

## SQL STATEMENTS FOR CREATING TABLE:

```
CREATE TABLE Person(  
    PersonID VARCHAR(8),  
    First_Name VARCHAR(20),  
    Middle_Name VARCHAR(20),  
    Last_Name VARCHAR(20),  
    Address VARCHAR2(30),  
    Gender VARCHAR(10),  
    Date_of_Birth DATE  
);
```

```
CREATE TABLE Person_Phone_Number(  
    PersonID VARCHAR(8),  
    Phone_Number NUMBER(15)  
);
```

```
CREATE TABLE A_Class_Passenger(  
    A_Class_ID VARCHAR(8),  
    No_of_Children NUMBER(20),  
    A_Star_ID VARCHAR(8),  
    Pass_ID VARCHAR(8)  
);
```

```
CREATE TABLE Employee(  
    Employee_ID VARCHAR(8),  
    Start_date DATE,  
    A_Star_ID VARCHAR(8)  
);
```

```
CREATE TABLE Ticket_Seller(  
    Seller_ID VARCHAR(8)  
);
```

```
CREATE TABLE Ticket_Checker(  
    Checker_ID VARCHAR(8)  
);
```

```
CREATE TABLE Bus_Driver(  
    Driver_ID VARCHAR(8)  
);
```

```
CREATE TABLE A_Star_Passenger(  
    A_Star_ID VARCHAR(8) ,  
    Card_ID VARCHAR2(10)  
);
```

```
CREATE TABLE Promotional_Offer(  
    Description VARCHAR(8) ,  
    Promotion_ID VARCHAR2(10),  
    Pass_ID VARCHAR2(8)
```

```
);
```

```
CREATE TABLE Guest(  
    A_Star_ID VARCHAR2(8) ,  
    Guest_ID VARCHAR2(8),  
    SSN NUMBER(9),  
    Name VARCHAR2(20),  
    Address VARCHAR2(30),  
    Contact_Info VARCHAR2(30),  
    No_Of_Times_Travelled NUMBER
```

```
);
```

```
CREATE TABLE Dart_Month_Pass(  
    Pass_ID VARCHAR2(8) ,  
    Date_of_Issue DATE,  
    A_Star_ID VARCHAR2(8)
```

```
);
```

```
CREATE TABLE Travel_Card(  
    Card_ID VARCHAR2(10) ,  
    Date_of_Issue DATE
```

```
);
```

```
CREATE TABLE Terminals(  
    Terminal_ID VARCHAR2(10) ,  
    Location VARCHAR2(10)
```

```
);
```

```
CREATE TABLE Is_Parked(  
    Time TIMESTAMP,  
    Date_of_Parking DATE,  
    License_no NUMBER(10),  
    Terminal_ID VARCHAR2(8)
```

```
);
```

```
CREATE TABLE Payment_Info(  
    Payment_ID VARCHAR2(8),  
    Account Varchar2(20),  
    Method Varchar2(20)
```

```
);
```

```
CREATE TABLE Stops_At(  
    License_No VARCHAR2(8),  
    Bus_Stop_ID VARCHAR2(8)
```

```
);  
CREATE TABLE Time_Table(  
    Time_Table_ID VARCHAR2(8),  
    Day VARCHAR2(10),  
    Start_Time TIMESTAMP,  
    End_Time TIMESTAMP,  
    Interval Varchar2(10)
```

```
);  
CREATE TABLE Follow(  
    Time_Table_ID VARCHAR2(8),  
    Route_ID VARCHAR2(8),  
    License_No NUMBER(10),  
    Status_of_Bus Varchar2(10)
```

```
);  
CREATE TABLE Buses(  
    License_No NUMBER(10),  
    Bus_No NUMBER,  
    Seats NUMBER  
);
```

```
CREATE TABLE Bus_Stops(  
    Bus_Stop_ID VARCHAR2(8),  
    Name Varchar2(20),  
    Route_ID VARCHAR2(8)
```

```
);  
CREATE TABLE Can_Drive(  
    Date_of_Journey DATE,  
    Hours Varchar2(20),  
    License_No VARCHAR2(8),  
    Driver_ID VARCHAR2(8)  
);
```

```
CREATE TABLE Ticket_Info(  
    Person_ID VARCHAR2(8),  
    Payment_ID VARCHAR2(8),  
    Ticket_ID VARCHAR2(8),  
    Seller_ID VARCHAR2(8)
```

```
);  
CREATE TABLE Tickets(  
    Ticket_ID VARCHAR2(8),  
    Bus_ID VARCHAR2(8),  
    Seat_NO NUMBER,  
    Price Number(10,2)
```

```
);  
CREATE TABLE Route(  

