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1. Project Scenario

In this day and age, railway transportation is one of the important modes of transport in Malaysia. In our project, Borneo Rapid is a company which provide public train transportation service dedicated for East Malaysia part that is Sarawak and Sabah area. Therefore, our Railway Management System is created meant to ease railway management which involve the registration for new user, ticketing and transactions of available trains in certain stations. In our system, the data of registered user and passengers, available trains and stations and also booked tickets are able to be stored in this system in different relations. Our main objective in this project is to allow the user to display, create queries, add, modify and remove some data. In addition to that, new user is allowed to registered by using procedure created and also users and passengers to retrieve information regarding train schedule. Other than that, user can predict the total price for one-way journey by using the function created in this system. Furthermore, this system will help to find out whether a registered user is eligible to get discount for their ticket and the total price of the ticket after discount will be display.

2. Entity Relationship Diagram (ER Diagram)

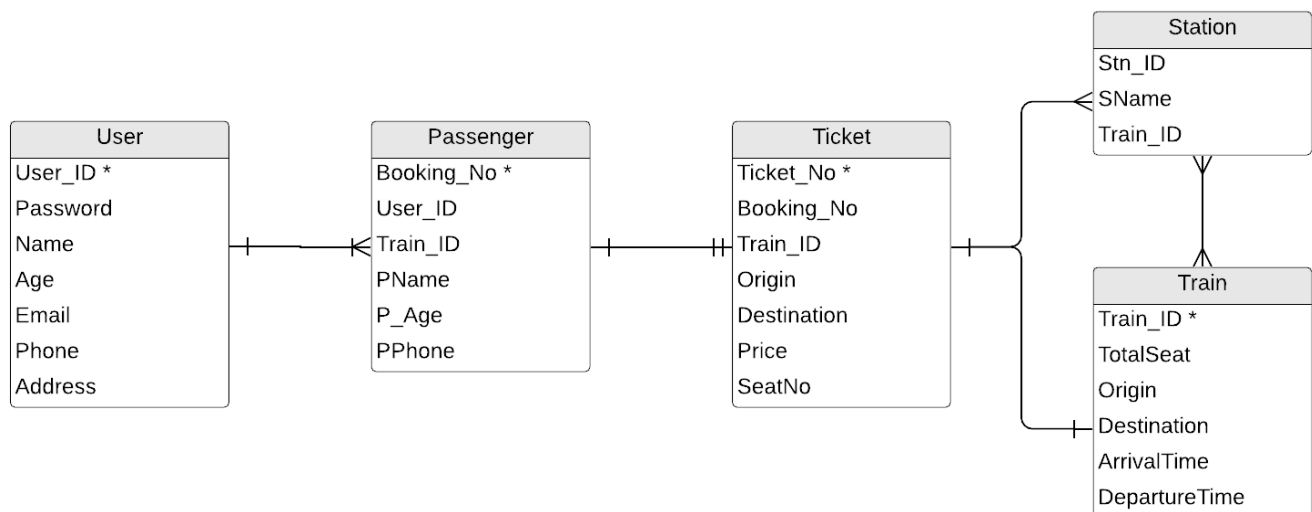


Figure 2.1. ER Diagram

3. Data Dictionary

3.1 Usertable

ATTRIBUTE NAME	DATA TYPE	SIZE	NULL
User_ID*	NUMBER	3	NO (PK)
Password	VARCHAR2	10	NO
Name	VARCHAR2	30	NO
Age	NUMBER	2	NO
Email	VARCHAR2	30	NO
Phone	NUMBER	11	YES
Address	VARCHAR2	40	YES

3.1 Passenger

ATTRIBUTE NAME	DATA TYPE	SIZE	NULL
Booking_No*	NUMBER	3	NO
User_ID	NUMBER	3	NO (FK)
Train_ID	VARCHAR2	6	NO (FK)
PName	VARCHAR2	30	NO (PK)
P_Age	NUMBER	2	NO
PPhone	NUMBER	11	YES

3.1 Train

ATTRIBUTE NAME	DATA TYPE	SIZE	NULL
Train_ID*	VARCHAR2	6	NO (PK)
TotalSeat	NUMBER	3	YES
Origin	VARCHAR2	20	YES
Destination	VARCHAR2	20	YES
ArrivalTime	VARCHAR2	10	YES
DepartureTime	VARCHAR2	10	YES

3.1 Station

ATTRIBUTE NAME	DATA TYPE	SIZE	NULL
Stn_ID	VARCHAR2	6	NO
SName	VARCHAR2	20	NO (PK)
Train_ID	VARCHAR2	6	NO (FK)

3.1 Ticket

ATTRIBUTE NAME	DATA TYPE	SIZE	NULL
Ticket_No*	VARCHAR2	6	NO (PK)
Booking_No	NUMBER	3	NO (FK)
Train_ID	VARCHAR2	6	NO (FK)
Origin	VARCHAR2	20	NO
Destination	VARCHAR2	20	NO
Price	NUMBER	6	YES
SeatNo	NUMBER	3	NO

4. RailwayStation_table.sql

```
DROP TABLE USERTABLE cascade constraints;  
DROP TABLE PASSENGER cascade constraints;  
DROP TABLE TRAIN cascade constraints;  
DROP TABLE STATION cascade constraints;  
DROP TABLE TICKET cascade constraints;
```

```
CREATE TABLE USERTABLE
```

```
  (USER_ID          NUMBER(3),  
   PASSWORD         VARCHAR2(10),  
   NAME             VARCHAR2(30),  
   AGE              NUMBER(2),  
   EMAIL            VARCHAR2(30),  
   PHONE            NUMBER(11),  
   ADDRESS          VARCHAR2(40),  
   CONSTRAINT USER_USER_ID_PK PRIMARY KEY (USER_ID));
```

```
CREATE TABLE TRAIN
```

```
  (TRAIN_ID         VARCHAR2(6),  
   TOTALSEAT        NUMBER(3),  
   ORIGIN            VARCHAR2(20),  
   DESTINATION       VARCHAR2(20),  
   ARRIVALTIME       VARCHAR(10),  
   DEPARTURETIME     VARCHAR(10),  
   CONSTRAINT TRAIN_TRAIN_ID_PK PRIMARY KEY(TRAIN_ID));
```

```
CREATE TABLE STATION
```

```
  (STN_ID           VARCHAR2(6),  
   SNAME            VARCHAR2(30),  
   TRAIN_ID         VARCHAR2(6),  
   CONSTRAINT STATION_TRAIN_ID_FK FOREIGN KEY(TRAIN_ID)  
   REFERENCES TRAIN);
```

```
CREATE TABLE PASSENGER
```

```
  (BOOKING_NO       NUMBER(3),  
   USER_ID          NUMBER(3),  
   TRAIN_ID         VARCHAR2(6),  
   PNAME            VARCHAR2(30),  
   P_AGE            NUMBER(2),  
   PPHONE           NUMBER(11),  
   CONSTRAINT PASSENGER_PNAME_PK PRIMARY KEY(PNAME),  
   CONSTRAINT PASSENGER_USER_ID_FK FOREIGN KEY(USER_ID) REFERENCES  
   USERTABLE,  
   CONSTRAINT PASSENGER_TRAIN_ID_FK FOREIGN KEY(TRAIN_ID) REFERENCES  
   TRAIN);
```

```

CREATE TABLE TICKET
(TICKET_NO          VARCHAR2(6),
BOOKING_NO          NUMBER(3),
TRAIN_ID            VARCHAR2(6),
ORIGIN              VARCHAR2(20),
DESTINATION          VARCHAR2(20),
PRICE               NUMBER(6),
SEATNO              NUMBER(3),
CONSTRAINT TICKET_TICKET_NO_PK PRIMARY KEY(TICKET_NO),
CONSTRAINT TICKET_TRAIN_ID_FK FOREIGN KEY(TRAIN_ID) REFERENCES
TRAIN);

