be borrowed by customers, therefore consist of the name, type of device, unique ID and the status indicating whether its borrowed or available
6. **Issue Status:** the status of a book or device as to whether it's been borrowed or is available, therefore has unique IDs, the title of the book and/or device, the book's ISBN, the type of device, the device ID, the book or device's date of issue, the customer ID and employee ID that indicates which employee issued the book or device to which customer
7. **Return Status:** the status of a book or device as to whether it's been returned or not, therefore has unique IDs, the title of the book and/or device, the book's ISBN, the type of device, the device ID, the book or device's date of return, the customer ID that indicates which customer has either returned the book or device or still has it borrowed

Relationships

- 1 Branch manages many employees with full participation
- 1 Branch manages many customers
- 1 employee issues many devices to customers at a time
- 1 employee issues many books to customers at a time
- Many employees update many issue statuses of books and devices
- Many employees update many return statuses of books and devices
- Many employee register many customers into the library system
- 1 customer returns many books at a time
- 1 customer returns many devices at a time

Shireen Taha
#500581584