```

```
Ticket_ID VARCHAR2(8)
);
```

```
ALTER TABLE Payment_Info
DROP Column Method;
```

```
CREATE TABLE Account_Info(
    Account VARCHAR(8),
    Method VARCHAR(8)
);
```

```
ALTER TABLE Promotional_offer
DROP Column Description;
```

```
CREATE TABLE Promotion_Description(
    Pass_ID VARCHAR(8),
    Description VARCHAR(20)
);
```

## **SPECIFYING THE CONSTRAINTS**

### **PRIMARY KEY CONSTRAINTS**

```
ALTER TABLE Person
ADD CONSTRAINT PK_Person PRIMARY KEY (PersonID);
```

```
ALTER TABLE Person_Phone_Number
ADD CONSTRAINT PK_Person_Phone_Number PRIMARY KEY (PersonID,
Phone_Number);
```

```
ALTER TABLE Ticket_Seller
ADD CONSTRAINT PK_Ticket_Seller PRIMARY KEY (Seller_ID);
```

```
ALTER TABLE Employee
ADD CONSTRAINT PK_Employee PRIMARY KEY (Employee_ID);
```

ALTER TABLE A\_Class\_Passenger

ADD CONSTRAINT PK\_A\_Class\_Passenger PRIMARY KEY (A\_Class\_ID);

ALTER TABLE Promotional\_Offer

ADD CONSTRAINT PK\_Promotional\_Offer PRIMARY KEY (Pass\_ID,Promotion\_ID);

ALTER TABLE A\_Star\_Passenger

ADD CONSTRAINT PK\_A\_Star\_Passenger PRIMARY KEY (A\_Star\_ID);

ALTER TABLE Guest

ADD CONSTRAINT PK\_Guest PRIMARY KEY (A\_Star\_ID, Guest\_ID);

ALTER TABLE Dart\_Month\_Pass

ADD CONSTRAINT PK\_Dart\_Month\_Pass PRIMARY KEY (Pass\_ID);

ALTER TABLE Travel\_Card

ADD CONSTRAINT PK\_Travel\_Card PRIMARY KEY (Card\_ID);

ALTER TABLE Stops\_At

ADD CONSTRAINT PK\_Stops\_At PRIMARY KEY (License\_No, Bus\_Stop\_ID);

ALTER TABLE Payment\_Info

ADD CONSTRAINT PK\_Payment\_Info PRIMARY KEY (Payment\_ID);

ALTER TABLE Is\_Parked

ADD CONSTRAINT PK\_Is\_Parked PRIMARY KEY (Terminal\_ID,  
License\_No,Date\_of\_Parking,Time);

ALTER TABLE Terminals

ADD CONSTRAINT PK\_Terminals PRIMARY KEY (Terminal\_ID);

ALTER TABLE Ticket\_Checker

ADD CONSTRAINT PK\_Ticket\_Checker PRIMARY KEY (Checker\_ID);

ALTER TABLE Buses

ADD CONSTRAINT PK\_Buses PRIMARY KEY (license\_no);

