TAYLOR'S UNIVERSITY

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TAYLOR'S UWE DUAL AWARDS PROGRAMMES MARCH 2022 SEMESTER

(ITS62904) DATABASE SYSTEMS

ASSESSMENT 3

(GROUP ASSIGNMENT)

30%

DUE DATE: 20 June 2022 via Times by 6pm

STUDENT DECLARATION:

1. **I confirm that I am aware of the University's Regulation Governing Cheating in a University Test and Assignment and of the guidance issued by the School of Computing and Engineering (SCE) concerning plagiarism and proper academic practice, and that the assessed work now submitted is in accordance with this regulation and guidance.**
2. **I understand that, unless already agreed with the School of Computing and Engineering (SCE), assessed work may not be submitted that has previously been submitted, either in whole or in part, at this or any other institution.**
3. **I recognise that should evidence emerge that my work fails to comply with either of the above declarations, then I may be liable to proceedings under Regulation.**

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Important Notes:

Note 1: *Copying, cheating, attempts to cheat, plagiarism, collusion and any other attempts to gain an unfair advantage in assessment result in to award 0 marks to all parties concerned.*

Note 2: *The **Turnitin similarity** for this module is **20% overall** and lesser than **5% from a single source** excluding program source codes.*

Note 3: *All the submitted documents will be cross-checked with other students' reports in this current and previous semesters. Therefore, any similarities rather than whatever is highlighted in Note 2, will be considered as violating assessment rules and a Zero (0) mark will be given to all group members.*

Note 4: *Severe disciplinary action will be taken against those caught violating assessment rules such as colluding, plagiarizing or transcribing.*

Note 5: *The assignment submission document should be within 10 - 30 pages in total with a spacing of 1.5 and a font of 12pt Times New Roman.*

Instructions:

This is a Group assignment. It will be assessed over 100 marks and is worth 30% of the final marks for this module. Marks will typically be awarded on the basis of the following broad criteria, although other constructive factors will be taken into account:

- ✓ You are allowed to make references and records all referenced being used for completion of the assignment.
- ✓ You should be able to explain the references made for your answer in detail.
- ✓ You can download and use Visual Paradigm to draw the ER- model.
- ✓ Using at least one of the tools "MYSQL server" or "phpMyAdmin" or "Oracle Database" or "MySQL Workbench" is required for database development.
- ✓ Fulfilment of requirements (i.e. No error, if your code does not compile, your mark will be capped at 60%)
- ✓ Correctness of logic and use of appropriate sequel scripting technique.
- ✓ Correct results/output - example output database, tables, relationship and data stored.

✓ Scripting style:

- Adherence to MySQL/HeidiSQL/TOAD naming convention and program readability
- Choice of attributes names and column naming has to adhere to MySQL Documentation.

Submission:

It should be made electronically to the assignment submission section through your TIMeS account. If there appears to be any problem at all with your submission, it is your responsibility to inform your lecturer immediately, via email,

Documentation: 2 separate files (Full assignment report & SQL File) File name : Group Name (only one submission per group)

Hardcopy Format:

1. Cover page
2. Table of contents
3. References page
   - Comprises of all the above with proper formatting, all answers must follow the question number and the labelling used in the assignment.

Note: Late submission will be capped at 60 %

Academic Impropriety:

Submitting the course work means you have agreed that your work is original and comply with the rules and regulations of Academic Impropriety.

Note: Copying, cheating, attempts to cheat, plagiarism, collusion and any other attempts to gain an unfair advantage in assessment, result in awarding 0 marks to all parties concerned.

Agenda

Introduction

In this assignment, we will create a business database management system to store and manage information for the new start-up centre of Event Management Customizer (EMC). Due to the case study, we are going to draw an ER Diagram and a physical model to have a clear picture of how the database will be designed and created with all the entities and attributes,considering a number of constraints. To create them, we are going to use the Draw.io website so that our knowledge will be represented clearly. Then, by using those diagrams and models, we are going to create a database named EMC. With the database created, 12 tables including 8 relationships will be created as well. Primary keys and foreign keys are defined while creating all tables. We will have a minimum of 30 records in our Client and Booking tables, 20 records in other five tables and relationship tables. After doing all of these, we will then move on to the SQL Report, in which we must make use of various queries we have learnt, to retrieve data that is stated in our question. Finally, we will do the report documentation to show our work done for this entire assignment.

Case Study

EMC runs a start-up centre based in Subang Jaya wishes to remodel the business database to store and manage information about their new start-up. The start-up centre takes bookings from clients for adventure filled holidays and team building events. The client may or may not opt for accommodation but keen with team building activities and some just opt for accommodation and other relevant services.

Based on your business, your clients are usually classified from family members, businesses, governmental institutions, and schools. Information stored about clients includes their unique client number, the client's name (School name, business name, etc.), and the names and mobile contact details of the persons representing the client organisation. Some schools, governmental institutions, and business clients have provided more contact details. This to ensure contact is reached precisely on time when required as also to provide on-going marketing information.

The centre has a number of accommodation options which includes: a four star hotel called Snoopy Lupiz offering different types of rooms (single, Double, King suite, Luxury suite and others); a hostel with large dormitories for children and smaller shared rooms for supervising adults; and a small camping ground. The name and type of these options is stored, along with the total number of people they can accommodate, address, and Their geographical locations (latitude and longitude).

Each booking has a unique booking number, the date and time that booking was made, the person details who made the booking, and the dates of the stay. When booking is made, clients need to state how many people will be staying, and what type of accommodation is required. Type of accommodation has to be stored preciously based on accommodation types that the hotel, and hostel provide. Clients' needs to specify whether they will use the restaurant or self catering facilities. The booking will also include any additional facilities required by the client.

The centre contains a number of additional facilities for hire. These include Board meeting rooms, conference/forum halls, and computing labs with Internet access. Portable multimedia projection and presentation equipment are also available for hire. You may consider payment chargers for all the facilities being offered. Charges information is to be tabulated by the startup team as the financial information will not be a predominant information till the system rollout.

There are various outdoor pursuits' facilities including: climbing-wall with safety equipment, paintball-war games, canoes, swimming, basketball, football... etc. Details of these various facilities, including any hire charges, need to be stored on the database. During any booking, the client may use these facilities. The date when a facility is booked for use must be recorded.

In order to monitor and facilitate the outdoor activities an experienced staff is assigned to team building activities. Staff may be trained to supervise more than one outdoor pursuit facility. Each member of staff has a unique staff number, and their name and contract details (full or part time) are also recorded.