```

5. RailwayStation_datasql

```

INSERT INTO USERTABLE
VALUES(252, 'brkaktush9', 'Sabrina Fasha', 20, 'sabrinafasha_252@yahoo.com.my', 6016306998, '20, Jalan
Tanjung Balai 30/94, Shah Alam');

```

```

INSERT INTO USERTABLE
VALUES(711, 'nana802', 'Nor Aliah', 20, 'aliahazm99@gmail.com', 6019647667, '19, Jalan Warisan Megah 1/6,
Setiawangsa');

```

```

INSERT INTO USERTABLE
VALUES(910, 'mayhxmm10', 'Maisarah Hamzah', 20, 'mayhxmm@gmail.com', 6014961749, '15, Jalan Kasturi
Kemuning, Sentul');

```

```

INSERT INTO USERTABLE
VALUES(144, 'sonia1111', 'Tabassum Antu', 23, 'tabassumantu00@gmail.com', 6011549744, 'Mahallah Aminah,
Jalan Gombak, Gombak');

```

```

INSERT INTO USERTABLE
VALUES(169, 'fadajwa916', 'Fadhilah Ajwa', 19, 'fadhilahajwa06@gmail.com', 6012344042, null);

```

```

INSERT INTO USERTABLE
VALUES(291, 'nadnood12', 'Nur Nadiah', 20, 'nadiahazmi@gmail.com', 6017292265, '13, Jalan Presint 14,
Putrajaya');

```

```

INSERT INTO USERTABLE
VALUES(269, 'brabil09', 'Nabil Aqwa', 19, 'nabilaqwa@gmail.com', 6011756822, '29, Desa Balqis, Bangi');

```

```

INSERT INTO USERTABLE
VALUES(177, 'brbotak17', 'Farhan Iqwan', 19, 'farhaniqwan@gmail.com', 6012353448, '12, Jalan Kampung Saniy,
Bangi');

```

```

INSERT INTO USERTABLE
VALUES(410, 'jokizz04', 'Izzat Yuza', 36, 'izzatyuza@gmail.com', 6017888934, '10, Jalan Sungai Buaya Putih,
Kuching');

```

```

INSERT INTO USERTABLE

```

VALUES(171, 'faraelz10', 'Khairil Ashraf', 45, 'khairilashburn@gmail.com', 6016446576, '11, Jalan Sungai Buaya Darat, Tawau');

INSERT INTO USERTABLE

VALUES(152, 'paizlarh12', 'Faiz Haziq', 27, 'paizhaziq@gmail.com', 6019876543, '12, Jalan Sungai Buaya, Kota Kinabalu');

INSERT INTO USERTABLE

VALUES(912, 'breenz13', 'Nazreen Ahmad', 17, 'nazreenz@gmail.com', null, '45, Jalan Kampung Pelanduk, Miri');

INSERT INTO PASSENGER

VALUES(115, 252, 'SBU05A', 'Sabrina Fasha', 20, 6016306998);

INSERT INTO PASSENGER

VALUES(115, 252, 'SBU05A', 'Adam Haikal', 15, 6014221712);

INSERT INTO PASSENGER

VALUES(115, 252, 'SBU05A', 'Hud Rayyan', 2, null);

INSERT INTO PASSENGER

VALUES(115, 252, 'SBU05A', 'Wardina Sofia', 56, 6014441712);

INSERT INTO PASSENGER

VALUES(115, 252, 'SBU05A', 'Adib Nurman', 1, null);

INSERT INTO PASSENGER

VALUES(116, 711, 'KSN02A', 'Nor Aliah', 20, 6019647667);

INSERT INTO PASSENGER

VALUES(117, 910, 'KCH01A', 'Maisarah Hamzah', 20, 6014961749);

INSERT INTO PASSENGER

VALUES(118, 144, 'LBG08A', 'Tabassum Antu', 23, 6011549744);

INSERT INTO PASSENGER

VALUES(119, 169, 'SAN03A', 'Fadhilah Ajwa', 19, 6012344042);

INSERT INTO PASSENGER

VALUES(120, 291, 'SRK04A', 'Nur Nadiah', 20, 6017292265);

INSERT INTO PASSENGER

VALUES(121, 269, 'TWU13B', 'Nabil Aqwa', 19, 6011756822);

INSERT INTO PASSENGER

VALUES(122, 177, 'TWU13B', 'Farhan Iqwan', 19, 6012353448);

INSERT INTO PASSENGER

VALUES(123, 410, 'MRI07B', 'Izzat Yuza', 36, 6017888934);

INSERT INTO PASSENGER

VALUES(124, 171, 'MRI07B', 'Khairil Ashraf', 45, 6017888934);

```
INSERT INTO PASSENGER
VALUES(125, 152, 'MRI07B', 'Faiz Haziq',27, 6019876543);
```

```
INSERT INTO PASSENGER
VALUES(125, 152, 'MRI07B', 'Faiz Hamzah',12, 6015876543);
```

```
INSERT INTO PASSENGER
VALUES(125, 152, 'MRI07B', 'Faiz Hasyir',1, null);
```

```
INSERT INTO PASSENGER
VALUES(125, 152, 'MRI07B', 'Faizah Haziqah',22, 6019872243);
```

```
INSERT INTO PASSENGER
VALUES(126, 912, 'TWU13B', 'Nazreen Ahmad',17, null);
```

```
INSERT INTO TRAIN
VALUES('KCH01A', 60, 'Kuching', 'Tawau', '06:00:00', '18:00:00');
```

```
INSERT INTO TRAIN
VALUES('KSN02A', 60, 'Kota Samarahan', 'Tawau', '06:00:00', '17:00:00');
```

```
INSERT INTO TRAIN
VALUES('SAN03A', 60, 'Sri Aman', 'Tawau', '06:00:00', '16:00:00');
```

```
INSERT INTO TRAIN
VALUES('SRK04A', 60, 'Sarikei', 'Tawau', '06:00:00', '15:00:00');
```

```
INSERT INTO TRAIN
VALUES('SBU05A', 60, 'Sibu', 'Tawau', '06:00:00', '14:00:00');
```

```
INSERT INTO TRAIN
VALUES('BTL06A', 60, 'Bintulu', 'Tawau', '06:00:00', '13:00:00');
```

```
INSERT INTO TRAIN
VALUES('MRI07A', 60, 'Miri', 'Tawau', '06:00:00', '12:00:00');
```

```
INSERT INTO TRAIN
VALUES('LBG08A', 60, 'Limbang', 'Tawau', '06:00:00', '11:00:00');
```

```
INSERT INTO TRAIN
VALUES('KKU09A', 40, 'Kota Kinabalu', 'Tawau', '06:00:00', '10:00:00');
```

```
INSERT INTO TRAIN
VALUES('KDT10A', 40, 'Kudat', 'Tawau', '06:00:00', '09:00:00');
```

```
INSERT INTO TRAIN
VALUES('SDK11A', 40, 'Sandakan', 'Tawau', '06:00:00', '08:00:00');
```

```
INSERT INTO TRAIN
```


VALUES('LHD12A', 40, 'Lahad Datu', 'Tawau', '06:00:00', '07:00:00');

INSERT INTO TRAIN

VALUES('TWU13B', 60, 'Tawau', 'Kuching', '06:00:00', '17:00:00');