ALTER TABLE Bus\_Stops

ADD CONSTRAINT PK\_Bus\_Stops PRIMARY KEY (Bus\_Stop\_ID);

ALTER TABLE Can\_Drive

ADD CONSTRAINT PK\_Can\_Drive PRIMARY KEY (License\_NO,Driver\_ID);

ALTER TABLE Follow

ADD CONSTRAINT PK\_Follow PRIMARY KEY (Time\_Table\_ID,Route\_ID);

ALTER TABLE Bus\_Driver

ADD CONSTRAINT PK\_Bus\_Driver PRIMARY KEY (Driver\_ID);

ALTER TABLE Route

ADD CONSTRAINT PK\_Route PRIMARY KEY (Route\_ID);

ALTER TABLE Tickets

ADD CONSTRAINT PK\_Tickets PRIMARY KEY (Ticket\_ID);

ALTER TABLE Ticket\_Info

ADD CONSTRAINT PK\_Ticket\_Info PRIMARY KEY (Person\_ID,Seller\_ID);

ALTER TABLE Time\_Table

ADD CONSTRAINT PK\_Time\_Table PRIMARY KEY (Time\_Table\_ID);

## **FOREGIEIN KEY CONSTRAINTS**

ALTER TABLE Person\_Phone\_Number

ADD CONSTRAINT fk\_Person\_Phone\_Number

FOREIGN KEY (PersonID) REFERENCES Person(PersonID);

ALTER TABLE Employee

ADD CONSTRAINT fk\_Employee

FOREIGN KEY (Employee\_ID) REFERENCES Person(PersonID);

ALTER TABLE A\_class\_Passenger

ADD CONSTRAINT fk\_A\_class\_Passenger

FOREIGN KEY (A\_class\_ID) REFERENCES Person(PersonID);

ALTER TABLE A\_class\_Passenger

ADD CONSTRAINT fk\_A\_class\_Passenger\_2

FOREIGN KEY (A\_Star\_ID) REFERENCES A\_star\_Passenger(A\_Star\_ID);

ALTER TABLE Ticket\_Info

ADD CONSTRAINT fk\_Ticket\_Info

FOREIGN KEY (Person\_ID) REFERENCES Person(PersonID);