Part A. Design : (30 marks)

Question 1

Entity-Relationship Diagram (ERD) - Map the entities with appropriate relationships.
Figure 1 shows the Entity-Relationship Diagram based on the case study.

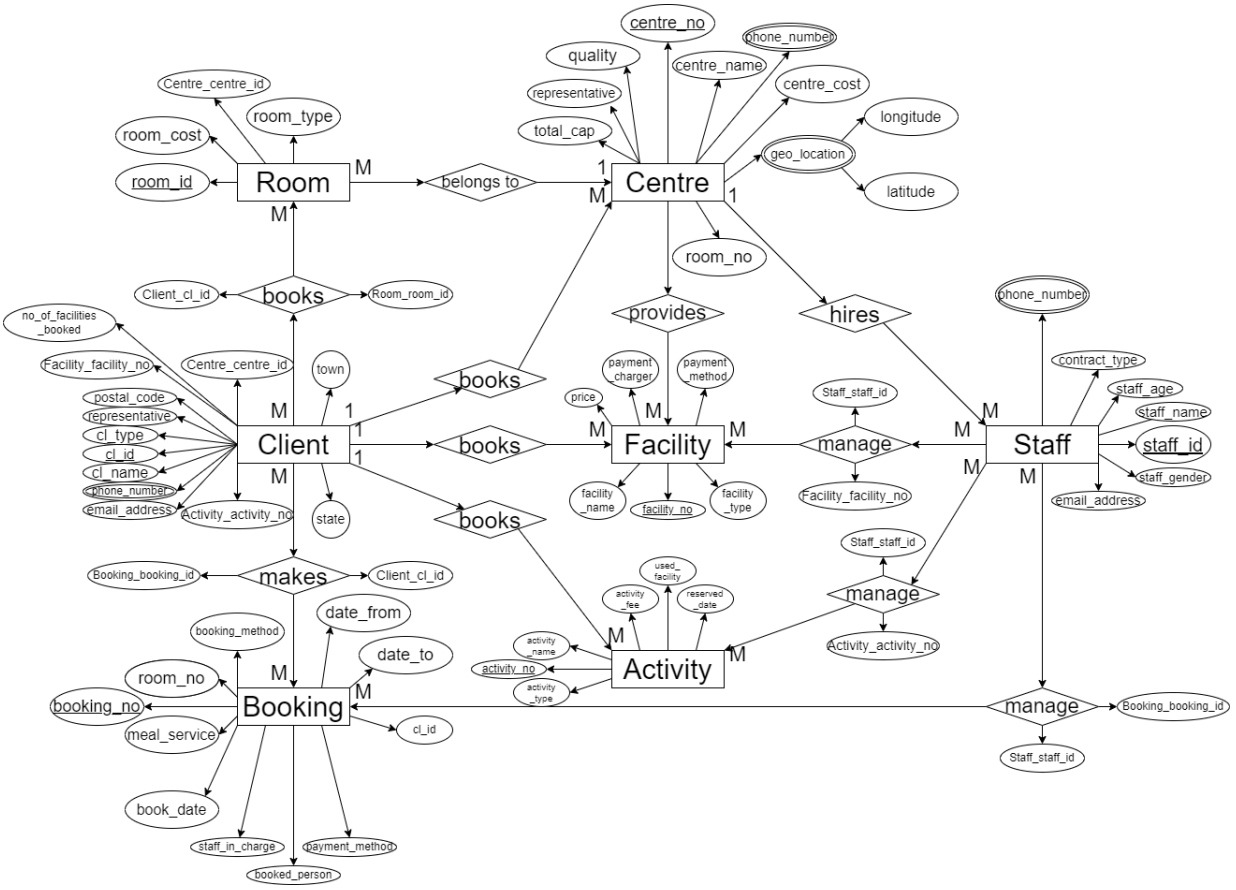


Figure 1 : Entity-Relationship Diagram based on case study.

Question 2

Physical Model → Provide the necessary information for the Model (Relational Model - ensure data integrity).

Figure 2 shows the Model (Relational Model - ensure data integrity).

