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## ***Travel Management and Tourism Guidance System***

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## Contents

Introduction.....	3
Reason behind choosing it .....	3
Requirements .....	4
Entities .....	5
Conceptual Design (EER Diagram) .....	6
Logical Design (Relational Schema) .....	7
Creating Database Relations .....	8
Inserting a record .....	13
Tables data after insertion .....	17
Modifying a record .....	21
Deleting a record .....	23
Retrieving a record .....	24

## Introduction

Our system will help clients connect with experienced tour guides, decrease the amount of money and time spent by reducing user's effort and by providing the best prices, as well as guiding them to the most famous tourist places near their hotel or place of stay. It may provide a range of services, such as recommending destinations and attractions, booking accommodations and transportation, and offering local recommendations for restaurants, events, and activities. This application is aiming to enhance the tourism experience for our clients.

## Reason behind choosing it

The reason behind choosing this system is to make tourism easier and the ability for the user to have access to the best tourism sites using available data to detect what is more suitable for the user's situation based on their location, preferences and what is more trending at the moment. We provide solutions to some of the problems that the clients may face, such as getting scammed from unauthorized places, difficulties in booking a place to stay, transportation issues, and inflexible schedules. Moreover, every transaction, or activity offered by our organization will be recorded and documented in our database.

The team work will be equally distributed among the team members (team-work during each phase).

