Design an Entity-Relationship (ER) diagram for a MySQL database system that manages employee information, department details, and department locations.

Consider the following requirements:

Each employee is assigned to exactly one department.

Each department can have multiple employees.

Each department is located in one specific location.

A location can accommodate multiple departments.

An employee can work only in one location.

Assume suitable Attribute for all Entities.

Also convert above ER diagram into Tables.[Draw Tables]

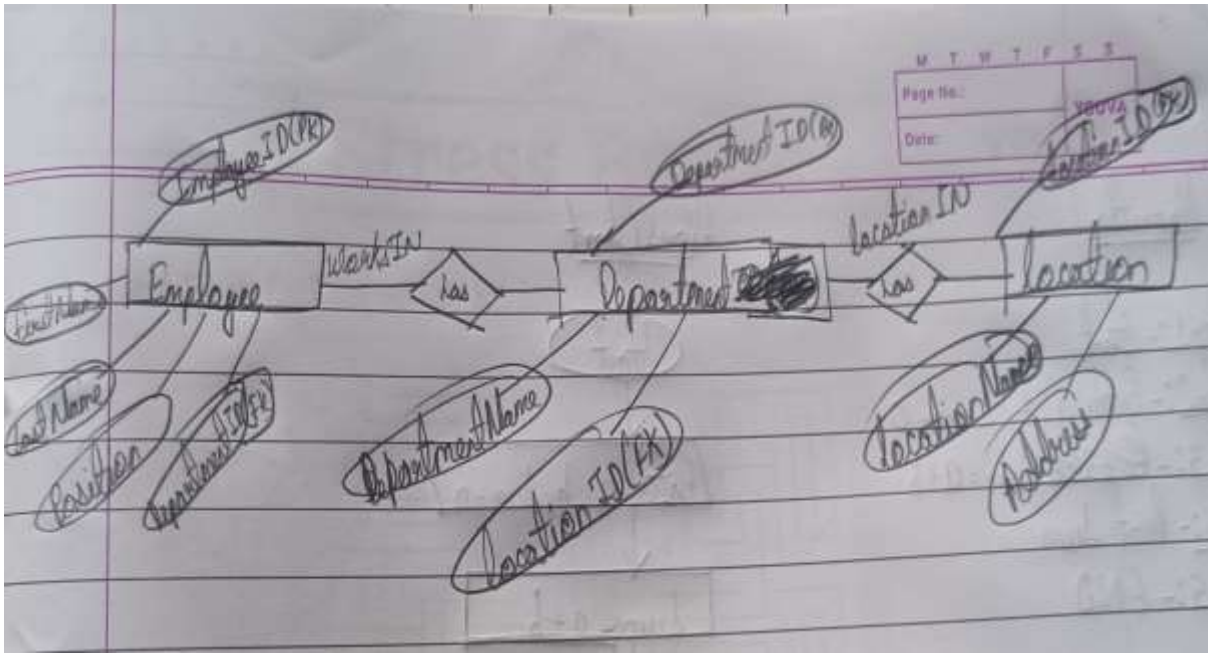
Based on the requirements, we need to design an ER diagram that captures the relationships between employees, departments, and locations. Here's how the ER diagram would be structured:

ER Diagram

1. **Entities and Attributes**:
    - **Employee**:
        - EmployeeID (Primary Key)
        - FirstName
        - LastName
        - Position
        - DepartmentID (Foreign Key)
    - **Department**:
        - DepartmentID (Primary Key)
        - DepartmentName
        - LocationID (Foreign Key)
    - **Location**:
        - LocationID (Primary Key)
        - LocationName
        - Address
2. **Relationships**:
    - **WorksIn**: Connects Employee to Department (one-to-many).

- **LocatedIn**: Connects Department to Location (many-to-one).

ER Diagram:



Tables

Employee Table

Column Name	Data Type	Description
EmployeeID	INT	Primary Key, unique identifier
FirstName	VARCHAR(50)	Employee's first name
LastName	VARCHAR(50)	Employee's last name
Position	VARCHAR(50)	Employee's job position
DepartmentID	INT	Foreign Key, references Department.DepartmentID

Department Table

Column Name	Data Type	Description
DepartmentID	INT	Primary Key, unique identifier
DepartmentName	VARCHAR(50)	Name of the department
LocationID	INT	Foreign Key, references Location.LocationID

Location Table

Column Name	Data Type	Description
LocationID	INT	Primary Key, unique identifier
LocationName	VARCHAR(50)	Name of the location
Address	VARCHAR(100)	Address of the location

SQL Statements to Create Tables

```
CREATE TABLE Location (
    LocationID INT AUTO_INCREMENT PRIMARY KEY,
    LocationName VARCHAR(50) NOT NULL,
    Address VARCHAR(100) NOT NULL
);
```

```
CREATE TABLE Department (
    DepartmentID INT AUTO_INCREMENT PRIMARY KEY,
    DepartmentName VARCHAR(50) NOT NULL,
    LocationID INT,
    FOREIGN KEY (LocationID) REFERENCES Location(LocationID)
);
```

```
CREATE TABLE Employee (
    EmployeeID INT AUTO_INCREMENT PRIMARY KEY,
    FirstName VARCHAR(50) NOT NULL,
    LastName VARCHAR(50) NOT NULL,
    Position VARCHAR(50) NOT NULL,
    DepartmentID INT,
    FOREIGN KEY (DepartmentID) REFERENCES
Department(DepartmentID)
);
```

Explanation:

- **Employee Table**: Stores information about employees and their department assignments.
- **Department Table**: Stores details about departments and their locations.
- **Location Table**: Stores location details where departments are situated.