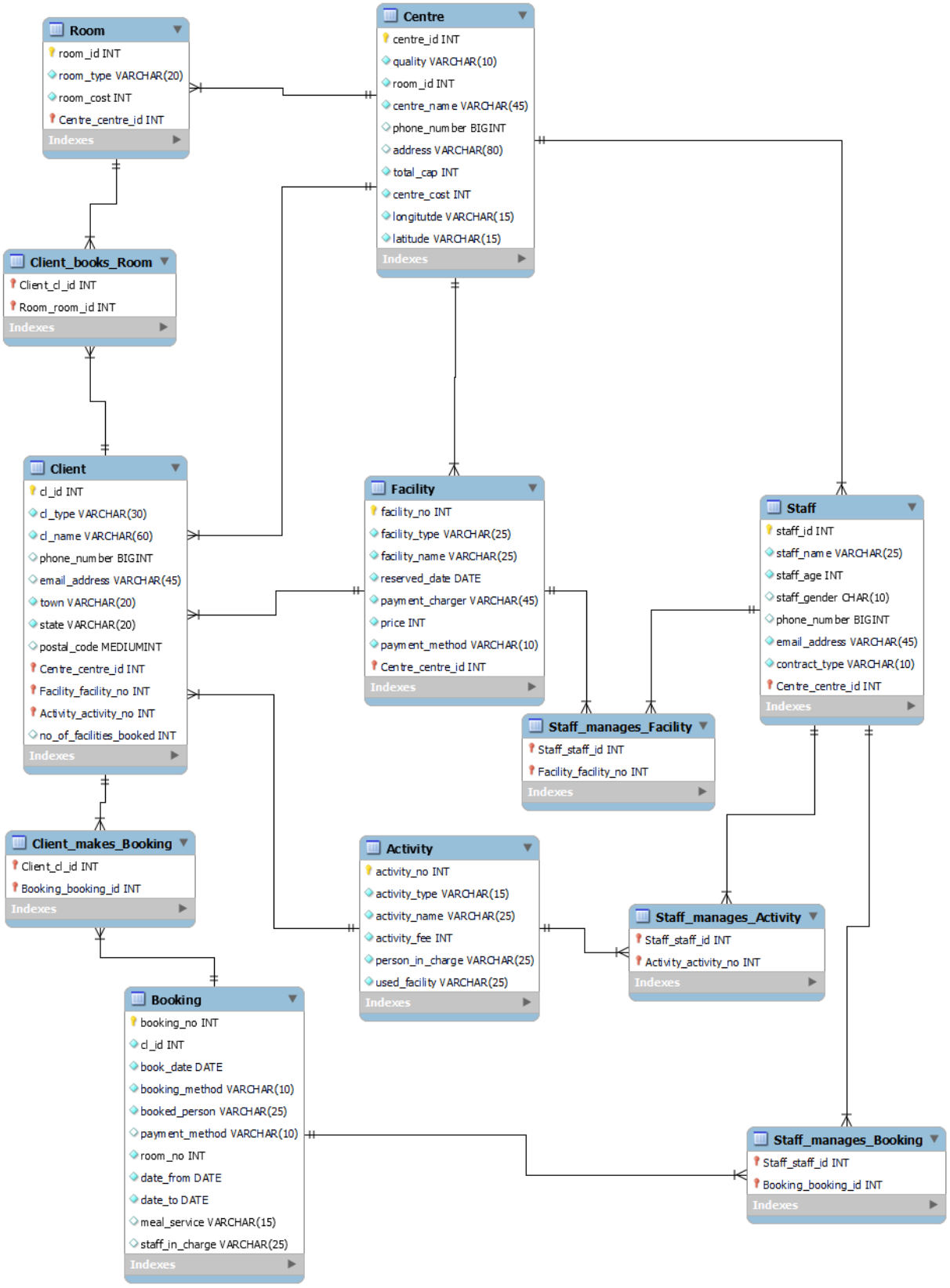


Figure 2 : Physical model based on case study.

Part B. Deployment : (20 marks)

Question 3

Implementation: create database and tables, populate the data (each table should have 20+ rows of valid records if it's applicable). This may not be applicable for all table. Client and booking should sufficiently have at least 30 records.

a. **Create a database.**
Figure 3 shows the query and output for creating database EMC;

```
create database EMC;
```

Output

Action Output

#	Time	Action	Message
1	13:48:31	create database EMC	1 row(s) affected

Figure 3 : Query and output for creating database EMC.

b. **Create the tables with properly establishing the PK, FK, or any other constraints.**
Figure 4, 5 and 6 shows the queries for creating tables Client, Centre, Room, Booking, Facility, Activity, Staff, Client_books_Room, Client_makes_Booking, Staff_manages_Facility, Staff_manages_Activity and Staff_manages_Booking with a couple of constraints such as PK or FK.

```
create table Client(
    cl_id int not null,
    cl_type varchar(30) not null,
    cl_name varchar(100) not null,
    representative varchar(20) not null,
    phone_number bigint,
    email_address varchar(45),
    town varchar(20) not null,
    state varchar(20) not null,
    postal_code mediumint,
    Centre_centre_id int not null,
    Facility_facility_no int not null,
    Activity_activity_no int not null,
    no_of_facilities_booked int,
    primary key(cl_id, Centre_centre_id, Facility_facility_no, Activity_activity_no),
    foreign key(Centre_centre_id) references Centre(centre_id),
    foreign key(Facility_facility_no) references Facility(facility_no),
    foreign key(Activity_activity_no) references Activity(activity_no));

create table Centre(
    centre_id int not null,
    quality varchar(10) not null,
    room_no int not null,
    centre_name varchar(45) not null,
    phone_number bigint,
    address varchar(80),
    total_cap int not null,
    centre_cost int not null,
    longitude varchar(15) not null,
    latitude varchar(15) not null,
    primary key (centre_id));
```

Figure 4 : Queries for creating table Client and Centre including primary keys and foreign keys.

```
create table Room(
    room_id int not null,
    room_type varchar(20) not null,
    room_cost int not null,
    centre_id int not null,
    primary key(room_id),
    foreign key(centre_id) references Centre(centre_id));
```

```
create table Booking(
    booking_no int not null,
    cl_id int not null,
    book_date date not null,
    booking_method varchar(10) not null,
    booked_person varchar(25) not null,
    payment_method varchar(10),
    room_no int not null,
    date_from date not null,
    date_to date not null,
    meal_service varchar(15),
    staff_in_charge varchar(25) not null,
    primary key(booking_no),
    foreign key(room_no) references Room(room_id),
    foreign key(cl_id) references Client(cl_id));
```

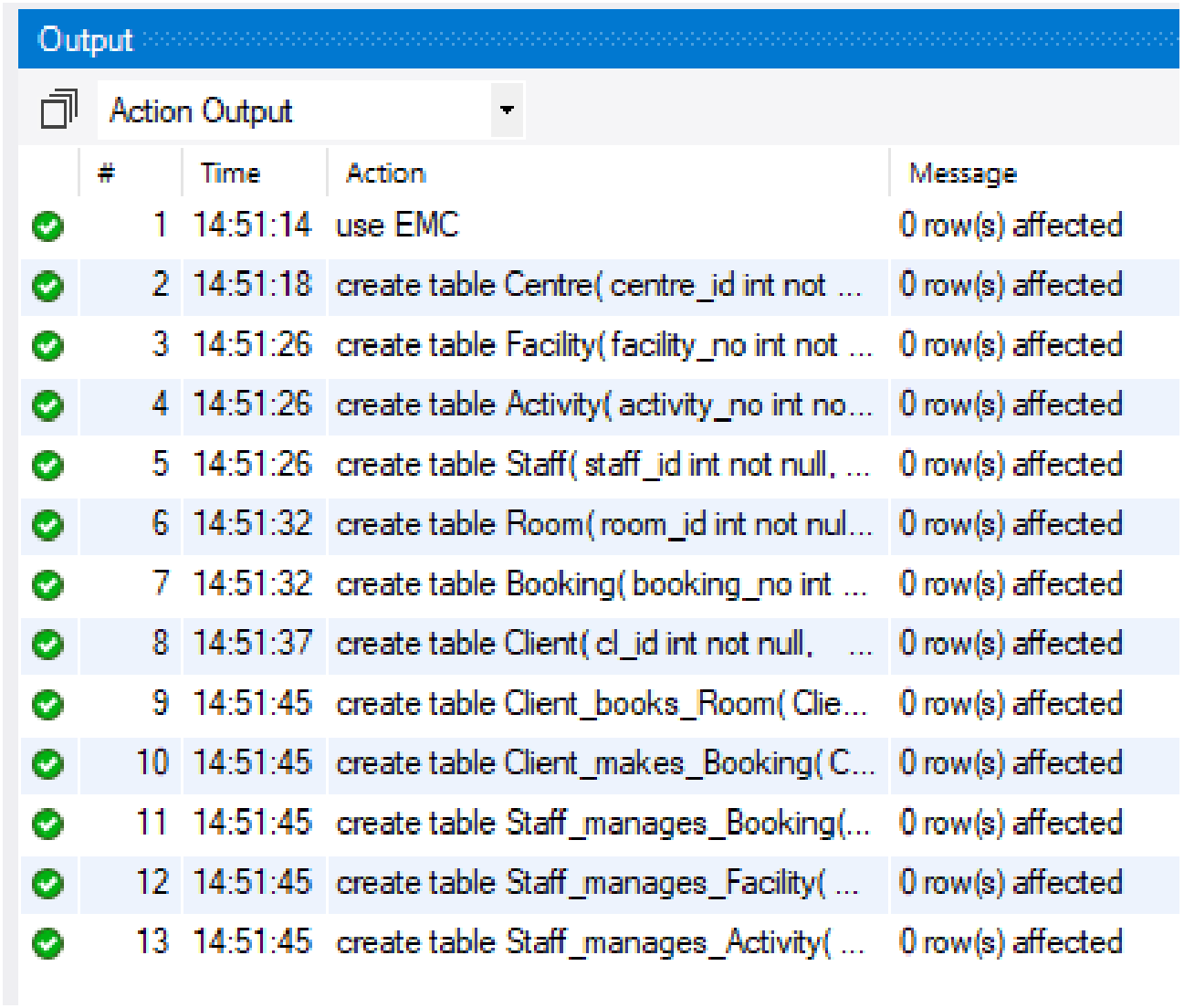
```
create table Facility(
    facility_no int not null,
    facility_type varchar(25) not null,
    facility_name varchar(25) not null,
    reserved_date date not null,
    payment_charger varchar(45) not null,
    price int not null,
    payment_method varchar(10) not null,
    Centre_centre_id int not null,
    primary key(facility_no, Centre_centre_id),
    foreign key(Centre_centre_id) references Centre(centre_id));
```