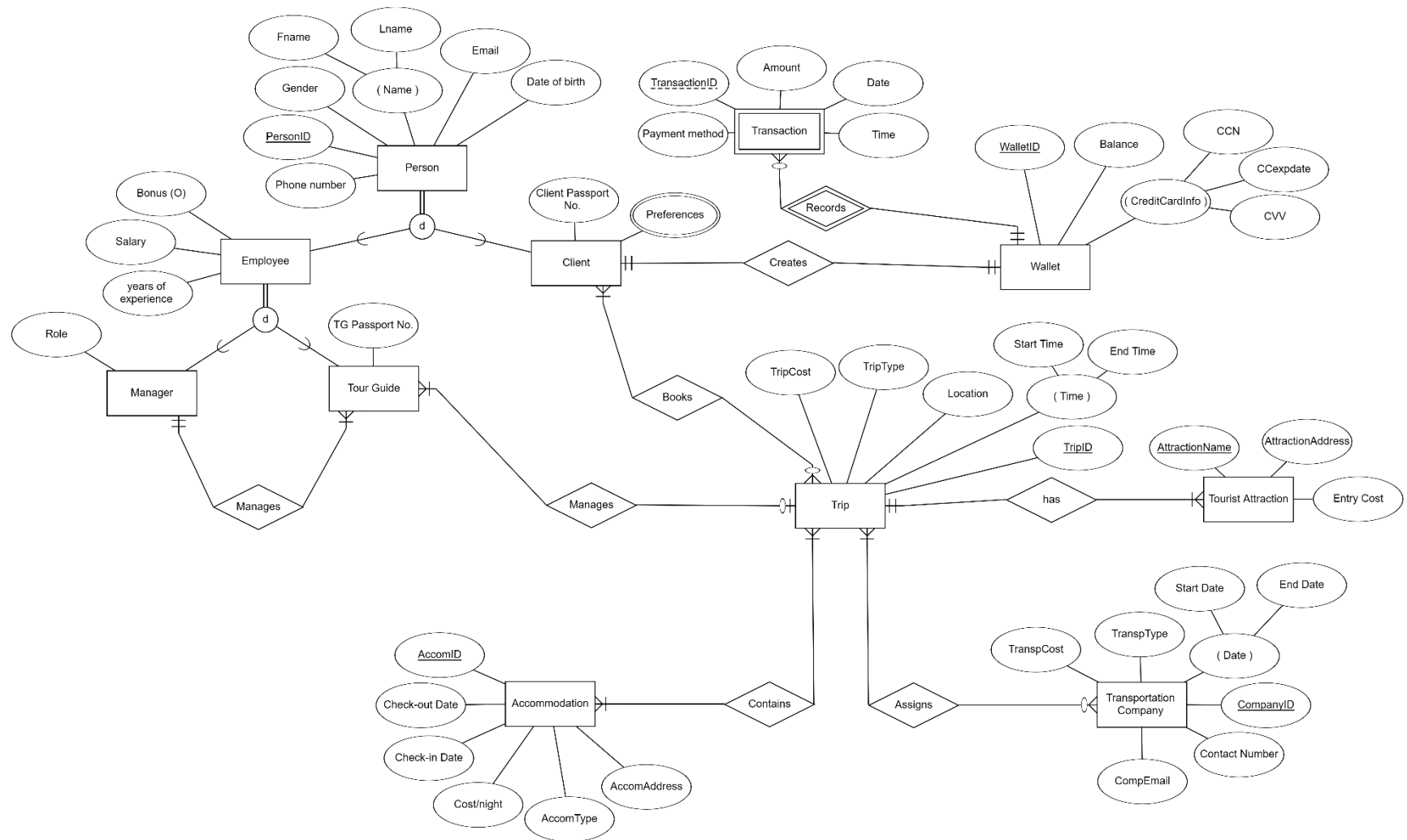
## Requirements

- A **Person** in this system can be a **Client** or an **Employee**, and for each person the following data is recorded: Person ID (unique), name (composed of first and last name), email, gender, phone number, date of birth.
- For each **Client** an additional data will be stored: Passport No., Preferences (multivalued).
- For each **Employee**: salary, years of experience, bonus (optional).  
An Employee can be a **Manager** with his role recorded or a **Tour Guide**, and the tour guide passport number is recorded.
- For each **Trip**: Trip ID (unique), type, time (composite of start time and end time), date (composite of start date and end date), duration, location, cost, description.
- For each **Tourist attraction**: Tourist attraction name (unique), address, entry cost.
- For each **Accommodation**: Accommodation ID (unique), type, address, cost/night, check-in date, check-out date.
- For each **Transportation Company**: Company ID (unique), contact number, email, cost, date (composite of start date and end date), transportation type.
- For each **Wallet**: Wallet ID (unique), balance, credit card info (composed of credit card number, credit card exp date, credit card CVV).
- For each **Transaction**: Transaction ID (unique), amount, time, date, payment method.
- Each Client can book between zero and many trips, a trip can be booked by one or more Client. A Client can create a single wallet and is managed only by him.
- Client's wallet records if transactions are carried out.
- Each trip has many tourist attractions. And several trips contain many accommodation places. Each trip can assign many transportation companies. A single trip can be managed by many tour guides.
- One manager should manage at least one tour guide.

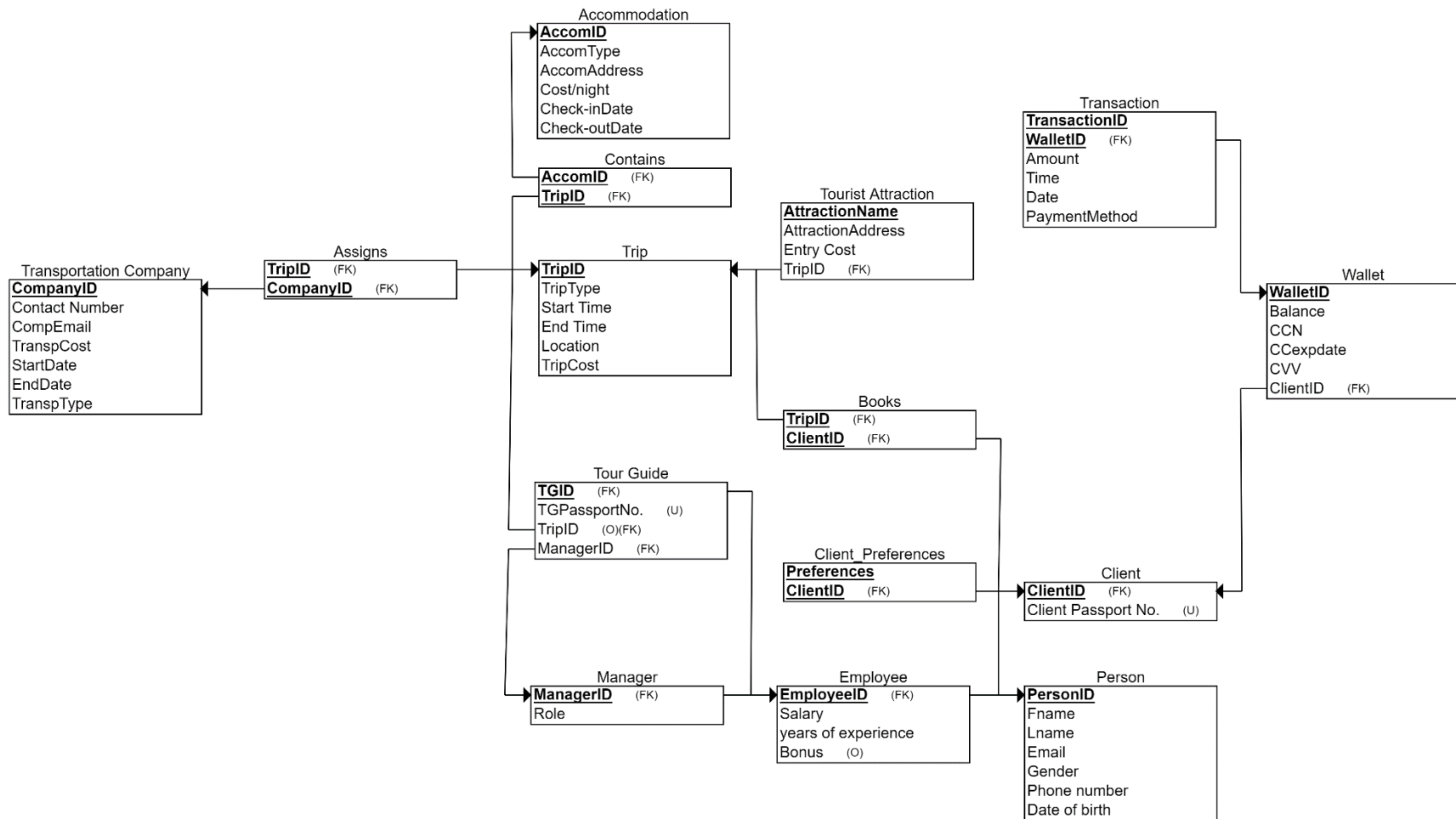
## Entities

1. Person
2. Client
3. Employees
4. Manager
5. Tour guide
6. Trip
7. Tourist attraction
8. Accommodation
9. Transportation company
10. Wallet
11. Transaction