INSERT INTO TRAIN

VALUES('LHD12B', 60, 'Lahad Datu', 'Kuching', '06:00:00', '16:00:00');

INSERT INTO TRAIN

VALUES('SDK11B', 60, 'Sandakan', 'Kuching', '06:00:00', '15:00:00');

INSERT INTO TRAIN

VALUES('KDT10B', 60, 'Kudat', 'Kuching', '06:00:00', '14:00:00');

INSERT INTO TRAIN

VALUES('KKU09B', 60, 'Kota Kinabalu', 'Kuching', '06:00:00', '13:00:00');

INSERT INTO TRAIN

VALUES('LBG08B', 60, 'Limbang', 'Kuching', '06:00:00', '12:00:00');

INSERT INTO TRAIN

VALUES('MRI07B', 60, 'Miri', 'Kuching', '06:00:00', '11:00:00');

INSERT INTO TRAIN

VALUES('BTL06B', 60, 'Bintulu', 'Kuching', '06:00:00', '10:00:00');

INSERT INTO TRAIN

VALUES('SBU05B', 40, 'Sibu', 'Kuching', '06:00:00', '09:00:00');

INSERT INTO TRAIN

VALUES('SRK04B', 40, 'Sarikei', 'Kuching', '06:00:00', '08:00:00');

INSERT INTO TRAIN

VALUES('SAN03B', 40, 'Sri Aman', 'Kuching', '06:00:00', '07:00:00');

INSERT INTO TRAIN

VALUES('KSN02B', 40, 'Kota Samarahan', 'Kuching', '06:00:00', '06:00:00');

INSERT INTO STATION

VALUES('SW01', 'Kuching', 'KCH01A');

INSERT INTO STATION

VALUES('SW01', 'Kuching', 'TWU13B');

INSERT INTO STATION

VALUES('SW01', 'Kuching', 'LHD12B');

INSERT INTO STATION

VALUES('SW01', 'Kuching', 'SDK11B');

INSERT INTO STATION

VALUES('SW01', 'Kuching', 'KDT10B');

```

INSERT INTO STATION
VALUES('SW01', 'Kuching', 'KKU09B');

INSERT INTO STATION
VALUES('SW01', 'Kuching', 'LBG08B');

INSERT INTO STATION
VALUES('SW01', 'Kuching', 'MRI07B');

INSERT INTO STATION
VALUES('SW01', 'Kuching', 'BTL06B');

INSERT INTO STATION
VALUES('SW01', 'Kuching', 'SBU05B');

INSERT INTO STATION
VALUES('SW01', 'Kuching', 'SRK04B');

INSERT INTO STATION
VALUES('SW01', 'Kuching', 'SAN03B');

INSERT INTO STATION
VALUES('SW01', 'Kuching', 'KSN02B');

INSERT INTO STATION
VALUES('SW02', 'Kota Samarahan', 'KCH01A');

INSERT INTO STATION
VALUES('SW02', 'Kota Samarahan', 'KSN02A');

INSERT INTO STATION
VALUES('SW02', 'Kota Samarahan', 'TWU13B');

INSERT INTO STATION
VALUES('SW02', 'Kota Samarahan', 'LHD12B');

INSERT INTO STATION
VALUES('SW02', 'Kota Samarahan', 'SDK11B');

INSERT INTO STATION
VALUES('SW02', 'Kota Samarahan', 'KDT10B');

INSERT INTO STATION
VALUES('SW02', 'Kota Samarahan', 'KKU09B');

INSERT INTO STATION
VALUES('SW02', 'Kota Samarahan', 'LBG08B');

INSERT INTO STATION
VALUES('SW02', 'Kota Samarahan', 'MRI07B');

INSERT INTO STATION
VALUES('SW02', 'Kota Samarahan', 'BTL06B');

```

```
INSERT INTO STATION  
VALUES('SW02', 'Kota Samarahan', 'SBU05B');
```

```
INSERT INTO STATION  
VALUES('SW02', 'Kota Samarahan', 'SRK04B');
```

```
INSERT INTO STATION  
VALUES('SW02', 'Kota Samarahan', 'SAN03B');
```

```
INSERT INTO STATION  
VALUES('SW02', 'Kota Samarahan', 'KSN02B');
```

```
INSERT INTO STATION  
VALUES('SW03', 'Sri Aman', 'KCH01A');
```

```
INSERT INTO STATION  
VALUES('SW03', 'Sri Aman', 'KSN02A');
```

```
INSERT INTO STATION  
VALUES('SW03', 'Sri Aman', 'SAN03A');
```

```
INSERT INTO STATION  
VALUES('SW03', 'Sri Aman', 'TWU13B');
```

```
INSERT INTO STATION  
VALUES('SW03', 'Sri Aman', 'LHD12B');
```

```
INSERT INTO STATION  
VALUES('SW03', 'Sri Aman', 'SDK11B');
```

```
INSERT INTO STATION  
VALUES('SW03', 'Sri Aman', 'KDT10B');
```

```
INSERT INTO STATION  
VALUES('SW03', 'Sri Aman', 'KKU09B');
```

```
INSERT INTO STATION  
VALUES('SW03', 'Sri Aman', 'LBG08B');
```

```
INSERT INTO STATION  
VALUES('SW03', 'Sri Aman', 'MRI07B');
```

```
INSERT INTO STATION  
VALUES('SW03', 'Sri Aman', 'BTL06B');
```

```
INSERT INTO STATION  
VALUES('SW03', 'Sri Aman', 'SBU05B');
```

```
INSERT INTO STATION  
VALUES('SW03', 'Sri Aman', 'SRK04B');
```

```
INSERT INTO STATION
```

VALUES('SW03', 'Sri Aman', 'SAN03B');

INSERT INTO STATION
VALUES('SW04', 'Sarikei', 'KCH01A');

INSERT INTO STATION
VALUES('SW04', 'Sarikei', 'KSN02A');

INSERT INTO STATION
VALUES('SW04', 'Sarikei', 'SAN03A');

INSERT INTO STATION
VALUES('SW04', 'Sarikei', 'SRK04A');

INSERT INTO STATION
VALUES('SW04', 'Sarikei', 'TWU13B');

INSERT INTO STATION
VALUES('SW04', 'Sarikei', 'LHD12B');

INSERT INTO STATION
VALUES('SW04', 'Sarikei', 'SDK11B');

INSERT INTO STATION
VALUES('SW04', 'Sarikei', 'KDT10B');

INSERT INTO STATION
VALUES('SW04', 'Sarikei', 'KKU09B');

INSERT INTO STATION
VALUES('SW04', 'Sarikei', 'LBG08B');

INSERT INTO STATION
VALUES('SW04', 'Sarikei', 'MRI07B');

INSERT INTO STATION
VALUES('SW04', 'Sarikei', 'BTL06B');

INSERT INTO STATION
VALUES('SW04', 'Sarikei', 'SBU05B');

INSERT INTO STATION
VALUES('SW04', 'Sarikei', 'SRK04B');

INSERT INTO STATION
VALUES('SW05', 'Sibu', 'KCH01A');

INSERT INTO STATION
VALUES('SW05', 'Sibu', 'KSN02A');