Figure 5 : Queries for creating table Room, Booking and Facility including primary keys and foreign keys.

```
create table Activity(
    activity_no int not null,
    activity_type varchar(15) not null,
    activity_name varchar(25) not null,
    activity_fee int not null,
    payment_charger varchar(20) not null,
    used_facility varchar(25) not null,
    primary key(activity_no));

create table Staff(
    staff_id int not null,
    staff_name varchar(25) not null,
    staff_age int not null,
    staff_gender char(10),
    phone_number bigint,
    email_address varchar(45) not null,
    contract_type varchar(10) not null,
    Centre_centre_id int not null,
    primary key(staff_id),
    foreign key(Centre_centre_id) references Centre(centre_id));

create table Client_books_Room(
    Client_cl_id int not null,
    Room_room_id int not null,
    primary key(Client_cl_id, Room_room_id),
    foreign key(Client_cl_id) references Client(cl_id),
    foreign key(Room_room_id) references Room(room_id));

create table Client_makes_Booking(
    Client_cl_id int not null,
    Booking_booking_no int not null,
    primary key(Client_cl_id, Booking_booking_no),
    foreign key(Client_cl_id) references Client(cl_id),
    foreign key(Booking_booking_no) references Booking(booking_no));

create table Staff_manages_Booking(
    Staff_staff_id int not null,
    Booking_booking_no int not null,
    primary key(Staff_staff_id, Booking_booking_no),
    foreign key(Staff_staff_id) references Staff(staff_id),
    foreign key(Booking_booking_no) references Booking(booking_no));

create table Staff_manages_Facility(
    Staff_staff_id int not null,
    Facility_facility_no int not null,
    primary key(Staff_staff_id, Facility_facility_no),
    foreign key(Staff_staff_id) references Staff(staff_id),
    foreign key(Facility_facility_no) references Facility(facility_no));

create table Staff_manages_Activity(
    Staff_staff_id int not null,
    Activity_activity_no int not null,
    primary key(Staff_staff_id, Activity_activity_no),
    foreign key(Staff_staff_id) references Staff(staff_id),
    foreign key(Activity_activity_no) references Activity(activity_no));
```

Figure 6 : Queries for creating tables Activity, Staff, Client_books_Room, Client_makes_Booking, Staff_manages_Facility, Staff_manages_Activity and Staff_manages_Booking including primary keys and foreign keys.

Figure 7 shows the outputs for creating tables.



#	Time	Action	Message
1	14:51:14	use EMC	0 row(s) affected
2	14:51:18	create table Centre(centre_id int not ...	0 row(s) affected
3	14:51:26	create table Facility(facility_no int not ...	0 row(s) affected
4	14:51:26	create table Activity(activity_no int no...	0 row(s) affected
5	14:51:26	create table Staff(staff_id int not null, ...	0 row(s) affected
6	14:51:32	create table Room(room_id int not nul...	0 row(s) affected
7	14:51:32	create table Booking(booking_no int ...	0 row(s) affected
8	14:51:37	create table Client(cl_id int not null, ...	0 row(s) affected
9	14:51:45	create table Client_books_Room(Clie...	0 row(s) affected
10	14:51:45	create table Client_makes_Booking(C...	0 row(s) affected
11	14:51:45	create table Staff_manages_Booking(...	0 row(s) affected
12	14:51:45	create table Staff_manages_Facility(...	0 row(s) affected
13	14:51:45	create table Staff_manages_Activity(...	0 row(s) affected

Figure 7 : Outputs for creating tables.

c. Data insertion

Figure 8 shows the query and output of data insertions for table Client.