## Conceptual Design (EER Diagram)



## Logical Design (Relational Schema)



## Creating Database Relations

Note: All tables creation, data manipulation, and data retrieval have been done using Oracle Live SQL.

```
-- Person table
CREATE TABLE person(
person_id varchar(8),
fname varchar(20),
lname varchar(20),
email varchar(100),
gender char(1),
phone_number char(10),
dob date,
CONSTRAINT pid_pk PRIMARY KEY(person_id)
);

-- Employee table
CREATE TABLE employee(
emp_id varchar(8),
salary number(5),
years_of_experience number(2),
bonus number(5),
CONSTRAINT empid_pk PRIMARY KEY(emp_id),
CONSTRAINT empid_fk FOREIGN KEY(emp_id) REFERENCES person(person_id)
);

-- Client table
CREATE TABLE client(
client_id varchar(8),
client_pass_no varchar(10),
CONSTRAINT clid_pk PRIMARY KEY(client_id),
CONSTRAINT clid_fk FOREIGN KEY(client_id) REFERENCES person(person_id),
CONSTRAINT client_pass_no_u UNIQUE(client_pass_no)
);
```



```
-- Client Preferences table
CREATE TABLE preferences(
client_id varchar(8),
preference varchar(100),
CONSTRAINT clid_pref_pk PRIMARY KEY(client_id, preference),
CONSTRAINT clid_pfk FOREIGN KEY(client_id) REFERENCES client(client_id)
);

-- Manager table
CREATE TABLE manager(
manager_id varchar(8),
role varchar(20),
CONSTRAINT manager_id_pk PRIMARY KEY(manager_id),
CONSTRAINT manager_id_mfk FOREIGN KEY(manager_id) REFERENCES employee(emp_id)
);

-- Trip table
CREATE TABLE trip(
trip_id varchar(8),
trip_type varchar(20),
start_time char(5),
end_time char(5),
trip_location varchar(100),
trip_cost number(10),
CONSTRAINT trip_id_pk PRIMARY KEY(trip_id)
);
```

```

-- Tour Guide table
CREATE TABLE tourGuide(
  tg_id varchar(8),
  tg_pass_no varchar(10),
  trip_id varchar(8),
  manager_id varchar(8),
  CONSTRAINT tgid_pk PRIMARY KEY(tg_id),
  CONSTRAINT tgid_fk FOREIGN KEY(tg_id) REFERENCES employee(emp_id),
  CONSTRAINT trip_id_fk FOREIGN KEY(trip_id) REFERENCES trip(trip_id),
  CONSTRAINT tg_pass_no_u UNIQUE(tg_pass_no)
);

-- Books table
CREATE TABLE books(
  client_id varchar(8),
  trip_id varchar(8),
  CONSTRAINT clid_tid_pk PRIMARY KEY(client_id, trip_id),
  CONSTRAINT clid_bfk FOREIGN KEY(client_id) REFERENCES client(client_id),
  CONSTRAINT trip_id_bfk FOREIGN KEY(trip_id) REFERENCES trip(trip_id)
);

-- Tourist Attraction
CREATE TABLE touristAttraction(
  attraction_name varchar(25),
  attraction_address varchar(100),
  entry_cost number(10),
  trip_id varchar(8),
  CONSTRAINT attraction_name_pk PRIMARY KEY(attraction_name),
  CONSTRAINT trip_id_tfk FOREIGN KEY(trip_id) REFERENCES trip(trip_id)
);

```

```

-- Accommodation table
CREATE TABLE accommodation(
accom_id varchar(8),
accom_type varchar(20),
accom_address varchar(100),
cost_per_night number(10),
checkin_date date,
checkout_date date,
CONSTRAINT accom_id_pk PRIMARY KEY(accom_id)
);

-- Contains table
CREATE TABLE contains(
accom_id varchar(8),
trip_id varchar(8),
CONSTRAINT accid_tid_pk PRIMARY KEY(accom_id, trip_id),
CONSTRAINT accid_cfk FOREIGN KEY(accom_id) REFERENCES accommodation(accom_id),
CONSTRAINT trip_id_cfk FOREIGN KEY(trip_id) REFERENCES trip(trip_id)
);

-- Transportation Company
CREATE TABLE transportationCompany(
tc_id varchar(8),
contact_number char(10),
tc_email varchar(100),
cost number(10),
start_date date,
end_date date,
transp_type varchar(10),
CONSTRAINT tc_id_pk PRIMARY KEY(tc_id)
);