ALTER TABLE Ticket\_Info

ADD CONSTRAINT fk\_Ticket\_Info\_2

FOREIGN KEY (Ticket\_ID) REFERENCES Tickets(Ticket\_ID);

```
ALTER TABLE Dart_Month_Pass
ADD CONSTRAINT fk_Dart_Month_Pass
FOREIGN KEY (A_Star_ID) REFERENCES A_Star_Passenger(A_Star_ID);
```

```
ALTER TABLE Guest
ADD CONSTRAINT fk_Guest
FOREIGN KEY (A_Star_ID) REFERENCES A_Star_Passenger(A_Star_ID);
```

```
ALTER TABLE Employee
ADD CONSTRAINT fk_Employee_2
FOREIGN KEY (A_Star_ID) REFERENCES A_Star_Passenger(A_Star_ID);
```

```
ALTER TABLE Promotional_Offer
DROP CONSTRAINT PK_Promotional_Offer;
```

```
ALTER TABLE Promotional_Offer
ADD CONSTRAINT PK_Promotional_Offer PRIMARY KEY (Pass_ID,Promotional_ID);
```

```
ALTER TABLE Promotional_Offer
ADD CONSTRAINT fk_Promotional_Offer
FOREIGN KEY (Pass_ID) REFERENCES Dart_Month_Pass(Pass_ID);
```

```
ALTER TABLE Promotion_Description
ADD CONSTRAINT fk_Promotion_Description
FOREIGN KEY (Pass_ID) REFERENCES Dart_Month_Pass(Pass_ID)
```

```
ALTER TABLE Is_Parked
```



```
ADD CONSTRAINT fk_Is_Parked  
FOREIGN KEY (Terminal_ID) REFERENCES Terminals(Terminal_ID);
```

```
ALTER TABLE Is_Parked  
ADD CONSTRAINT fk_Is_Parked_2  
FOREIGN KEY (License_No) REFERENCES Buses(License_No);
```

```
ALTER TABLE A_Star_Passenger  
ADD CONSTRAINT fk_A_Star_Passenger  
FOREIGN KEY (Card_ID) REFERENCES Travel_Card(Card_ID);
```

```
ALTER TABLE Stops_At  
ADD CONSTRAINT fk_Stops_At  
FOREIGN KEY (License_No) REFERENCES Buses(License_No);
```

```
ALTER TABLE Stops_At  
ADD CONSTRAINT fk_Stops_At_2  
FOREIGN KEY (Bus_Stop_ID) REFERENCES Bus_Stops(Bus_Stop_ID);
```

```
ALTER TABLE Ticket_Seller  
ADD CONSTRAINT fk_Ticket_Seller  
FOREIGN KEY (Seller_ID) REFERENCES Employee(Employee_ID);
```

```
ALTER TABLE Ticket_Checker  
ADD CONSTRAINT fk_Ticket_Checker  
FOREIGN KEY (Checker_ID) REFERENCES Employee(Employee_ID);
```

```
ALTER TABLE Bus_Driver
```

```
ADD CONSTRAINT fk_Bus_Driver  
FOREIGN KEY (Driver_ID) REFERENCES Employee(Employee_ID);
```

```
ALTER TABLE Can_Drive  
ADD CONSTRAINT fk_Can_Drive  
FOREIGN KEY (Driver_ID) REFERENCES Bus_Driver(Driver_ID);
```

```
ALTER TABLE Bus_Stops  
ADD CONSTRAINT fk_Bus_Stops  
FOREIGN KEY (ROUTE_ID) REFERENCES Route(Route_ID);
```

```
ALTER TABLE Tickets  
ADD CONSTRAINT fk_Tickets  
FOREIGN KEY (Bus_ID) REFERENCES Buses(License_No);
```

```
ALTER TABLE Ticket_Info  
ADD CONSTRAINT fk_Ticket_Info_3  
FOREIGN KEY (Seller_ID) REFERENCES Ticket_Seller(Seller_ID);
```

```
ALTER TABLE Ticket_Info  
ADD CONSTRAINT fk_Ticket_Info_4  
FOREIGN KEY (Payment_ID) REFERENCES Payment_Info(Payment_ID);
```

```
ALTER TABLE Follow  
ADD CONSTRAINT fk_Follow  
FOREIGN KEY (Time_Table_ID) REFERENCES Time_Table(Time_Table_ID);
```

```
ALTER TABLE Follow
```

ADD CONSTRAINT fk\_Follow\_2

FOREIGN KEY (Route\_ID) REFERENCES Route(Route\_ID);

ALTER TABLE Follow

ADD CONSTRAINT fk\_Follow\_3

FOREIGN KEY (License\_No) REFERENCES Buses(License\_No);

ALTER TABLE Account\_Info

ADD CONSTRAINT FK\_Account

FOREIGN KEY (Account) REFERENCES Payment\_Info(Account);

ALTER TABLE Can\_Drive

ADD CONSTRAINT fk\_Can\_Drive\_2

FOREIGN KEY (License\_no) REFERENCES Buses(License\_no);

### **REQUIREMENT CONSTRAINTS:**

ALTER TABLE Person

ADD CONSTRAINT Check\_Person\_Id CHECK (PersonId like 'P[0-9][0-9][0-9]');

ALTER TABLE A\_Class\_Passenger

ADD CONSTRAINT Check\_AClassPass\_Child CHECK (No\_Of\_Children < 6);

ALTER TABLE Time\_Table

ADD CONSTRAINT Check\_Time\_Table\_Id CHECK (Time\_Table\_Id like 'DT[0-9][0-9]');