[Query]

```
insert into Client values(001,"Business","The Hog's Head","Brianna Strickland",60144004926,"briannastrickland@gmail.com","Nearon","Jepus",835862,502,102,602,3);
insert into Client values(002,"School","Durmstrang","Kaylyn Morton",60351617190,"kaylynmorton@gmail.com","Bradford","Chiburn",484510,525,109,611,4);
insert into Client values(003,"Governmental Institution","Department of Magical Law Enforcement","Jayvion Fox",60377830997,"jayvionfox@gmail.com","Troutberk","Xoginia",750388,506,118,618,6);
insert into Client values(004,"School","Hogwarts","Asia Chung",60392214220,"asiachung@gmail.com","Frostford","Fewood",795537,504,109,614,2);
insert into Client values(005,"Business","Honeydukes","Grant Wu",60340425162,"grantwu@gmail.com","Padstow","Krefross",808783,516,111,604,1);
insert into Client values(006,"School","Ilvermorny","Cassandra Patel",60321481165,"cassandrapatel@gmail.com","Bournemouth","Oxeim",526903,525,102,619,7);
insert into Client values(007,"Governmental Institution","Department of Magical Accidents and Catastrophes","Lexi Schmidt",60362580303,"lexischmidt@gmail.com","Iyesgarth","Kledo",282815,505,119,603,6);
insert into Client values(008,"Governmental Institution","Department for the Regulation and Control of Magical Creatures","Justus Waller",60378744295,"justuswaller@gmail.com","Wallowdale","Yhester",910360,512,102,611,2);
insert into Client values(009,"Governmental Institution","Department of International Magical Cooperation","Devan Singleton",60378760429,"devansingleton@gmail.com","Nuxvar","Anssas",221670,502,102,620,8);
insert into Client values(010,"Family Members","Lebron James","Lebron James",60351618440,"lebronjames@gmail.com","Longdale","Alevale",870468,519,102,601,4);
insert into Client values(011,"Business","Zonko's Joke Shop","Jean Glover",60392857033,"jeanglover@gmail.com","Limesvilles","Suvine",630451,525,113,610,7);
insert into Client values(012,"Youth Group","Stephen Curry","Stephen Curry",60379569502,"stephencurry@gmail.com","Astrakane","Zhenset",740412,524,104,603,8);
insert into Client values(013,"Governmental Institution","Department of Magical Transportation","Andreas Petersen",60340437812,"andreaspetersen@gmail.com","Aramore","Akheaport",164724,503,113,604,2);
insert into Client values(014,"Governmental Institution","Department of Magical Games and Sports","Jocelyn Vang",60321449937,"jocelynvang@gmail.com","Aeberuthey","Wruiver",867430,501,111,617,5);
insert into Client values(015,"School","Beauxbatons","Maddison Nelson",60340441359,"maddisonnelson@gmail.com","Woodhurst","Tueyby",577814,511,117,602,7);
insert into Client values(016,"Governmental Institution","Department of Mysteries","Semaj Kramer",60379561735,"semajkramer@gmail.com","Stanlow","Emouver",632529,525,109,612,5);
insert into Client values(017,"Business","Weasleys' Wizard Wheezes","Tanner Harrell",60321425332,"tannerharrell@gmail.com","Aeberuthey","Kreles",271965,525,112,608,3);
insert into Client values(018,"Business","Ollivanders","Ashanti Graves",60321429319,"ashantigraves@gmail.com","Laewaes","Fora",231431,510,110,604,5);
insert into Client values(019,"Youth Group","Nikola Yokic","Nikola Yokic",60321668753,"nikolayokic@gmail.com","Northwich","Eydale",666455,507,119,613,8);
insert into Client values(020,"Governmental Institution","Azkaban","Wendy Wilcox",60356318653,"wendywilcox@gmail.com","Damerel","Ertonpolis",249367,511,107,614,3);
insert into Client values(021,"Family Members","Manu Ginobili","Manu Ginobili",60342524548,"manuginobili@gmail.com","Cullfield","Plaiginia",426996,503,118,608,2);
insert into Client values(022,"Family Members","Demi Lovato","Demi Lovato",60342514426,"demilovato@gmail.com","Porthaethwidge","Idruxmouth",257751,502,112,613,5);
insert into Client values(023,"Governmental Institution","Nurmenguard","Ashlynn Mcgee",60377829765,"ashlynnmcgee@gmail.com","Ballaeter","Ucreswell",187050,522,109,608,3);
insert into Client values(024,"School","Castelobruxo","Kiana Mcclure",60379543950,"kianamcclure@gmail.com","Openshaw","Glirfield",680060,512,117,601,7);
insert into Client values(025,"Family Members","Chelsea Barnes","Chelsea Barnes",60392836858,"chelseabarnes@gmail.com","Carlisle","Caburg",312383,519,119,616,9);
insert into Client values(026,"Business","Madam Malkin's Robes for All Occasions","Makaila Stark",60326983435,"makailastark@gmail.com","Putlochry","Drento",794848,524,107,618,2);
insert into Client values(027,"School","Uagadou","Saige Dyer",60332906914,"saigedyer@gmail.com","Boroughton","Cille",196658,525,101,609,4);
insert into Client values(028,"Business","Shrieking Shack","Brittany Stuart",60356326923,"brittanystuart@gmail.com","Shipton","Strery",939885,518,104,608,5);
insert into Client values(029,"Business","Madam Puddifoot's","Molly Neal",60356354655,"mollyneal@gmail.com","Aroonshire","Itata",693361,522,104,614,2);
insert into Client values(030,"Governmental Institution","Magical Congress of the United States of America","Jaycee Irwin",60362775798,"jayceeirwin@gmail.com","Aerilon","Ockset",427901,517,113,603,5);
```

[Output]