```

```

-- Assigns table
CREATE TABLE assigns(
tc_id varchar(8),
trip_id varchar(8),
CONSTRAINT tcid_tid_pk PRIMARY KEY(tc_id, trip_id),
CONSTRAINT tcid_afk FOREIGN KEY(tc_id) REFERENCES transportationCompany(tc_id),
CONSTRAINT trip_id_afk FOREIGN KEY(trip_id) REFERENCES trip(trip_id)
);

-- Wallet table
CREATE TABLE wallet(
wallet_id varchar(8),
balance number(15),
ccn char(16),
cc_exp date,
cvv char(3),
client_id varchar(8),
CONSTRAINT wallet_id_pk PRIMARY KEY(wallet_id),
CONSTRAINT clid_wfk FOREIGN KEY(client_id) REFERENCES client(client_id)
);

-- Transaction table
CREATE TABLE transaction(
trans_id varchar(8),
wallet_id varchar(8),
amount number(15),
trans_time char(5),
trans_date date,
payment_method varchar(15),
CONSTRAINT trans_id_pk PRIMARY KEY(trans_id),
CONSTRAINT wallet_id_tfk FOREIGN KEY(wallet_id) REFERENCES wallet(wallet_id)
);

```

## Inserting a record

```
-- INSERT INTO person (person_id, fname, lname, email, gender, phone_number, dob)
INSERT INTO person VALUES('A0001', 'John', 'Smith', 'john.smith@gmail.com', 'M', '0787372624', '01-jan-1980');
INSERT INTO person VALUES('A0002', 'Jane', 'Doe', 'jane.doe@hotmail.com', 'F', '0789376750', '15-mar-1985');
INSERT INTO person VALUES('A0003', 'Michael', 'Brown', 'michael.brown@yahoo.com', 'M', '0784384773', '30-may-1990');
INSERT INTO person VALUES('A0004', 'Alice', 'Johnson', 'alice.johnson@outlook.com', 'F', '0772472761', '14-jul-1995');
INSERT INTO person VALUES('A0005', 'Mustafa', 'Ehab', 'mustafa.ehab@gmail.com', 'M', '0788838684', '28-sep-2000');
INSERT INTO person VALUES('A0006', 'Sarah', 'Smith', 'sarah.smith@gmail.com', 'F', '0777737373', '12-DEC-2001');
INSERT INTO person VALUES('A0007', 'Omar', 'Mustafa', 'omar.mustafa@gmail.com', 'M', '0766644444', '25-FEB-1997');
INSERT INTO person VALUES('A0008', 'Hadeel', 'Maher', 'hadeel.maher@yahoo.com', 'F', '0755522221', '10-APR-1980');
INSERT INTO person VALUES('A0009', 'David', 'Taylor', 'david.taylor@outlook.com', 'M', '0744400000', '20-JUN-2003');
INSERT INTO person VALUES('A00010', 'Emily', 'Anderson', 'emily.anderson@gmail.com', 'F', '0733277777', '05-AUG-1999');
INSERT INTO person VALUES('A00011', 'Mohammed', 'Fouad', 'mohammed.fouad@gmail.com', 'M', '0744413432', '20-JUL-1975');
INSERT INTO person VALUES('A00012', 'Sara', 'Fares', 'sara.fares@hotmail.com', 'F', '0733277777', '15-AUG-1973');
INSERT INTO person VALUES('A00013', 'Sanaa', 'Ahmad', 'sanaa.ahmad@hotmail.com', 'F', '0777753217', '18-JUL-1993');

-- INSERT INTO employee (emp_id, salary, years_of_experience, bonus)
INSERT INTO employee VALUES('A0001', 30000, 5, 3000);
INSERT INTO employee VALUES('A0002', 40000, 10, 4000);
INSERT INTO employee VALUES('A0003', 43000, 12, 4500);
INSERT INTO employee VALUES('A0004', 35000, 8, 3500);
INSERT INTO employee VALUES('A0005', 50000, 20, 5000);
INSERT INTO employee VALUES('A00011', 43000, 12, 4500);
INSERT INTO employee VALUES('A00012', 55000, 11, 4300);
INSERT INTO employee VALUES('A00013', 33000, 9, 4400);

-- INSERT INTO client (client_id, client_pass_no)
INSERT INTO client VALUES('A0006', 'P736728');
INSERT INTO client VALUES('A0007', 'P13392813');
INSERT INTO client VALUES('A0008', 'P372684');
INSERT INTO client VALUES('A0009', 'P25237');
INSERT INTO client VALUES('A00010', 'P83373428');
```

```

-- INSERT INTO preferences (client_id, preference)
INSERT INTO preferences VALUES('A0006', 'beaches');
INSERT INTO preferences VALUES('A0006', 'hiking');
INSERT INTO preferences VALUES('A0007', 'cultural experiences');
INSERT INTO preferences VALUES('A0007', 'fine dining');
INSERT INTO preferences VALUES('A0009', 'adventure sports');

-- INSERT INTO manager (manager_id, role)
-- Only 3 insertions were made, because not all employees are managers.
INSERT INTO manager VALUES('A0003', 'operational manager');
INSERT INTO manager VALUES('A00011', 'regional manager');
INSERT INTO manager VALUES('A00012', 'operational manager');

-- INSERT INTO trip (trip_id, trip_type, start_time, end_time, trip_location, trip_cost)
INSERT INTO trip VALUES('T0001', 'beach vacation', '09:00', '17:00', 'Hawaii', 2000);
INSERT INTO trip VALUES('T0002', 'cultural tour', '10:00', '18:00', 'Japan', 3000);
INSERT INTO trip VALUES('T0003', 'adventure trip', '08:00', '16:00', 'New Zealand', 4000);
INSERT INTO trip VALUES('T0004', 'hiking tour', '09:00', '17:00', 'Switzerland', 5000);
INSERT INTO trip VALUES('T0005', 'fine dining tour', '07:00', '15:00', 'New York', 3500);

-- INSERT INTO tourGuide (tg_id, tg_pass_no, trip_id, manager_id)
INSERT INTO tourGuide VALUES('A0001', 'P736328', 'T0001', 'A0003');
INSERT INTO tourGuide VALUES('A0002', 'P5237457', 'T0002', 'A00012');
INSERT INTO tourGuide VALUES('A0004', 'P92349594', 'T0003', 'A0003');
INSERT INTO tourGuide VALUES('A0005', 'P827717384', 'T0004', 'A00011');
INSERT INTO tourGuide VALUES('A00013', 'P626635', 'T0005', 'A00012');