INSERT INTO STATION
VALUES('SW05', 'Sibu', 'SAN03A');

```
INSERT INTO STATION  
VALUES('SW05', 'Sibu', 'SRK04A');
```

```
INSERT INTO STATION  
VALUES('SW05', 'Sibu', 'SBU05A');
```

```
INSERT INTO STATION  
VALUES('SW05', 'Sibu', 'TWU13B');
```

```
INSERT INTO STATION  
VALUES('SW05', 'Sibu', 'LHD12B');
```

```
INSERT INTO STATION  
VALUES('SW05', 'Sibu', 'SDK11B');
```

```
INSERT INTO STATION  
VALUES('SW05', 'Sibu', 'KDT10B');
```

```
INSERT INTO STATION  
VALUES('SW05', 'Sibu', 'KKU09B');
```

```
INSERT INTO STATION  
VALUES('SW05', 'Sibu', 'LBG08B');
```

```
INSERT INTO STATION  
VALUES('SW05', 'Sibu', 'MRI07B');
```

```
INSERT INTO STATION  
VALUES('SW05', 'Sibu', 'BTL06B');
```

```
INSERT INTO STATION  
VALUES('SW05', 'Sibu', 'SBU05B');
```

```
INSERT INTO STATION  
VALUES('SW06', 'Bintulu', 'KCH01A');
```

```
INSERT INTO STATION  
VALUES('SW06', 'Bintulu', 'KSN02A');
```

```
INSERT INTO STATION  
VALUES('SW06', 'Bintulu', 'SAN03A');
```

```
INSERT INTO STATION  
VALUES('SW06', 'Bintulu', 'SRK04A');
```

```
INSERT INTO STATION  
VALUES('SW06', 'Bintulu', 'SBU05A');
```

```
INSERT INTO STATION  
VALUES('SW06', 'Bintulu', 'BTL06A');
```

```
INSERT INTO STATION
```

VALUES('SW06', 'Bintulu', 'TWU13B');

INSERT INTO STATION
VALUES('SW06', 'Bintulu', 'LHD12B');

INSERT INTO STATION
VALUES('SW06', 'Bintulu', 'SDK11B');

INSERT INTO STATION
VALUES('SW06', 'Bintulu', 'KDT10B');

INSERT INTO STATION
VALUES('SW06', 'Bintulu', 'KKU09B');

INSERT INTO STATION
VALUES('SW06', 'Bintulu', 'LBG08B');

INSERT INTO STATION
VALUES('SW06', 'Bintulu', 'MRI07B');

INSERT INTO STATION
VALUES('SW06', 'Bintulu', 'BTL06B');

INSERT INTO STATION
VALUES('SW07', 'Miri', 'KCH01A');

INSERT INTO STATION
VALUES('SW07', 'Miri', 'KSN02A');

INSERT INTO STATION
VALUES('SW07', 'Miri', 'SAN03A');

INSERT INTO STATION
VALUES('SW07', 'Miri', 'SRK04A');

INSERT INTO STATION
VALUES('SW07', 'Miri', 'SBU05A');

INSERT INTO STATION
VALUES('SW07', 'Miri', 'BTL06A');

INSERT INTO STATION
VALUES('SW07', 'Miri', 'MRI07A');

INSERT INTO STATION
VALUES('SW07', 'Miri', 'TWU13B');

INSERT INTO STATION
VALUES('SW07', 'Miri', 'LHD12B');

INSERT INTO STATION
VALUES('SW07', 'Miri', 'SDK11B');

```
INSERT INTO STATION  
VALUES('SW07', 'Miri', 'KDT10B');
```

```
INSERT INTO STATION  
VALUES('SW07', 'Miri', 'KKU09B');
```

```
INSERT INTO STATION  
VALUES('SW07', 'Miri', 'LBG08B');
```

```
INSERT INTO STATION  
VALUES('SW07', 'Miri', 'MRI07B');
```

```
INSERT INTO STATION  
VALUES('SW08', 'Limbang', 'KCH01A');
```

```
INSERT INTO STATION  
VALUES('SW08', 'Limbang', 'KSN02A');
```

```
INSERT INTO STATION  
VALUES('SW08', 'Limbang', 'SAN03A');
```

```
INSERT INTO STATION  
VALUES('SW08', 'Limbang', 'SRK04A');
```

```
INSERT INTO STATION  
VALUES('SW08', 'Limbang', 'SBU05A');
```

```
INSERT INTO STATION  
VALUES('SW08', 'Limbang', 'BTL06A');
```

```
INSERT INTO STATION  
VALUES('SW08', 'Limbang', 'MRI07A');
```

```
INSERT INTO STATION  
VALUES('SW08', 'Limbang', 'LBG08A');
```

```
INSERT INTO STATION  
VALUES('SW08', 'Limbang', 'TWU13B');
```

```
INSERT INTO STATION  
VALUES('SW08', 'Limbang', 'LHD12B');
```

```
INSERT INTO STATION  
VALUES('SW08', 'Limbang', 'SDK11B');
```

```
INSERT INTO STATION  
VALUES('SW08', 'Limbang', 'KDT10B');
```

```
INSERT INTO STATION  
VALUES('SW08', 'Limbang', 'KKU09B');
```

```
INSERT INTO STATION  
VALUES('SW08', 'Limbang', 'LBG08B');
```

```
INSERT INTO STATION  
VALUES('SB09', 'Kota Kinabalu', 'KCH01A');
```

```
INSERT INTO STATION  
VALUES('SB09', 'Kota Kinabalu', 'KSN02A');
```

```
INSERT INTO STATION  
VALUES('SB09', 'Kota Kinabalu', 'SAN03A');
```

```
INSERT INTO STATION  
VALUES('SB09', 'Kota Kinabalu', 'SRK04A');
```

```
INSERT INTO STATION  
VALUES('SB09', 'Kota Kinabalu', 'SBU05A');
```

```
INSERT INTO STATION  
VALUES('SB09', 'Kota Kinabalu', 'BTL06A');
```

```
INSERT INTO STATION  
VALUES('SB09', 'Kota Kinabalu', 'MRI07A');
```

```
INSERT INTO STATION  
VALUES('SB09', 'Kota Kinabalu', 'LBG08A');
```

```
INSERT INTO STATION  
VALUES('SB09', 'Kota Kinabalu', 'KKU09A');
```

```
INSERT INTO STATION  
VALUES('SB09', 'Kota Kinabalu', 'TWU13B');
```

```
INSERT INTO STATION  
VALUES('SB09', 'Kota Kinabalu', 'SDK11B');
```

```
INSERT INTO STATION  
VALUES('SB09', 'Kota Kinabalu', 'KDT10B');
```

```
INSERT INTO STATION  
VALUES('SB09', 'Kota Kinabalu', 'KKU09B');
```

```
INSERT INTO STATION  
VALUES('SB10', 'Kudat', 'KCH01A');
```

```
INSERT INTO STATION  
VALUES('SB10', 'Kudat', 'KSN02A');
```

```
INSERT INTO STATION  
VALUES('SB10', 'Kudat', 'SAN03A');
```

```
INSERT INTO STATION  
VALUES('SB10', 'Kudat', 'SRK04A');
```

```
INSERT INTO STATION
```



```

VALUES('SB10', 'Kudat', 'SBU05A');

INSERT INTO STATION
VALUES('SB10', 'Kudat', 'BTL06A');

INSERT INTO STATION
VALUES('SB10', 'Kudat', 'MRI07A');

INSERT INTO STATION
VALUES('SB10', 'Kudat', 'LBG08A');

INSERT INTO STATION
VALUES('SB10', 'Kudat', 'KKU09A');

INSERT INTO STATION
VALUES('SB10', 'Kudat', 'KDT10A');

INSERT INTO STATION
VALUES('SB10', 'Kudat', 'TWU13B');

INSERT INTO STATION
VALUES('SB10', 'Kudat', 'LHD12B');

INSERT INTO STATION
VALUES('SB10', 'Kudat', 'SDK11B');

INSERT INTO STATION
VALUES('SB10', 'Kudat', 'KDT10B');

INSERT INTO STATION
VALUES('SB11', 'Sandakan', 'KCH01A');

INSERT INTO STATION
VALUES('SB11', 'Sandakan', 'KSN02A');

INSERT INTO STATION
VALUES('SB11', 'Sandakan', 'SAN03A');

INSERT INTO STATION
VALUES('SB11', 'Sandakan', 'SRK04A');

INSERT INTO STATION
VALUES('SB11', 'Sandakan', 'SBU05A');

INSERT INTO STATION
VALUES('SB11', 'Sandakan', 'BTL06A');

INSERT INTO STATION
VALUES('SB11', 'Sandakan', 'MRI07A');

INSERT INTO STATION
VALUES('SB11', 'Sandakan', 'LBG08A');