#	Time	Action	Message
19	20:38:36	create table Client_books_Room(Client_cl_id int not null, Room_room_id int not null, primary key(Client_cl_id, Room_room_id), f...	0 row(s) affected
20	20:38:36	create table Client_makes_Booking(Client_cl_id int not null, Booking_booking_no int not null, primary key(Client_cl_id, Booking_...	0 row(s) affected
21	20:38:36	create table Staff_manages_Booking(Staff_staff_id int not null, Booking_booking_no int not null, primary key(Staff_staff_id, Boo...	0 row(s) affected
22	20:39:03	insert into Client values(001,"Business","The Hog's Head","Brianna Strickland",60144004926,"briannastrickland@gmail.com","Near...	1 row(s) affected
23	20:39:03	insert into Client values(002,"School","Durmstrang","Kaylyn Morton",60351617190,"kaylynmorton@gmail.com","Bradford","Chiburn",...	1 row(s) affected
24	20:39:03	insert into Client values(003,"Governmental Institution","Department of Magical Law Enforcement","Jayvion Fox",60377830997,"jayvi...	1 row(s) affected
25	20:39:03	insert into Client values(004,"School","Hogwarts","Asia Chung",60392214220,"asiachung@gmail.com","Frostford","Fewood",79553...	1 row(s) affected
26	20:39:03	insert into Client values(005,"Business","Honeydukes","Grant Wu",60340425162,"grantwu@gmail.com","Padstow","Krefross",8087...	1 row(s) affected
27	20:39:03	insert into Client values(006,"School","Ilvermorny","Cassandra Patel",60321481165,"cassandrapatel@gmail.com","Bournemouth","O...	1 row(s) affected
28	20:39:03	insert into Client values(007,"Governmental Institution","Department of Magical Accidents and Catastrophes","Lexi Schmidt",6036258...	1 row(s) affected
29	20:39:03	insert into Client values(008,"Governmental Institution","Department for the Regulation and Control of Magical Creatures","Justus Wall...	1 row(s) affected
30	20:39:03	insert into Client values(009,"Governmental Institution","Department of International Magical Cooperation","Devan Singleton",603787...	1 row(s) affected
31	20:39:03	insert into Client values(010,"Family Members","Lebron James","Lebron James",60351618440,"lebronjames@gmail.com","Longdale"...	1 row(s) affected
32	20:39:03	insert into Client values(011,"Business","Zonko's Joke Shop","Jean Glover",60392857033,"jeanglover@gmail.com","Limesvilles","S...	1 row(s) affected
33	20:39:03	insert into Client values(012,"Youth Group","Stephen Curry","Stephen Curry",60379569502,"stephencurry@gmail.com","Astrakane",...	1 row(s) affected
34	20:39:03	insert into Client values(013,"Governmental Institution","Department of Magical Transportation","Andreas Petersen",60340437812,"a...	1 row(s) affected
35	20:39:03	insert into Client values(014,"Governmental Institution","Department of Magical Games and Sports","Jocelyn Vang",60321449937,"jo...	1 row(s) affected
36	20:39:03	insert into Client values(015,"School","Beauxbatons","Maddison Nelson",60340441359,"maddisonnelson@gmail.com","Woodhurst",...	1 row(s) affected
37	20:39:03	insert into Client values(016,"Governmental Institution","Department of Mysteries","Semaj Kramer",60379561735,"semajkramer@gmai...	1 row(s) affected
38	20:39:03	insert into Client values(017,"Business","Weasleys' Wizard Wheezes","Tanner Harrell",60321425332,"tannerharrell@gmail.com","Ae...	1 row(s) affected
39	20:39:03	insert into Client values(018,"Business","Ollivanders","Ashanti Graves",60321429319,"ashantigraves@gmail.com","Laewaes","Fora"...	1 row(s) affected
40	20:39:03	insert into Client values(019,"Youth Group","Nikola Yokic","Nikola Yokic",60321668753,"nikolayokic@gmail.com","Northwich","Eyd...	1 row(s) affected
41	20:39:03	insert into Client values(020,"Governmental Institution","Azkaban","Wendy Wilcox",60356318653,"wendywilcox@gmail.com","Dame...	1 row(s) affected
42	20:39:03	insert into Client values(021,"Family Members","Manu Ginobili","Manu Ginobili",60342524548,"manuginobili@gmail.com","Cullfield","...	1 row(s) affected
43	20:39:03	insert into Client values(022,"Family Members","Demi Lovato","Demi Lovato",60342514426,"demilovato@gmail.com","Porthaethwidg...	1 row(s) affected
44	20:39:03	insert into Client values(023,"Governmental Institution","Nurmenguard","Ashlynn Mcgee",60377829765,"ashlynnmcgee@gmail.com",...	1 row(s) affected
45	20:39:03	insert into Client values(024,"School","Castelobruxo","Kiana Mcclure",60379543950,"kianamcclure@gmail.com","Openshaw","Glirfi...	1 row(s) affected
46	20:39:03	insert into Client values(025,"Family Members","Chelsea Barnes","Chelsea Barnes",60392836858,"chelseabarnes@gmail.com","Carli...	1 row(s) affected
47	20:39:03	insert into Client values(026,"Business","Madam Malkin's Robes for All Occasions","Makaila Stark",60326983435,"makailastark@gm...	1 row(s) affected
48	20:39:03	insert into Client values(027,"School","Uagadou","Saige Dyer",60332906914,"saigedyer@gmail.com","Boroughton","Cille",196658,5...	1 row(s) affected
49	20:39:03	insert into Client values(028,"Business","Shrieking Shack","Brittany Stuart",60356326923,"brittanystuart@gmail.com","Shipton","Stre...	1 row(s) affected
50	20:39:03	insert into Client values(029,"Business","Madam Puddifoot's","Molly Neal",60356354655,"mollyneal@gmail.com","Aroonshire","Itata"...	1 row(s) affected
51	20:39:03	insert into Client values(030,"Governmental Institution","Magical Congress of the United States of America","Jaycee Irwin",60362775...	1 row(s) affected

Figure 8 : Query and output of data insertions for table Client.

Figure 9 shows the query and output of data insertions for table Centre.

[Query]

```
insert into Centre values(501,"4 star","Snoopy Lupiz ",60144004926,"12121 Falulkner Rd, 30324 Atlanta, GA",73,208,"88°48'39\"W","34°14'26\"N");
insert into Centre values(502,"5 star","JW Marriott",60351617190,"433 Sayre Street, 29622 Anderson, NC",49,299,"88°53'12\"W","34°15'24\"N");
insert into Centre values(503,"2 star","Sunway Mix",60377830997,"16253 SE 122nd Ave, 97015 Clackamas, OR",85,107,"88°45'22\"W","34°15'24\"N");
insert into Centre values(504,"3 star","Lexis Suite",60392214220,"457 Cleveland Ave, 43215 Columbus, OH",88,109,"88°34'23\"W","24°15'24\"N");
insert into Centre values(505,"4 star","Snoopy Lupiz ",60340425162,"2201 S, Wilmington Ave, 90220 Compton, CA",101,240,"88°51'18\"W","34°00'20\"N");
insert into Centre values(506,"1 star","Swan Cottage",60321481165,"2840 Pioneer Drive, 42102 Bowling Green, KY",50,57,"88°49'44\"W","33°55'39\"N");
insert into Centre values(507,"3 star","Lexis Suite",60362580303,"400 S. Shortridge Rd, 46219 Indianapolis, IN",102,189,"88°44'08\"W","33°43'52\"N");
insert into Centre values(508,"5 star","JW Marriott",60378744295,"2201 S. Wilmington AVE, 90220 Compton, CA",68,318,"88°45'31\"W","33°30'41\"N");
insert into Centre values(509,"1 star","Swan Cottage",60378760429,"1200 Industrial Dr., 37172 Springfield, TN",99,77,"88°39'38\"W","33°27'43\"N");
insert into Centre values(510,"4 star","Swan Cottage",60351618440,"1100 New Salem Hwy, 37129 Murfreesboro, TN",81,250,"88°33'19\"W","33°29'17\"N");
insert into Centre values(511,"4 star","Snoopy Lupiz ",60392857033,"400 S. Shortridge Rd, 46219 Indianapolis, IN",63,260,"88°36'38\"W","33°15'52\"N");
insert into Centre values(512,"1 star","Swan Cottage",60379569502,"400 Yuma St., 80204 Denver, CO",90,77,"88°31'14\"W","33°18'01\"N");
insert into Centre values(513,"2 star","Sunway Mix",60340437812,"1225 N. Broadway St., 47240 Greensburg, IN",47,127,"88°29'28\"W","33°06'01\"N");
insert into Centre values(514,"5 star","JW Marriott",60321449937,"12121 Falulkner Rd, 30324 Atlanta, GA",40,308,"88°15'52\"W","32°52'24\"N");
insert into Centre values(515,"5 star","JW Marriott",60340441359,"2840 Pioneer Drive, 42102 Bowling Green, KY",106,290,"88°24'15\"W","33°04'21\"N");
insert into Centre values(516,"1 star","Swan Cottage",60379561735,"16253 SE 122nd Ave, 97015 Clackamas, OR",105,57,"88°18'50\"W","33°14'09\"N");
insert into Centre values(517,"1 star","Swan Cottage",60321425332,"2600 E 4th St., 67504 Hutchinson, KS",53,47,"88°18'50\"W","32°14'09\"N");
insert into Centre values(518,"4 star","Snoopy Lupiz ",60321429319,"300 N L.P. Miller St., 42071 Murray, KY",108,199,"88°11'35\"W","32°46'38\"N");
insert into Centre values(519,"5 star","JW Marriott",60321668753,"457 Cleveland Ave, 43215 Columbus, OH",54,299,"87°44'44\"W","32°41'49\"N");
insert into Centre values(520,"3 star","Lexis Suite",60356318653,"433 Sayre Street, 29622 Anderson, NC",44,169,"87°07'33\"W","32°36'17\"N");
insert into Centre values(521,"2 star","Sunway Mix",60342524548,"16253 SE 122nd Ave, 97015 Clackamas, OR",52,147,"86°32'30\"W","32°29'18\"N");
insert into Centre values(522,"1 star","Swan Cottage",60342514426,"2201 S, Wilmington Ave, 90220 Compton, CA",57,77,"86°30'35\"W","32°18'44\"N");
insert into Centre values(523,"4 star","Snoopy Lupiz ",60377829765,"600 Yuma St., 80223 Denver, CO",65,250,"86°29'44\"W","32°08'51\"N");
insert into Centre values(524,"3 star","Lexis Suite",60379543950,"12121 Falulkner Rd, 30324 Atlanta, GA",41,169,"88°07'11\"W","32°08'29\"N");
insert into Centre values(525,"2 star","Sunway Mix",60392836858,"500 N. Sugar St. Bldg. 5, 84041 Layton, ut",62,107,"88°12'54\"W","32°08'56\"N");
```