```

```

--INSERT INTO books (client_id, trip_id)
INSERT INTO books VALUES('A0006', 'T0001');
INSERT INTO books VALUES('A0007', 'T0001');
INSERT INTO books VALUES('A0007', 'T0003');
INSERT INTO books VALUES('A0009', 'T0004');
INSERT INTO books VALUES('A00010', 'T0005');

-- INSERT INTO touristAttraction (attraction_name, attraction_address, entry_cost, trip_id)
INSERT INTO touristAttraction VALUES('Waikiki Beach', 'Honolulu, Hawaii', 20, 'T0001');
INSERT INTO touristAttraction VALUES('Tsukiji Fish Market', 'Tokyo, Japan', 30, 'T0002');
INSERT INTO touristAttraction VALUES('Queenstown Bungee Jumping', 'Queenstown, New Zealand', 40, 'T0003');
INSERT INTO touristAttraction VALUES('Eiger Trail', 'Bern, Switzerland', 50, 'T0004');
INSERT INTO touristAttraction VALUES('Le Cinq', 'Paris, France', 60, 'T0005');

-- INSERT INTO accommodation (accom_id, accom_type, accom_address, cost_per_night, checkin_date, checkout_date)
INSERT INTO accommodation VALUES('ACC0001', 'hotel', 'Honolulu, Hawaii', 100, '01-FEB-2022', '05-FEB-2022');
INSERT INTO accommodation VALUES('ACC0002', 'hostel', 'Tokyo, Japan', 80, '01-MAR-2022', '05-MAR-2022');
INSERT INTO accommodation VALUES('ACC0003', 'vacation rental', 'Queenstown, New Zealand', 120, '01-APR-2022', '05-APR-2022');
INSERT INTO accommodation VALUES('ACC0004', 'bed and breakfast', 'Bern, Switzerland', 90, '01-MAY-2022', '05-MAY-2022');
INSERT INTO accommodation VALUES('ACC0005', 'hotel', 'Paris, France', 110, '01-JUN-2022', '05-JUN-2022');

-- INSERT INTO contains (`accom_id`, `trip_id`)
INSERT INTO contains VALUES('ACC0001', 'T0001');
INSERT INTO contains VALUES('ACC0004', 'T0002');
INSERT INTO contains VALUES('ACC0005', 'T0003');
INSERT INTO contains VALUES('ACC0002', 'T0004');
INSERT INTO contains VALUES('ACC0003', 'T0005');