```

```
INSERT INTO STATION  
VALUES('SB11', 'Sandakan', 'KKU09A');
```

```
INSERT INTO STATION  
VALUES('SB11', 'Sandakan', 'KDT10A');
```

```
INSERT INTO STATION  
VALUES('SB11', 'Sandakan', 'SDK11A');
```

```
INSERT INTO STATION  
VALUES('SB11', 'Sandakan', 'TWU13B');
```

```
INSERT INTO STATION  
VALUES('SB11', 'Sandakan', 'LHD12B');
```

```
INSERT INTO STATION  
VALUES('SB11', 'Sandakan', 'SDK11B');
```

```
INSERT INTO STATION  
VALUES('SB12', 'Lahad Datu', 'KCH01A');
```

```
INSERT INTO STATION  
VALUES('SB12', 'Lahad Datu', 'KSN02A');
```

```
INSERT INTO STATION  
VALUES('SB12', 'Lahad Datu', 'SAN03A');
```

```
INSERT INTO STATION  
VALUES('SB12', 'Lahad Datu', 'SRK04A');
```

```
INSERT INTO STATION  
VALUES('SB12', 'Lahad Datu', 'SBU05A');
```

```
INSERT INTO STATION  
VALUES('SB12', 'Lahad Datu', 'BTL06A');
```

```
INSERT INTO STATION  
VALUES('SB12', 'Lahad Datu', 'MRI07A');
```

```
INSERT INTO STATION  
VALUES('SB12', 'Lahad Datu', 'LBG08A');
```

```
INSERT INTO STATION  
VALUES('SB12', 'Lahad Datu', 'KKU09A');
```

```
INSERT INTO STATION  
VALUES('SB12', 'Lahad Datu', 'KDT10A');
```

```
INSERT INTO STATION  
VALUES('SB12', 'Lahad Datu', 'SDK11A');
```

```
INSERT INTO STATION  
VALUES('SB12', 'Lahad Datu', 'LHD12A');
```

```
INSERT INTO STATION
VALUES('SB12', 'Lahad Datu', 'TWU13B');
```

```
INSERT INTO STATION
VALUES('SB12', 'Lahad Datu', 'LHD12B');
```

```
INSERT INTO STATION
VALUES('SB13', 'Tawau', 'KCH01A');
```

```
INSERT INTO STATION
VALUES('SB13', 'Tawau', 'KSN02A');
```

```
INSERT INTO STATION
VALUES('SB13', 'Tawau', 'SAN03A');
```

```
INSERT INTO STATION
VALUES('SB13', 'Tawau', 'SRK04A');
```

```
INSERT INTO STATION
VALUES('SB13', 'Tawau', 'SBU05A');
```

```
INSERT INTO STATION
VALUES('SB13', 'Tawau', 'BTL06A');
```

```
INSERT INTO STATION
VALUES('SB13', 'Tawau', 'MRI07A');
```

```
INSERT INTO STATION
VALUES('SB13', 'Tawau', 'LBG08A');
```

```
INSERT INTO STATION
VALUES('SB13', 'Tawau', 'KKU09A');
```

```
INSERT INTO STATION
VALUES('SB13', 'Tawau', 'KDT10A');
```

```
INSERT INTO STATION
VALUES('SB13', 'Tawau', 'SDK11A');
```

```
INSERT INTO STATION
VALUES('SB13', 'Tawau', 'LHD12A');
```

```
INSERT INTO STATION
VALUES('SB13', 'Tawau', 'TWU13B');
```

```
-----
INSERT INTO TICKET
VALUES('T001', 115, 'SBU05A', 'Sibu', 'Sandakan', 60, 34);
```

```
INSERT INTO TICKET
VALUES('T002', 115, 'SBU05A', 'Sibu', 'Sandakan', 60, 35);
```

```
INSERT INTO TICKET
```

VALUES('T003', 115, 'SBU05A', 'Sibu', 'Sandakan', 60, 36);

INSERT INTO TICKET
VALUES('T004', 115, 'SBU05A', 'Sibu', 'Sandakan', 60, 37);

INSERT INTO TICKET
VALUES('T005', 115, 'SBU05A', 'Sibu', 'Sandakan', 60, 38);

INSERT INTO TICKET
VALUES('T006', 116, 'KSN02A', 'Kota Samarahan', 'Bintulu', 40, 13);

INSERT INTO TICKET
VALUES('T007', 117, 'KCH01A', 'Kuching', 'Limbang', 70, 06);

INSERT INTO TICKET
VALUES('T008', 118, 'LBG08A', 'Limbang', 'Kota Kinabalu', 10, 03);

INSERT INTO TICKET
VALUES('T009', 119, 'SAN03A', 'Sri Aman', 'Sandakan', 80, 15);

INSERT INTO TICKET
VALUES('T010', 120, 'SRK04A', 'Sarikei', 'Miri', 30, 14);

INSERT INTO TICKET
VALUES('T011', 121, 'TWU13B', 'Tawau', 'Sandakan', 20, 26);

INSERT INTO TICKET
VALUES('T012', 122, 'TWU13B', 'Tawau', 'Sandakan', 20, 27);

INSERT INTO TICKET
VALUES('T013', 123, 'MRI07B', 'Miri', 'Kuching', 60, 04);

INSERT INTO TICKET
VALUES('T014', 124, 'MRI07B', 'Miri', 'Kota Samarahan', 50, 05);

INSERT INTO TICKET
VALUES('T015', 125, 'MRI07B', 'Miri', 'Kota Samarahan', 50, 07);

INSERT INTO TICKET
VALUES('T016', 125, 'MRI07B', 'Miri', 'Kota Samarahan', 50, 08);

INSERT INTO TICKET
VALUES('T017', 125, 'MRI07B', 'Miri', 'Kota Samarahan', 50, 09);

INSERT INTO TICKET
VALUES('T018', 125, 'MRI07B', 'Miri', 'Kota Samarahan', 50, 10);

INSERT INTO TICKET
VALUES('T019', 126, 'TWU13B', 'Tawau', 'Sandakan', 20, 28);

6. SQL Statements

6.1 List all the train available in the railway system.

```
SQL> select * from train;
```

TRAIN_	TOTALSEAT	ORIGIN	DESTINATION	ARRIVALTIM	DEPARTURET
KCH01A	60	Kuching	Tawau	06:00:00	18:00:00
KSN02A	60	Kota Samarahan	Tawau	06:00:00	17:00:00
SAN03A	60	Sri Aman	Tawau	06:00:00	16:00:00
SRK04A	60	Sarikei	Tawau	06:00:00	15:00:00
SBU05A	60	Sibu	Tawau	06:00:00	14:00:00
BTL06A	60	Bintulu	Tawau	06:00:00	13:00:00
MRI07A	60	Miri	Tawau	06:00:00	12:00:00
LBG08A	60	Limbang	Tawau	06:00:00	11:00:00
KKU09A	40	Kota Kinabalu	Tawau	06:00:00	10:00:00
KDT10A	40	Kudat	Tawau	06:00:00	09:00:00
SDK11A	40	Sandakan	Tawau	06:00:00	08:00:00

