**Product Table**

|  |  |  |  |
| --- | --- | --- | --- |
| ProductID | Name | Price | Quantity |
| 101 | Laptop | 45000 | 10 |
| 102 | Mobile | 25000 | 5 |

**Supplier Table**

|  |  |  |  |
| --- | --- | --- | --- |
| SupplierID | Name | Contact | Email |
| 1 | Lan | 734856643 | lan@gmail.com |
| 2 | Bodo | 894214411 | bod@gmail.com |

**ProductSupplied Table**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| PO Number | ProductID | SupplierID | QuantitySupplied | Price |
| 1 | 101 | 1 | 10 | 45000 |
| 2 | 102 | 2 | 5 | 25000 |

**Bills Table**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| BillID | OrderID | BillDate | TotalAmount | PaymentMethod |
| 201 | 5001 | 28/09/2024 | 45000 | Online |
| 202 | 5002 | 30/09/2024 | 25000 | COD |

**Customer Table**

|  |  |  |  |
| --- | --- | --- | --- |
| CustomerID | Name | Email | Phone |
| 201 | Johnny | joh@gmail.com | 8787470933 |
| 202 | Jaswant | jas@gmail.com | 8787470422 |

**Order Table**

|  |  |  |  |
| --- | --- | --- | --- |
| OrderID | OrderDate | CustomerID | TotalAmount |
| 5001 | 28/09/2024 | 201 | 45000 |
| 5002 | 29/09/2024 | 202 | 25000 |

**OrderItem Table**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| OrderItemID | OrderID | ProductID | Quantity | ItemPrice |
| 60001 | 5001 | 101 | 1 | 45000 |
| 60002 | 5002 | 102 | 1 | 25000 |

**Relationships**

1. Supplier to ProductSupplied:
   * One-to-Many: A supplier can supply multiple records in the ProductSupplied table.
2. Product to ProductSupplied:
   * One-to-Many: Each product can have multiple records in the ProductSupplied table (indicating supplies from different suppliers).
3. Order to Customer:
   * Many-to-One: Each order is placed by one customer.
4. Order to OrderItem:
   * One-to-Many: Each order can have multiple order items.
5. Product to OrderItem:
   * One-to-Many: Each product can appear in multiple order items.
6. Bill to Order:
   * One-to-One: Each bill corresponds to one order.

**A diagram of a flowchart

Description automatically generated**

**Stores Table**

|  |  |  |  |
| --- | --- | --- | --- |
| StoreID | StoreName | PhoneNumber | Address |
| 1 | Video Haven | 111-222-3333 | 123 Main St, City A |
| 2 | Movie World | 444-555-6666 | 456 Elm St, City B |

**Movies Table**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| MovieID | Title | Format | Category | StoreID |
| 1 | Avengers: Endgame | DVD | Action | 1 |
| 2 | The Lion King | VHS | Adventure | 1 |
| 3 | Finding Nemo | DVD | Animation | 1 |
| 4 | The Hangover | VCD | Comedy | 2 |
| 5 | Jurassic Park | DVD | Sci-Fi | 2 |

**Rentals Table**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| RentalID | MovieID | MemberID | DependentID | RentalDate | ReturnDate |
| 1 | 1 | 1 | NULL | 2024-10-01 | 2024-10-08 |
| 2 | 4 | 2 | NULL | 2024-10-01 | 2024-10-08 |
| 3 | 3 | NULL | 1 | 2024-10-01 | 2024-10-08 |
| 4 | 2 | 3 | NULL | 2024-10-01 | 2024-10-08 |

**Members Table**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| MemberID | Name | PhoneNumber | FavoriteCategory | MembershipType | StoreID |
| 1 | Alice | 123-456-7890 | Action | Golden | 1 |
| 2 | Bob | 098-765-4321 | Comedy | Bronze | 1 |
| 3 | Charlie | 555-555-5555 | Sci-Fi | Golden | 2 |

**Dependents Table**

|  |  |  |
| --- | --- | --- |
| DependentID | Name | MemberID |
| 1 | David | 1 |
| 2 | Eva | 1 |
| 3 | Frank | 2 |
| 4 | Grace | 3 |

**Explanation of Relationships**

1. **Stores to Movies**:
   * Each store can have multiple movies (1).
   * **StoreID** in the **Movies** table serves as a foreign key linking each movie to its store.
2. **Movies to Rentals**:
   * Each movie can be rented multiple times (1).
   * **MovieID** in the **Rentals** table serves as a foreign key linking rentals to specific movies.
3. **Rentals to Members and Dependents**:
   * Each rental can be associated with either a member or a dependent.
   * **MemberID** and **DependentID** in the **Rentals** table are foreign keys linking to the respective tables. A rental can reference one member or one dependent but not both at the same time.
4. **Members to Dependents**:
   * Each member can have multiple dependents (1).
   * **MemberID** in the **Dependents** table links dependents to their corresponding members.

A diagram of a flowchart

Description automatically generated

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Student | | | | |
| StudentID | **Name** | **Phone** | **Email** | **Address** |
| 1 | Alice | 8787470933 | [alice@gmail.com](mailto:alice@gmail.com) | Noida sector 62 |
| 2 | Bob | 8787470933 | [bob@gmail.com](mailto:bob@gmail.com) | Noida sector 63 |
| 3 | Charlie | 8787470933 | [charlie@gmail.com](mailto:charlie@gmail.com) | Noida sector 64 |

|  |  |  |
| --- | --- | --- |
| Instructor | | |
| InstructorID | **InstructorName** | **Email** |
| 1 | Dr. Smith | [smith@example.com](mailto:smith@example.com) |
| 2 | Dr. Johnson | [johnson@example.com](mailto:johnson@example.com) |
| 3 | Dr. Lee | [lee@example.com](mailto:lee@example.com) |

|  |  |  |  |
| --- | --- | --- | --- |
| Course |  |  |  |
| CourseID | **CourseName** | **InstructorID** | **ScheduleID** |
| 1 | Math | 1 | 1 |
| 2 | Science | 3 | 2 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Schedules Table | | | | |
| ScheduleID | **Day** | **TimeStart** | **TimeEnd** | **Room** |
| 1 | Mon | 10:00 | 11:00 | 101 |
| 2 | Tue | 11:00 | 12:00 | 102 |
| 3 | Wed | 9:00 | 10:00 | 103 |

|  |  |
| --- | --- |
| Student\_Instructor Table | |
| StudentID | **InstructorID** |
| 1 | 1 |
| 1 | 2 |
| 2 | 3 |
| 3 | 1 |
| 3 | 2 |

**Relationships**

* **Student to Student\_Instructor**:
  + One-to-Many (One Student can have multiple entries in Student\_Instructor)
* **Instructor to Student\_Instructor**:
  + One-to-Many (One Instructor can have multiple students in Student\_Instructor)
* **Instructor to Course**:
  + One-to-Many (One Instructor can teach multiple Courses)
* **Course to Schedule**:
  + One-to-One (One Course has one Schedule)
* **Course to Student**:
  + One-to-Many (One Course can have multiple Students)
* **Schedule to Course**:
  + One-to-Many (One Schedule can be linked to multiple Courses)