```

```

-- INSERT INTO transportationCompany (tc_id, contact_number, tc_email, cost, start_date, end_date, transp_type)
INSERT INTO transportationCompany VALUES('TC001', '1234567890', 'tc1@email.com', 1000, '01-JAN-2022', '07-JAN-2022', 'bus');
INSERT INTO transportationCompany VALUES('TC002', '0987654321', 'tc2@email.com', 2000, '08-JAN-2022', '14-JAN-2022', 'plane');
INSERT INTO transportationCompany VALUES('TC003', '1111111111', 'tc3@email.com', 3000, '15-JAN-2022', '21-JAN-2022', 'train');
INSERT INTO transportationCompany VALUES('TC004', '2222222222', 'tc4@email.com', 4000, '22-JAN-2022', '28-JAN-2022', 'car');
INSERT INTO transportationCompany VALUES('TC005', '3333333333', 'tc5@email.com', 5000, '29-JAN-2022', '04-FEB-2022', 'boat');

-- INSERT INTO assigns(`tc_id`, `trip_id`)
INSERT INTO assigns VALUES('TC001', 'T0003');
INSERT INTO assigns VALUES('TC001', 'T0004');
INSERT INTO assigns VALUES('TC002', 'T0002');
INSERT INTO assigns VALUES('TC002', 'T0004');
INSERT INTO assigns VALUES('TC003', 'T0005');

-- INSERT INTO `wallet` (`wallet_id`, `balance`, `ccn`, `cc_exp`, `cvv`, `client_id`)
INSERT INTO wallet VALUES('W0001', '10000', '4637482918475643', '25-JAN-2024', '223', 'A0006');
INSERT INTO wallet VALUES('W0002', '20000', '4637482918411111', '15-JAN-2027', '456', 'A0007');
INSERT INTO wallet VALUES('W0003', '15000', '1234482918411111', '24-APR-2025', '448', 'A0008');
INSERT INTO wallet VALUES('W0004', '20748', '1234484448411444', '28-JUL-2026', '990', 'A0009');
INSERT INTO wallet VALUES('W0005', '328572', '4674486748891441', '17-JAN-2025', '378', 'A00010');

-- INSERT INTO transaction (trans_id, wallet_id, amount, trans_time, trans_date, payment_method)
INSERT INTO transaction VALUES ('T0001', 'W0001', 500, '09:00', '01-FEB-2022', 'Credit Card');
INSERT INTO transaction VALUES ('T0002', 'W0002', 100, '10:30', '02-FEB-2022', 'Debit Card');
INSERT INTO transaction VALUES ('T0003', 'W0003', 200, '11:00', '03-FEB-2022', 'PayPal');
INSERT INTO transaction VALUES ('T0004', 'W0004', 50, '12:15', '04-FEB-2022', 'Credit Card');
INSERT INTO transaction VALUES ('T0005', 'W0005', 1000, '13:45', '05-FEB-2022', 'Debit Card');

```



## Tables data after insertion

PERSON_ID	FNAME	LNAME	EMAIL	GENDER	PHONE_NUMBER	DOB
A0001	John	Smith	john.smith@gmail.com	M	0787372624	01-JAN-80
A0002	Jane	Doe	jane.doe@hotmail.com	F	0789376750	15-MAR-85
A0003	Michael	Brown	michael.brown@yahoo.com	M	0784384773	30-MAY-90
A0004	Alice	Johnson	alice.johnson@outlook.com	F	0772472761	14-JUL-95
A0005	Mustafa	Ehab	mustafa.ehab@gmail.com	M	0788838684	28-SEP-00
A0006	Sarah	Smith	sarah.smith@gmail.com	F	0777737373	12-DEC-01
A0007	Omar	Mustafa	omar.mustafa@gmail.com	M	0766644444	25-FEB-97
A0008	Hadeel	Maher	hadeel.maher@yahoo.com	F	0755522221	10-APR-80
A0009	David	Taylor	david.taylor@outlook.com	M	0744400000	20-JUN-03
A00010	Emily	Anderson	emily.anderson@gmail.com	F	0733277777	05-AUG-99
A00011	Mohammed	Fouad	mohammed.fouad@gmail.com	M	0744413432	20-JUL-75
A00012	Sara	Fares	sara.fares@hotmail.com	F	0733277777	15-AUG-73
A00013	Sanaa	Ahmad	sanaa.ahmad@hotmail.com	F	0777753217	18-JUL-93

### Person Table

```
SELECT * FROM person;
```

EMP_ID	SALARY	YEARS_OF_EXPERIENCE	BONUS
A0001	30000	5	3000
A0002	40000	10	4000
A0003	43000	12	4500
A0004	35000	8	3500
A0005	50000	20	5000
A00011	43000	12	4500
A00012	55000	11	4300
A00013	33000	9	4400

### Employee Table

```
SELECT * FROM employee;
```

CLIENT_ID	CLIENT_PASS_NO
A0006	P736728
A0007	P13392813
A0008	P372684
A0009	P25237
A00010	P83373428

Client Table

```
SELECT * FROM client;
```

CLIENT_ID	PREFERENCE
A0006	beaches
A0006	hiking
A0007	cultural experiences
A0007	fine dining
A0009	adventure sports

Preferences Table

```
SELECT * FROM preferences;
```

MANAGER_ID	ROLE
A0003	operational manager
A00011	regional manager
A00012	operational manager

Manager Table

```
SELECT * FROM manager;
```

TRIP_ID	TRIP_TYPE	START_TIME	END_TIME	TRIP_LOCATION	TRIP_COST
T0001	beach vacation	09:00	17:00	Hawaii	2000
T0002	cultural tour	10:00	18:00	Japan	3000
T0003	adventure trip	08:00	16:00	New Zealand	4000
T0004	hiking tour	09:00	17:00	Switzerland	5000
T0005	fine dining tour	07:00	15:00	New York	3500

Trip Table

```
SELECT * FROM trip;
```

TG_ID	TG_PASS_NO	TRIP_ID	MANAGER_ID
A0001	P736328	T0001	A0003
A0002	P5237457	T0002	A00012
A0004	P92349594	T0003	A0003
A0005	P827717384	T0004	A00011
A00013	P626635	T0005	A00012