[Output]

279	23:09:27	insert into Centre values(501,"4 star",901,"Snoopy Lupiz ",60144004926,"12121 Falulkner Rd, 30324 Atlanta, GA",73,208,"88°48'39¥'"W","34°14'26¥...	1 row(s) affected
280	23:09:27	insert into Centre values(502,"5 star",902,"JW Marriott",60351617190,"433 Sayre Street, 29622 Anderson, NC",49,299,"88°53'12¥'"W","34°15'24¥'"N")	1 row(s) affected
281	23:09:27	insert into Centre values(503,"2 star",903,"Sunway Mix",60377830997,"16253 SE 122nd Ave, 97015 Clackamas, OR",85,107,"88°45'22¥'"W","34°15'...	1 row(s) affected
282	23:09:27	insert into Centre values(504,"3 star",904,"Lexis Suite",60392214220,"457 Cleveland Ave, 43215 Columbus, OH",88,109,"88°34'23¥'"W","24°15'24¥'"...	1 row(s) affected
283	23:09:27	insert into Centre values(505,"4 star",905,"Snoopy Lupiz ",60340425162,"2201 S, Wilmington Ave, 90220 Compton, CA",101,240,"88°51'18¥'"W","34°...	1 row(s) affected
284	23:09:27	insert into Centre values(506,"1 star",906,"Swan Cottage",60321481165,"2840 Pioneer Drive, 42102 Bowling Green, KY",50,57,"88°49'44¥'"W","33°5...	1 row(s) affected
285	23:09:27	insert into Centre values(507,"3 star",907,"Lexis Suite",60362580303,"400 S. Shortridge Rd, 46219 Indianapolis, IN",102,189,"88°44'08¥'"W","33°43'5...	1 row(s) affected
286	23:09:27	insert into Centre values(508,"5 star",908,"JW Marriott",60378744295,"2201 S. Wilmington AVE, 90220 Compton, CA",68,318,"88°45'31¥'"W","33°30'...	1 row(s) affected
287	23:09:27	insert into Centre values(509,"1 star",909,"Swan Cottage",60378760429,"1200 Industrial Dr., 37172 Springfield, TN",99,77,"88°39'38¥'"W","33°27'43¥...	1 row(s) affected
288	23:09:27	insert into Centre values(510,"4 star",910,"Swan Cottage",60351618440,"1100 New Salem Hwy, 37129 Murfreesboro, TN",81,250,"88°33'19¥'"W","3...	1 row(s) affected
289	23:09:27	insert into Centre values(511,"4 star",911,"Snoopy Lupiz ",60392857033,"400 S. Shortridge Rd, 46219 Indianapolis, IN",63,260,"88°36'38¥'"W","33°1...	1 row(s) affected
290	23:09:27	insert into Centre values(512,"1 star",912,"Swan Cottage",60379569502,"400 Yuma St., 80204 Denver, CO",90,77,"88°31'14¥'"W","33°18'01¥'"N")	1 row(s) affected
291	23:09:27	insert into Centre values(513,"2 star",913,"Sunway Mix",60340437812,"1225 N. Broadway St., 47240 Greensburg, IN",47,127,"88°29'28¥'"W","33°06'...	1 row(s) affected
292	23:09:27	insert into Centre values(514,"5 star",914,"JW Marriott",60321449937,"12121 Falulkner Rd, 30324 Atlanta, GA",40,308,"88°15'52¥'"W","32°52'24¥'"N")	1 row(s) affected
293	23:09:27	insert into Centre values(515,"5 star",915,"JW Marriott",60340441359,"2840 Pioneer Drive, 42102 Bowling Green, KY",106,290,"88°24'15¥'"W","33°0...	1 row(s) affected
294	23:09:27	insert into Centre values(516,"1 star",916,"Swan Cottage",60379561735,"16253 SE 122nd Ave, 97015 Clackamas, OR",105,57,"88°18'50¥'"W","33°1...	1 row(s) affected
295	23:09:27	insert into Centre values(517,"1 star",917,"Swan Cottage",60321425332,"2600 E 4th St., 67504 Hutchinson, KS",53,47,"88°18'50¥'"W","32°14'09¥'"N")	1 row(s) affected
296	23:09:27	insert into Centre values(518,"4 star",918,"Snoopy Lupiz ",60321429319,"300 N L.P. Miller St., 42071 Murray, KY",108,199,"88°11'35¥'"W","32°46'38...	1 row(s) affected
297	23:09:27	insert into Centre values(519,"5 star",919,"JW Marriott",60321668753,"457 Cleveland Ave, 43215 Columbus, OH",54,299,"87°44'44¥'"W","32°41'49¥'"...	1 row(s) affected
298	23:09:27	insert into Centre values(520,"3 star",920,"Lexis Suite",60356318653,"433 Sayre Street, 29622 Anderson, NC",44,169,"87°07'33¥'"W","32°36'17¥'"N")	1 row(s) affected
299	23:09:27	insert into Centre values(521,"2 star",921,"Sunway Mix",60342524548,"16253 SE 122nd Ave, 97015 Clackamas, OR",52,147,"86°32'30¥'"W","32°29'...	1 row(s) affected
300	23:09:27	insert into Centre values(522,"1 star",922,"Swan Cottage",60342514426,"2201 S, Wilmington Ave, 90220 Compton, CA",57,77,"86°30'35¥'"W","32°18...	1 row(s) affected
301	23:09:27	insert into Centre values(523,"4 star",923,"Snoopy Lupiz ",60377829765,"600 Yuma St., 80223 Denver, CO",65,250,"86°29'44¥'"W","32°08'51¥'"N")	1 row(s) affected
302	23:09:27	insert into Centre values(524,"3 star",924,"Lexis Suite",60379543950,"12121 Falulkner Rd, 30324 Atlanta, GA",41,169,"88°07'11¥'"W","32°08'29¥'"N")	1 row(s) affected
303	23:09:27	insert into Centre values(525,"2 star",925,"Sunway Mix",60392836858,"500 N. Sugar St. Bldg. 5, 84041 Layton, ut",62,107,"88°12'54¥'"W","32°08'56...	1 row(s) affected