TRAIN_	TOTALSEAT	ORIGIN	DESTINATION	ARRIVALTIM	DEPARTURET
LHD12A	40	Lahad Datu	Tawau	06:00:00	07:00:00
TWU13B	60	Tawau	Kuching	06:00:00	17:00:00
LHD12B	60	Lahad Datu	Kuching	06:00:00	16:00:00
SDK11B	60	Sandakan	Kuching	06:00:00	15:00:00
KDT10B	60	Kudat	Kuching	06:00:00	14:00:00
KKU09B	60	Kota Kinabalu	Kuching	06:00:00	13:00:00
LBG08B	60	Limbang	Kuching	06:00:00	12:00:00
MRI07B	60	Miri	Kuching	06:00:00	11:00:00
BTL06B	60	Bintulu	Kuching	06:00:00	10:00:00
SBU05B	40	Sibu	Kuching	06:00:00	09:00:00
SRK04B	40	Sarikei	Kuching	06:00:00	08:00:00

TRAIN_	TOTALSEAT	ORIGIN	DESTINATION	ARRIVALTIM	DEPARTURET
SAN03B	40	Sri Aman	Kuching	06:00:00	07:00:00
KSN02B	40	Kota Samarahan	Kuching	06:00:00	06:00:00

24 rows selected.

6.2 Find the train which moves from SibU to Kuching.

```
SQL> SELECT train_id
  2 FROM train
  3 WHERE origin like 'Sibu' and destination like 'Kuching';

TRAIN_
-----
SBU05B
```

6.3 Allow the admin to add a new station which is newly built and display the new list of stations available.

```
SQL> INSERT INTO Station
  2 VALUES ('BR14', 'Bandar Seri Begawan', 'KCH01A');

1 row created.

SQL>
SQL> SELECT * FROM STATION
  2 ORDER BY STN_ID;

STN_ID SNAME                                     TRAIN_
-----
BR14    Bandar Seri Begawan                        KCH01A
SB09    Kota Kinabalu                             KCU09B
SB09    Kota Kinabalu                             KDT10B
SB09    Kota Kinabalu                             SDK11B
SB09    Kota Kinabalu                             TWU13B
SB09    Kota Kinabalu                             KCU09A
SB09    Kota Kinabalu                             LBG08A
SB09    Kota Kinabalu                             KCH01A
SB09    Kota Kinabalu                             BTL06A
SB09    Kota Kinabalu                             SBU05A
SB09    Kota Kinabalu                             SRK04A
SB09    Kota Kinabalu                             SAN03A
SB09    Kota Kinabalu                             KSN02A
SB09    Kota Kinabalu                             MRI07A
SB10    Kudat                                     SDK11B
```

6.4 Allow the admin to add a new registered user into the railway system.

```
SQL> INSERT INTO USERTABLE VALUES
2 (555, 'asdfghjk10', 'Muhammad Ahmad', 50, 'muhammad.ahmad@yahoo.com', 6019284736, 'Seri Kembangan, Selangor');

1 row created.

SQL> select * from usertable;
```

USER_ID	PASSWORD	NAME	AGE	EMAIL	PHONE	ADDRESS
252	brkaktush9	Sabrina Fasha	20	sabrinafasha_252@yahoo.com.my	6016306998	20, Jalan Tanjung Balai 30/94, Shah Alam
910	mayhxmm10	Maisarah Hamzah	20	mayhxmm@gmail.com	6014961749	15, Jalan Kasturi Kemuning, Sentul
144	sonia1111	Tabassum Antu	23	tabassumantu00@gmail.com	6011549744	Mahallah Aminah, Jalan Gombak, Gombak
711	nana802	Nor Aliah	20	aliahazm99@gmail.com	6019647667	19, Jalan Warisan Megah 1/6, Setiawangsa
169	fadaajwa916	Fadhilah Ajwa	19	fadhilahajwa06@gmail.com	6012344042	
291	nadnood12	Nur Nadiyah	20	nadiyahazmi@gmail.com	6017292265	13, Jalan Presint 14, Putrajaya
269	brabil09	Nabil Aqwa	19	nabilaqwa@gmail.com	6011756822	29, Desa Balqis, Bangi
177	brbotak17	Farhan Iqwan	19	farhaniqwan@gmail.com	6012353448	12, Jalan Kampung Saniy, Bangi
410	jokizz04	Izzat Yuza	36	izzatyuza@gmail.com	6017888934	10, Jalan Sungai Buaya Putih, Kuching
152	paizlarh12	Faiz Haziq	27	paizhaziq@gmail.com	6019876543	12, Jalan Sungai Buaya, Kota Kinabalu
188	faraelz10	Khairil Ashraf	45	khairilashburn@gmail.com	6016446576	11, Jalan Sungai Buaya Darat, Tawau

USER_ID	PASSWORD	NAME	AGE	EMAIL	PHONE	ADDRESS
912	brreenz13	Nazreen Ahmad	17	nazreenz@gmail.com		45, Jalan Kampung Pelanduk, Miri
555	asdfghjk10	Muhammad Ahmad	50	muhammad.ahmad@yahoo.com	6019284736	Seri Kembangan, Selangor

```
13 rows selected.
```

6.5 List all the train that make a stop at Lahad Datu.

```
SQL> SELECT * FROM STATION
2 WHERE SNAME LIKE 'Lahad Datu';
```

STN_ID	SNAME	TRAIN_
SB12	Lahad Datu	KCH01A
SB12	Lahad Datu	KSN02A
SB12	Lahad Datu	SAN03A
SB12	Lahad Datu	SRK04A
SB12	Lahad Datu	SBU05A
SB12	Lahad Datu	BTL06A
SB12	Lahad Datu	MRI07A
SB12	Lahad Datu	LBG08A
SB12	Lahad Datu	KKU09A
SB12	Lahad Datu	KDT10A
SB12	Lahad Datu	SDK11A
SB12	Lahad Datu	LHD12A
SB12	Lahad Datu	TWU13B
SB12	Lahad Datu	LHD12B

```
14 rows selected.
```


6.6 Allow the admin to remove a passenger.

```
SQL> DELETE FROM PASSENGER WHERE PNAME = 'Nor Aliah';

1 row deleted.

SQL> SELECT * FROM PASSENGER;
```

BOOKING_NO	USER_ID	TRAIN_	PNAME	PPHONE
115	252	SBU05A	Sabrina Fasha	6016306998
115	252	SBU05A	Adam Haikal	6014221712
115	252	SBU05A	Huud Rayyan	6014222712
115	252	SBU05A	Wardina Sofia	6014441712
115	252	SBU05A	Adib Nurman	6014221772
117	910	KCH01A	Maisarah Hamzah	6014961749
118	144	LBG08A	Tabassum Antu	6011549744
119	169	SAN03A	Fadhilah Ajwa	6012344042
120	291	SRK04A	Nur Nadiyah	6017292265
121	269	TWU13B	Nabil Aqwa	6011756822
122	177	TWU13B	Farhan Iqwan	6012353448

BOOKING_NO	USER_ID	TRAIN_	PNAME	PPHONE
123	410	MRI07B	Izzat Yuza	6017888934
124	144	MRI07B	Khairil Ashraf	6017888934
125	152	MRI07B	Faiz Haziq	6019876543
126	912	TWU13B	Nazreen Ahmad	

```
15 rows selected.
```