Tour Guide Table

```
SELECT * FROM tourguide;
```

CLIENT_ID	TRIP_ID
A00010	T0005
A0006	T0001
A0007	T0001
A0007	T0003
A0009	T0004

Client-Books-Trip Table

SELECT \* FROM books;

ATTRACTION_NAME	ATTRACTION_ADDRESS	ENTRY_COST	TRIP_ID
Waikiki Beach	Honolulu, Hawaii	20	T0001
Tsukiji Fish Market	Tokyo, Japan	30	T0002
Queenstown Bungee Jumping	Queenstown, New Zealand	40	T0003
Eiger Trail	Bern, Switzerland	50	T0004
Le Cinq	Paris, France	60	T0005

Attraction Table

SELECT \* FROM attraction;

ACCOM_ID	ACCOM_TYPE	ACCOM_ADDRESS	COST_PER_NIGHT	CHECKIN_DATE	CHECKOUT_DATE
ACC0001	hotel	Honolulu, Hawaii	100	01-FEB-22	05-FEB-22
ACC0002	hostel	Tokyo, Japan	80	01-MAR-22	05-MAR-22
ACC0003	vacation rental	Queenstown, New Zealand	120	01-APR-22	05-APR-22
ACC0004	bed and breakfast	Bern, Switzerland	90	01-MAY-22	05-MAY-22
ACC0005	hotel	Paris, France	110	01-JUN-22	05-JUN-22

Accommodation Table

SELECT \* FROM accommodation;

ACCOM_ID	TRIP_ID
ACC0001	T0001
ACC0002	T0004
ACC0003	T0005
ACC0004	T0002
ACC0005	T0003

Trip-Contains-Accommodation Table

SELECT \* FROM contains;

TC_ID	CONTACT_NUMBER	TC_EMAIL	COST	START_DATE	END_DATE	TRANSP_TYPE
TC001	1234567890	tc1@email.com	1000	01-JAN-22	07-JAN-22	bus
TC002	0987654321	tc2@email.com	2000	08-JAN-22	14-JAN-22	plane
TC003	1111111111	tc3@email.com	3000	15-JAN-22	21-JAN-22	train
TC004	2222222222	tc4@email.com	4000	22-JAN-22	28-JAN-22	car
TC005	3333333333	tc5@email.com	5000	29-JAN-22	04-FEB-22	boat

Transportation Company Table

SELECT \* FROM transportationcompany;

TC_ID	TRIP_ID
TC001	T0003
TC001	T0004
TC002	T0002
TC002	T0004
TC003	T0005

Trip-Assigns-Accommodation Table

SELECT \* FROM assigns;

WALLET_ID	BALANCE	CCN	CC_EXP	CVV	CLIENT_ID
W0001	10000	4637482918475643	25-JAN-24	223	A0006
W0002	20000	4637482918411111	15-JAN-27	456	A0007
W0003	15000	1234482918411111	24-APR-25	448	A0008
W0004	20748	1234484448411444	28-JUL-26	990	A0009
W0005	328572	4674486748891441	17-JAN-25	378	A00010

Wallet Table

SELECT \* FROM wallet;

TRANS_ID	WALLET_ID	AMOUNT	TRANS_TIME	TRANS_DATE	PAYMENT_METHOD
T0001	W0001	500	09:00	01-FEB-22	Credit Card
T0002	W0002	100	10:30	02-FEB-22	Debit Card
T0003	W0003	200	11:00	03-FEB-22	PayPal
T0004	W0004	50	12:15	04-FEB-22	Credit Card
T0005	W0005	1000	13:45	05-FEB-22	Debit Card

Transaction Table

SELECT \* FROM transaction;

## Modifying a record

```
UPDATE person SET phone_number='0782718233' WHERE person_id='A0003';
```

Before:

PERSON_ID	FNAME	LNAME	EMAIL	GENDER	PHONE_NUMBER	DOB
A0003	Michael	Brown	michael.brown@yahoo.com	M	0784384773	30-MAY-90

After:

PERSON_ID	FNAME	LNAME	EMAIL	GENDER	PHONE_NUMBER	DOB
A0003	Michael	Brown	michael.brown@yahoo.com	M	0782718233	30-MAY-90

```
UPDATE trip SET start_time='11:00', end_time='19:00' WHERE trip_id='T0001';
```

Before:

TRIP_ID	TRIP_TYPE	START_TIME	END_TIME	TRIP_LOCATION	TRIP_COST
T0001	beach vacation	09:00	17:00	Hawaii	2000

After:

TRIP_ID	TRIP_TYPE	START_TIME	END_TIME	TRIP_LOCATION	TRIP_COST
T0001	beach vacation	11:00	19:00	Hawaii	2000

```
UPDATE wallet SET balance=balance+500 WHERE client_id='A0006';
```

Before:

WALLET_ID	BALANCE	CCN	CC_EXP	CW	CLIENT_ID
W0001	10000	4637482918475643	25-JAN-24	223	A0006

After:

WALLET_ID	BALANCE	CCN	CC_EXP	CW	CLIENT_ID
W0001	10500	4637482918475643	25-JAN-24	223	A0006

```
UPDATE Accommodation SET cost_per_night=cost_per_night*1.1 WHERE cost_per_night<=100;
```

Before:

ACCOM_ID	ACCOM_TYPE	ACCOM_ADDRESS	COST_PER_NIGHT	CHECKIN_DATE	CHECKOUT_DATE
ACC0001	hotel	Honolulu, Hawaii	100	01-FEB-22	05-FEB-22
ACC0002	hostel	Tokyo, Japan	80	01-MAR-22	05-MAR-22
ACC0004	bed and breakfast	Bern, Switzerland	90	01-MAY-22	05-MAY-22

After:

ACCOM_ID	ACCOM_TYPE	ACCOM_ADDRESS	COST_PER_NIGHT	CHECKIN_DATE	CHECKOUT_DATE
ACC0001	hotel	Honolulu, Hawaii	110	01-FEB-22	05-FEB-22
ACC0002	hostel	Tokyo, Japan	88	01-MAR-22	05-MAR-22
ACC0004	bed and breakfast	Bern, Switzerland	99	01-MAY-22	05-MAY-22

## Deleting a record

```
DELETE FROM tourguide WHERE TG_ID ='A0001';  
DELETE FROM employee WHERE EMP_ID ='A0001';
```

Deleted Row(s):

TG_ID	TG_PASS_NO	TRIP_ID	MANAGER_ID	EMP_ID	SALARY	YEARS_OF_EXPERIENCE	BONUS
A0001	P736328	T0001	A0003	A0001	30000	5	3000

```
DELETE FROM contains WHERE ACCOM_ID='ACC0002';  
DELETE FROM accommodation WHERE ACCOM_ID='ACC0002';
```

Deleted Row(s):

ACCOM_ID	TRIP_ID	ACCOM_ID	ACCOM_TYPE	ACCOM_ADDRESS	COST_PER_NIGHT	CHECKIN_DATE	CHECKOUT_DATE
ACC0002	T0004	ACC0002	hostel	Tokyo, Japan	80	01-MAR-22	05-MAR-22

```
DELETE FROM transaction WHERE trans_id='T0005';
```

Deleted Row(s):

TRANS_ID	WALLET_ID	AMOUNT	TRANS_TIME	TRANS_DATE	PAYMENT_METHOD
T0005	W0005	1000	13:45	05-FEB-22	Debit Card

## Retrieving a record

Example 1. Retrieving Clients first name, last name, and their trips destinations.

```
SELECT p.fname, p.lname, t.trip_location
FROM person p
JOIN client c ON p.person_id = c.client_id
JOIN books b ON c.client_id = b.client_id
JOIN trip t ON b.trip_id = t.trip_id;
```

Results:

FNAME	LNAME	TRIP_LOCATION
Sarah	Smith	Hawaii
Omar	Mustafa	Hawaii
Omar	Mustafa	New Zealand
David	Taylor	Switzerland
Emily	Anderson	New York



**Example 2. Retrieving Tourguides first names, last names, and their trips Attraction.**

```
SELECT p.fname "TGuide First Name", p.lname "TGuide Last Name", ta.attraction_name "Trip Attraction"
FROM tourGuide tg
JOIN person p ON tg.tg_id = p.person_id
JOIN trip t ON tg.trip_id = t.trip_id
JOIN touristAttraction ta ON t.trip_id = ta.trip_id;
```

**Results:**

TGuide First Name	TGuide Last Name	Trip Attraction
Jane	Doe	Tsukiji Fish Market
Alice	Johnson	Queenstown Bungee Jumping
Mustafa	Ehab	Eiger Trail
Sanaa	Ahmad	Le Cinq

**Example 3. Retrieving First names, Last names, Salaries of all employees that have a salary more than the average of all salaries.**

```
SELECT p.fname, p.lname, p.email, e.salary
FROM employee e
JOIN person p ON e.emp_id = p.person_id
WHERE e.salary > (SELECT AVG(salary) FROM employee);
```

**Results:**

FNAME	LNAME	EMAIL	SALARY
Michael	Brown	michael.brown@yahoo.com	43000
Mustafa	Ehab	mustafa.ehab@gmail.com	50000
Mohammed	Fouad	mohammed.fouad@gmail.com	43000
Sara	Fares	sara.fares@hotmail.com	55000

Example 4. Retrieving all managers first names, last names, and number of tour guides they manage

```
SELECT p.fname, p.lname, COUNT(tg.tg_id) "Number of Tour Guides"
FROM manager m
JOIN employee e ON m.manager_id = e.emp_id
JOIN person p ON e.emp_id = p.person_id
JOIN tourGuide tg ON m.manager_id = tg.manager_id
GROUP BY p.fname, p.lname
```

Results:

FNAME	LNAME	Number of Tour Guides
Sara	Fares	2
Michael	Brown	1
Mohammed	Fouad	1