Assignment 2 (20 Marks)

Task: You are required to: 1) write Data Definition Language (DDL) to create tables [5 marks]; 2) write Data Manipulation Language (DML) to insert data into the tables [5 marks]; and 3) write Structured Query Language (SQL) statements to perform the tasks given [10 marks].

Tables given are: Hotel, Room, Booking and Guest.

HOTEL

Hotel_No	Name	City
H111	Empire Hotel	New York
H235	Park Place	New York
H432	Brownstone Hotel	Toronto
H498	James Plaza	Toronto
H193	Devon Hotel	Boston
H437	Clairmont Hotel	Boston

ROOM

Room_No	Hotel_No	Type	Price
313	H111	S	145.00
412	H111	N	145.00
1267	H235	N	175.00
1289	H235	N	195.00
876	H432	S	124.00
898	H432	S	124.00
345	H498	N	160.00
467	H498	N	180.00
1001	H193	S	150.00
1201	H193	N	175.00
257	H437	N	140.00
223	H437	N	155.00

BOOKING

Hotel_No	Guest_No	Date_From	Date_To	Room_No
H111	G256	10-AUG-99	15-AUG-99	412
H111	G367	18-AUG-99	21-AUG-99	412
H235	G879	05-SEP-99	12-SEP-99	1267
H498	G230	15-SEP-99	18-SEP-99	467
H498	G256	30-NOV-99	02-DEC-99	345
H498	G467	03-NOV-99	05-NOV-99	345
H193	G190	15-NOV-99	19-NOV-99	1001
H193	G367	12-SEP-99	14-SEP-99	1001
H193	G367	01-OCT-99	06-OCT-99	1201
H437	G190	04-OCT-99	06-OCT-99	223
H437	G879	14-SEP-99	17-SEP-99	223

GUEST

Guest_No	Name	City
G256	Adam Wayne	Pittsburgh
G367	Tara Cummings	Baltimore
G879	Vanessa Parry	Pittsburgh
G230	Tom Hancock	Philadelphia
G467	Robert Swift	Atlanta
G190	Edward Cane	Baltimore

Write SQL queries to perform the following tasks:
- (i) List full details of all hotel in Toronto.

- (ii) List the names and addresses of all guests living in New York, alphabetically ordered by name.

- (iii) List all rooms with a price below 150.00 per night, in ascending order of price.

- (iv) What is the average price of a room?

- (v) What is the total price from all single rooms?

- (vi) List the price and type of all rooms at Clairmont Hotel.

- (vii) List all guests currently staying at the Devon Hotel.

- (viii) List the number of rooms in each hotel.

- (ix) List the number of rooms in each hotel in Toronto.

- (x) Update the price of all rooms by 5%.

1.SELECT * FROM HOTEL
WHERE City = 'Toronto'

	HOTEL_NO	NAME	CITY
1	H432	Brownstone Hotel	Toronto
2	H498	James Plaza	Toronto

2. SELECT name, city
FROM Guest
WHERE Guest_No
in
(SELECT Guest_No
        From Booking
    Where Hotel_no
    in
    (Select Hotel_no
        From Hotel
        Where City = 'New York'))

	NAME	CITY
1	Adam Wayne	Pittsburgh
2	Tara Cummings	Baltimore
3	Vanessa Parry	Pittsburgh

3. SELECT * FROM ROOM
WHERE price < 150
Order by price asc

	ROOM_NO	HOTEL_NO	TYPE	PRICE
1	876	H432	S	124
2	898	H432	S	124
3	257	H437	N	140
4	412	H111	N	145
5	313	H111	S	145

4. SELECT AVG(price)
FROM ROOM

	AVG(PRICE)
1	155.66666666666666

5.
```sql
SELECT SUM(price), type
FROM ROOM
GROUP BY type
Having type = 'S'
```

	SUM(PRICE)	TYPE
1	543	S

6.
```sql
SELECT price, type
FROM room
WHERE Hotel_no
in(
    Select Hotel_no
    FROM Hotel
    WHERE name = 'Clairmont Hotel'
)
```

	PRICE	TYPE
1	140	N
2	155	N

7.
```sql
SELECT * FROM GUEST
WHERE Guest_no
in(
    SELECT Guest_no
    From Booking
    Where Hotel_no
    in(
        SELECT Hotel_no
        From Hotel
        Where name = 'Devon Hotel'
    )
)
```

	GUEST_NO	NAME	CITY
1	G367	Tara Cummings	Baltimore
2	G190	Edward Cane	Baltimore

8.
```sql
SELECT count(r.room_no), h.name
FROM room r
join hotel h
on r.hotel_no = h.hotel_no
group by h.name
```

	COUNT(R.ROOM_NO)	NAME
1	2	Clairmont Hotel
2	2	Empire Hotel
3	2	James Plaza
4	2	Brownstone Hotel
5	2	Devon Hotel
6	2	Park Place

9.
```sql
SELECT COUNT(r.room_no), h.name, h.city
FROM room r
Join Hotel h ON r.hotel_no = h.hotel_no
group by h.name, h.city
HAVING h.city ='Toronto';
```

Or

```sql
SELECT COUNT(r.room_no), h.name, h.city
FROM room r
Join Hotel h ON r.hotel_no = h.hotel_no
Where h.city = 'Toronto'
group by h.name, h.city ;
```

	COUNT(R.ROOM_N(	NAME	CITY
1	2	James Plaza	Toronto
2	2	Brownstone Hotel	Toronto

10.
```sql
UPDATE room
SET price = price *105/100;
```