6.7 Modify the phone number of a user.

```
SQL> UPDATE USERTABLE
2 SET PHONE = 6012938475
3 WHERE USER_ID = 188;

1 row updated.

SQL> SELECT USER_ID, PHONE
2 FROM USERTABLE;
```

USER_ID	PHONE
252	6016306998
910	6014961749
144	6011549744
711	6019647667
169	6012344042
291	6017292265
269	6011756822
177	6012353448
410	6017888934
152	6019876543
188	6012938475

USER_ID	PHONE
912	
555	6019284736

```
13 rows selected.
```


6.8 Modify the time schedule of a train.

```
SQL> UPDATE TRAIN
  2 SET DEPARTURETIME = '16:30:00', ARRIVALTIME = '06:30:00'
  3 WHERE TRAIN_ID = 'LHD12B';

1 row updated.

SQL> SELECT * FROM TRAIN WHERE TRAIN_ID = 'LHD12B';
```

TRAIN_	TOTALSEAT	ORIGIN	DESTINATION	ARRIVALTIM	DEPARTURET
LHD12B	60	Lahad Datu	Kuching	06:30:00	16:30:00

6.9 List the number of trains that stop in each station.

```
SQL> SELECT SNAME, COUNT(TRAIN_ID)
  2 FROM STATION
  3 GROUP BY SNAME
  4 ORDER BY SNAME;
```

SNAME	COUNT(TRAIN_ID)
Bandar Seri Begawan	1
Bintulu	14
Kota Kinabalu	13
Kota Samarahan	14
Kuching	13
Kudat	14
Lahad Datu	14
Limbang	14
Miri	14
Sandakan	14
Sarikei	14
Sibu	14
Sri Aman	14
Tawau	13

14 rows selected.

6.10 List the booking number, name of passengers and the price of their tickets.

```
SQL> SELECT DISTINCT Passenger.Booking_No, Passenger.PName, Ticket.Price
2  FROM Passenger
3  INNER JOIN Ticket
4  ON Passenger.Booking_No=Ticket.Booking_No
5  ORDER BY PRICE;
```

BOOKING_NO	PNAME	PRICE
118	Tabassum Antu	10
122	Farhan Iqwan	20
121	Nabil Aqwa	20
126	Nazreen Ahmad	20
120	Nur Nadiah	30
116	Nor Aliah	40
125	Faiz Haziq	50
124	Khairil Ashraf	50
115	Adam Haikal	60
115	Adib Nurman	60
115	Huud Rayyan	60

BOOKING_NO	PNAME	PRICE
123	Izzat Yuza	60
115	Sabrina Fasha	60
115	Wardina Sofia	60
117	Maisarah Hamzah	70
119	Fadhilah Ajwa	80

16 rows selected.

7. Procedure

Procedure 1 : Add New User

```
SQL> CREATE OR REPLACE PROCEDURE AddNewUser
 2  (u_ID      usertable.user_id%TYPE,
 3  u_password usertable.password%TYPE,
 4  u_name     usertable.name%TYPE,
 5  u_age      usertable.age%TYPE,
 6  u_email    usertable.email%TYPE)
 7  AS
 8  BEGIN
 9  INSERT INTO usertable (user_id, password, name, age, email)
10  VALUES (u_ID, u_password, u_name, u_age, u_email);
11  END AddNewUser;
12  /

Procedure created.

SQL> @"C:\Users\Nor Aliah\Documents\Database Programming\callprocedure1.txt"
Enter the user ID: 333
Enter the user password: entahlah
Enter the user name: Mia Sarah
Enter the user age: 55
Enter the user email: miasarah@gmail.com
The data is successfully entered.

PL/SQL procedure successfully completed.

SQL> select * from usertable;
```

USER_ID	PASSWORD	NAME	AGE	EMAIL	PHONE	ADDRESS
252	brkaktush9	Sabrina Fasha	20	sabrinafasha_252@yahoo.com.my	6016306998	20, Jalan Tanjung Balai 30/94, Shah Alam
910	mayhxmm10	Maisarah Hamzah	20	mayhxmm@gmail.com	6014961749	15, Jalan Kasturi Kemuning, Sentul
144	sonia1111	Tabassum Antu	23	tabassumantu00@gmail.com	6011549744	Mahallah Aminah, Jalan Gombak, Gombak
711	nana802	Nor Aliah	20	aliahazm99@gmail.com	6019647667	19, Jalan Warisan Megah 1/6, Setiawangsa
169	fadaajwa916	Fadhilah Ajwa	19	fadhilahajwa06@gmail.com	6012344042	
291	nadnood12	Nur Nadiah	20	nadiahazmi@gmail.com	6017292265	13, Jalan Presint 14, Putrajaya
269	brabil09	Nabil Aqwa	19	nabilaqwa@gmail.com	6011756822	29, Desa Balqis, Bangi
177	brbotak17	Farhan Iqwan	19	farhaniqwan@gmail.com	6012353448	12, Jalan Kampung Saniy, Bangi
410	jokizz04	Izzat Yuza	36	izzatyuza@gmail.com	6017888934	10, Jalan Sungai Buaya Putih, Kuching
152	paizlarh12	Faiz Haziq	27	paizhaziq@gmail.com	6019876543	12, Jalan Sungai Buaya, Kota Kinabalu
188	faraelz10	Khairil Ashraf	45	khairilashburn@gmail.com	6012938475	11, Jalan Sungai Buaya Darat, Tawau
912	brreenz13	Nazreen Ahmad	17	nazreenz@gmail.com		45, Jalan Kampung Pelanduk, Miri
555	asdfghjk10	Muhammad Ahmad	50	muhammad.ahmad@yahoo.com	6019284736	Seri Kembangan, Selangor
333	entahlah	Mia Sarah	55	miasarah@gmail.com		

```
14 rows selected.
```

(callprocedure1.txt)

SET VERIFY OFF

SET SERVEROUTPUT ON

ACCEPT u_ID PROMPT 'Enter the user ID: '

ACCEPT u_password PROMPT 'Enter the user password: '

ACCEPT u_name PROMPT 'Enter the user name: '

ACCEPT u_age PROMPT 'Enter the user age: '

ACCEPT u_email PROMPT 'Enter the user email: '

BEGIN

AddNewUser ('&u_ID', '&u_password', '&u_name', '&u_age', '&u_email');

DBMS_OUTPUT.put_line('The data is successfully entered.');

END;

/

Procedure 2 : Retrieve train details

```
SQL> CREATE OR REPLACE PROCEDURE TrainDetails
  2  (t_id train.train_id%TYPE)
  3
  4  IS
  5  t_totalseat train.totalseat%TYPE;
  6  t_origin train.origin%TYPE;
  7  t_destination train.destination%TYPE;
  8  t_arrivaltime train.arrivaltime%TYPE;
  9  t_departuretime train.departuretime%TYPE;
 10
 11 BEGIN
 12
 13 SELECT totalseat, origin, destination, arrivaltime, departuretime
 14 INTO t_totalseat, t_origin, t_destination, t_arrivaltime, t_departuretime
 15 FROM train
 16 WHERE train_id = t_id;
 17
 18 DBMS_OUTPUT.put_line('Total seats: '||t_totalseat);
 19 DBMS_OUTPUT.put_line('Origin: '||t_origin);
 20 DBMS_OUTPUT.put_line('Destination: '||t_destination);
 21 DBMS_OUTPUT.put_line('Arrival time: '||t_arrivaltime);
 22 DBMS_OUTPUT.put_line('Departure time: '||t_departuretime);
 23
 24 EXCEPTION
 25 WHEN NO_DATA_FOUND THEN
 26 DBMS_OUTPUT.PUT_LINE('Train ID '||t_id||' not found.');
```

Procedure created.

```
SQL> @"C:\Users\Nor Aliah\Documents\Database Programming\callprocedure2.txt"
Enter train ID: TWU13B
Total seats: 60
Origin: Tawau
Destination: Kuching
Arrival time: 06:00:00
Departure time: 17:00:00
```

PL/SQL procedure successfully completed.

```
SQL> @"C:\Users\Nor Aliah\Documents\Database Programming\callprocedure2.txt"
Enter train ID: DU8YW
Train ID DU8YW not found.
```

PL/SQL procedure successfully completed.

