**Task – 1**

**1. Chosen Domain:**

**Railway Reservation System**

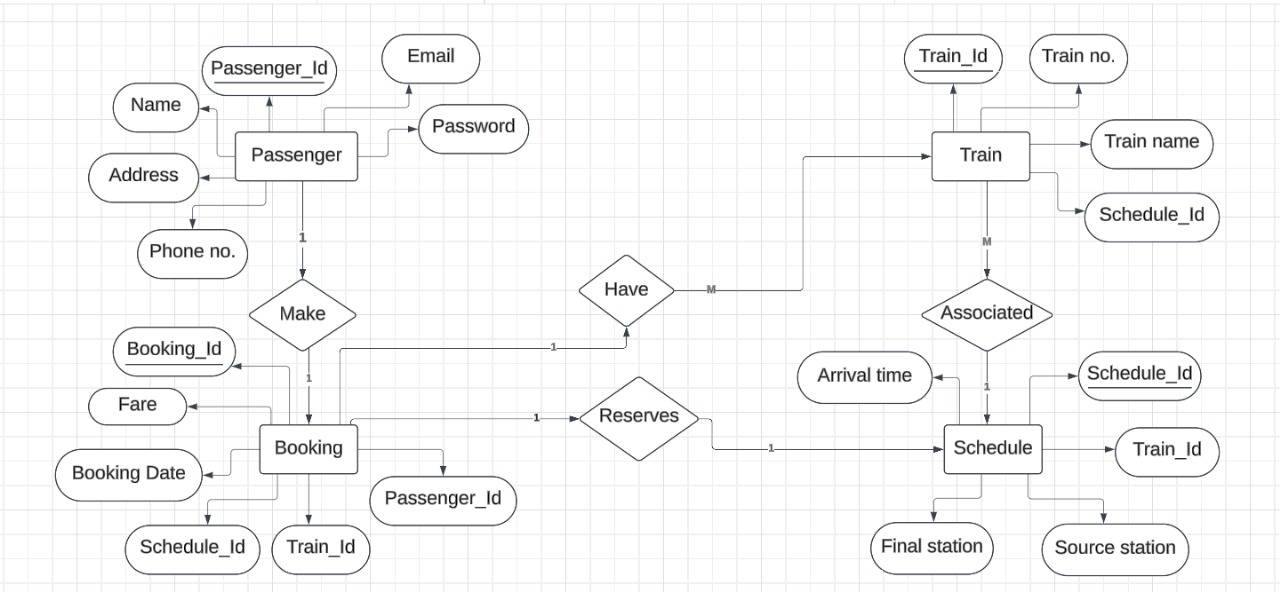
**2. Identified Entities and Relationships:**

**Entities:**

* **Passenger** (Passenger\_Id, Name, Address, Phone, Email, Password)
* **Booking** (Booking\_Id, Fare, Booking\_Date, Passenger\_Id, Train\_Id, Schedule\_Id)
* **Train** (Train\_Id, Train\_no, Train\_name, Schedule\_Id)
* **Schedule** (Schedule\_Id, Train\_Id, Arrival\_time, Source\_station, Final\_station)

**Relationships:**

* **Passenger** *makes* **Booking** (1:M)
* **Booking** *reserves* **Schedule** (1:1)
* **Booking** *has* **Train** (M:1)
* **Train** *associated with* **Schedule** (M:1)



**3. SQL CREATE TABLE Statements:**

* **Passenger Table**

CREATE TABLE Passenger (

Passenger\_Id INT PRIMARY KEY,

Name VARCHAR(100),

Address VARCHAR(255),

Phone\_No VARCHAR(15),

Email VARCHAR(100) UNIQUE,

Password VARCHAR(100)

);

* **Train Table**

CREATE TABLE Train (

Train\_Id INT PRIMARY KEY,

Train\_No VARCHAR(20) UNIQUE,

Train\_Name VARCHAR(100)

);

* **Schedule Table**

CREATE TABLE Schedule (

Schedule\_Id INT PRIMARY KEY,

Train\_Id INT,

Arrival\_Time TIME,

Source\_Station VARCHAR(100),

Final\_Station VARCHAR(100),

FOREIGN KEY (Train\_Id) REFERENCES Train(Train\_Id)

);

* **Booking Table**

CREATE TABLE Booking (

Booking\_Id INT PRIMARY KEY,

Fare DECIMAL(10, 2),

Booking\_Date DATE,

Passenger\_Id INT,

Train\_Id INT,

Schedule\_Id INT,

FOREIGN KEY (Passenger\_Id) REFERENCES Passenger(Passenger\_Id),

FOREIGN KEY (Train\_Id) REFERENCES Train(Train\_Id),

FOREIGN KEY (Schedule\_Id) REFERENCES Schedule(Schedule\_Id)

);

**4. Defined Primary and Foreign Keys:**

| **Table** | **Primary Key** | **Foreign Keys** |
| --- | --- | --- |
| Passenger | Passenger\_Id | — |
| Train | Train\_Id | — |
| Schedule | Schedule\_Id | Train\_Id → Train |
| Booking | Booking\_Id | Passenger\_Id → Passenger Train\_Id → Train Schedule\_Id → Schedule |