**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)

);

**SPECIFING 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);

**FOREGIEN 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]');