(callprocedure2.txt)

SET VERIFY OFF

SET SERVEROUTPUT ON

ACCEPT t_id PROMPT 'Enter train ID: '

BEGIN

TrainDetails('&t_id');

END;

/

8. Functions

Function 1 : Retrieve ticket price

```
SQL> create or replace function ticketprice (t_origin in varchar2, t_destination in varchar2)
2  return number
3  is
4  totalprice number;
5  t_price1 number;
6  t_price2 number;
7  t_price number := 10;
8  begin
9
10 if t_origin = 'Kuching' then t_price1 := 1;
11 elsif t_origin = 'Kota Samarahan' then t_price1 := 2;
12 elsif t_origin = 'Sri Aman' then t_price1 := 3;
13 elsif t_origin = 'Sarikei' then t_price1 := 4;
14 elsif t_origin = 'Sibu' then t_price1 := 5;
15 elsif t_origin = 'Bintulu' then t_price1 := 6;
16 elsif t_origin = 'Miri' then t_price1 := 7;
17 elsif t_origin = 'Limbang' then t_price1 := 8;
18 elsif t_origin = 'Kota Kinabalu' then t_price1 := 9;
19 elsif t_origin = 'Kudat' then t_price1 := 10;
20 elsif t_origin = 'Sandakan' then t_price1 := 11;
21 elsif t_origin = 'Lahad Datu' then t_price1 := 12;
22 elsif t_origin = 'Tawau' then t_price1 := 13;
23 else dbms_output.put_line('The station you have entered is invalid.');
```

```
24
25 end if;
26
27 if t_destination = 'Kuching' then t_price2 := 1;
28 elsif t_destination = 'Kota Samarahan' then t_price2 := 2;
29 elsif t_destination = 'Sri Aman' then t_price2 := 3;
30 elsif t_destination = 'Sarikei' then t_price2 := 4;
31 elsif t_destination = 'Sibu' then t_price2 := 5;
32 elsif t_destination = 'Bintulu' then t_price2 := 6;
33 elsif t_destination = 'Miri' then t_price2 := 7;
34 elsif t_destination = 'Limbang' then t_price2 := 8;
35 elsif t_destination = 'Kota Kinabalu' then t_price2 := 9;
36 elsif t_destination = 'Kudat' then t_price2 := 10;
37 elsif t_destination = 'Sandakan' then t_price2 := 11;
38 elsif t_destination = 'Lahad Datu' then t_price2 := 12;
39 elsif t_destination = 'Tawau' then t_price2 := 13;
40 else dbms_output.put_line('The station you have entered is invalid.');
```

```
41
42 end if;
43
44 totalprice := (t_price2 - t_price1) * t_price;
45
46 return(totalprice);
47
48
49 end;
50 /
```

```
SQL> @C:\Users\Nor Aliah\Documents\Database Programming\callfunction1.txt"
Enter origin: Kuching
Enter destination: Kota Kinabalu
Your total ticket price is RM80

PL/SQL procedure successfully completed.

SQL> @C:\Users\Nor Aliah\Documents\Database Programming\callfunction1.txt"
Enter origin: hdias
Enter destination: nsa
The station you have entered is invalid.
The station you have entered is invalid.
Your total ticket price is RM

PL/SQL procedure successfully completed.
```


(callfunction1.txt)

```
SET VERIFY OFF
SET SERVEROUTPUT ON
ACCEPT v_ori PROMPT 'Enter origin: '
ACCEPT v_dest PROMPT 'Enter destination: '
declare
    v_ori train.origin%type;
    v_dest train.destination%type;
    v_price number(6);
BEGIN

v_price := ticketprice('&v_ori', '&v_dest');

DBMS_OUTPUT.put_line('Your total ticket price is RM'||abs(v_price));
END;
/
```

Funtion 2 : Get ticket discount

```
SQL> create or replace function ticket_discount (age in VARCHAR2)
2  return number
3  is
4  discount number;
5  begin
6  if age <= 3 then discount := 0.7;
7  elsif age >= 30 then discount := 0.5;
8  else discount := 0;
9  end if;
10 return(discount);
11 end;
12 /

Function created.

SQL> @"C:\Users\Nor Aliah\Documents\Database Programming\callfunction2.txt"
Enter Your Ticket No : T014
Your ticket price is RM50
Your ticket price after discount is RM25

PL/SQL procedure successfully completed.

SQL> @"C:\Users\Nor Aliah\Documents\Database Programming\callfunction2.txt"
Enter Your Ticket No : T006
Your ticket price is RM40

PL/SQL procedure successfully completed.
```

(callfunction2.txt)

```
SET VERIFY OFF
SET SERVEROUTPUT ON
ACCEPT t_no PROMPT 'Enter Your Ticket No : '
declare
    v_name passenger.pname%type;
    v_age passenger.page%type;
    t_price ticket.price%type;
```

```

        v_disc number;
        v_priceafter number(6,2);
BEGIN

        select pname, page, price
        into v_name, v_age, t_price
        from ticket t , passenger p
        where t.booking_no = p.booking_no
        and ticket_no = '&t_no';

        v_disc := ticket_discount(v_age);
        v_priceafter := t_price * (1 - v_disc);

        if v_disc != 0 then

                DBMS_OUTPUT.put_line('Your ticket price is RM'||t_price);
                DBMS_OUTPUT.put_line('Your ticket price after discount is RM'||v_priceafter);
        else
                DBMS_OUTPUT.put_line('Your ticket price is RM'||t_price);
        end if;
END;
/

```

Cursor : List the first ten passengers

```

SQL> DECLARE
2  v_booking_no      passenger.booking_no%TYPE;
3  v_train_id        passenger.train_id%TYPE;
4  v_pname           passenger.pname%TYPE;
5  CURSOR p_cursor IS
6    SELECT booking_no, train_id, pname
7    FROM passenger;
8  BEGIN
9    OPEN p_cursor;
10   LOOP
11     FETCH p_cursor INTO v_booking_no, v_train_id, v_pname;
12     EXIT WHEN p_cursor%ROWCOUNT > 10 OR p_cursor%NOTFOUND;
13     DBMS_OUTPUT.PUT_LINE(v_booking_no||' '||v_train_id||' '||v_pname);
14   END LOOP;
15   CLOSE p_cursor;
16   END;
17   /
115  SBU05A  Sabrina Fasha
115  SBU05A  Adam Haikal
115  SBU05A  Huud Rayyan
115  SBU05A  Wardina Sofia
115  SBU05A  Adib Nurman
116  KSN02A  Nor Aliah
117  KCH01A  Maisarah Hamzah
118  LBG08A  Tabassum Antu
119  SAN03A  Fadhilah Ajwa
120  SRK04A  Nur Nadiyah

PL/SQL procedure successfully completed.

```