Figure 9 : Query and output of data insertions for table Centre.

Figure 10 shows the query and output of data insertions for table Room.

[Query]

```
insert into Room values(901,"Dormitory",50,512);
insert into Room values(902,"Dormitory",50,523);
insert into Room values(903,"King Suite",150,520);
insert into Room values(904,"King Suite",150,518);
insert into Room values(905,"Luxury Suite",180,524);
insert into Room values(906,"Double",120,514);
insert into Room values(907,"Double",120,519);
insert into Room values(908,"King Suite",150,503);
insert into Room values(909,"Dormitory",50,505);
insert into Room values(910,"Single",80,509);
insert into Room values(911,"Single",80,508);
insert into Room values(912,"King Suite",150,525);
insert into Room values(913,"King Suite",150,506);
insert into Room values(914,"Double",120,513);
insert into Room values(915,"Dormitory",50,523);
insert into Room values(916,"Double",120,510);
insert into Room values(917,"Single",80,520);
insert into Room values(918,"Luxury Suite",180,501);
insert into Room values(919,"Dormitory",50,516);
insert into Room values(920,"Luxury Suite",180,521);
insert into Room values(921,"Dormitory",50,504);
insert into Room values(922,"King Suite",150,525);
insert into Room values(923,"Double",120,517);
insert into Room values(924,"King Suite",150,507);
insert into Room values(925,"Double",120,519);
insert into Room values(926,"Dormitory",50,517);
insert into Room values(927,"Dormitory",50,511);
insert into Room values(928,"Luxury Suite",180,522);
insert into Room values(929,"Double",120,502);
insert into Room values(930,"Single",80,515);
```

[Output]

✔	40	20:52:05	insert into Room values(901,"Dormitory",50,512)	1 row(s) affected
✔	41	20:52:05	insert into Room values(902,"Dormitory",50,523)	1 row(s) affected
✔	42	20:52:05	insert into Room values(903,"King Suite",150,520)	1 row(s) affected
✔	43	20:52:05	insert into Room values(904,"King Suite",150,518)	1 row(s) affected
✔	44	20:52:05	insert into Room values(905,"Luxury Suite",180,524)	1 row(s) affected
✔	45	20:52:05	insert into Room values(906,"Double",120,514)	1 row(s) affected
✔	46	20:52:05	insert into Room values(907,"Double",120,519)	1 row(s) affected
✔	47	20:52:05	insert into Room values(908,"King Suite",150,503)	1 row(s) affected
✔	48	20:52:05	insert into Room values(909,"Dormitory",50,505)	1 row(s) affected
✔	49	20:52:05	insert into Room values(910,"Single",80,509)	1 row(s) affected
✔	50	20:52:05	insert into Room values(911,"Single",80,508)	1 row(s) affected
✔	51	20:52:05	insert into Room values(912,"King Suite",150,525)	1 row(s) affected
✔	52	20:52:05	insert into Room values(913,"King Suite",150,506)	1 row(s) affected
✔	53	20:52:05	insert into Room values(914,"Double",120,513)	1 row(s) affected
✔	54	20:52:05	insert into Room values(915,"Dormitory",50,523)	1 row(s) affected
✔	55	20:52:05	insert into Room values(916,"Double",120,510)	1 row(s) affected
✔	56	20:52:05	insert into Room values(917,"Single",80,520)	1 row(s) affected
✔	57	20:52:05	insert into Room values(918,"Luxury Suite",180,501)	1 row(s) affected
✔	58	20:52:05	insert into Room values(919,"Dormitory",50,516)	1 row(s) affected
✔	59	20:52:05	insert into Room values(920,"Luxury Suite",180,521)	1 row(s) affected
✔	60	20:52:05	insert into Room values(921,"Dormitory",50,504)	1 row(s) affected
✔	61	20:52:05	insert into Room values(922,"King Suite",150,525)	1 row(s) affected
✔	62	20:52:05	insert into Room values(923,"Double",120,517)	1 row(s) affected
✔	63	20:52:05	insert into Room values(924,"King Suite",150,507)	1 row(s) affected
✔	64	20:52:05	insert into Room values(925,"Double",120,519)	1 row(s) affected
✔	65	20:52:05	insert into Room values(926,"Dormitory",50,517)	1 row(s) affected
✔	66	20:52:05	insert into Room values(927,"Dormitory",50,511)	1 row(s) affected
✔	67	20:52:05	insert into Room values(928,"Luxury Suite",180,522)	1 row(s) affected
✔	68	20:52:05	insert into Room values(929,"Double",120,502)	1 row(s) affected
✔	69	20:52:05	insert into Room values(930,"Single",80,515)	1 row(s) affected

Figure 10 : Query and output of data insertions for table Room.

Figure 11 shows the query and output of data insertions for table Booking.

[Query]

```
insert into Booking values(301,1,'2019-04-25',"Offline","Brianna Strickland","Card",901,'2019-05-13','2019-05-15',"self-service","Thomas Tank");
insert into Booking values(302,2,'2019-07-04',"Online","Kaylyn Morton","Cash",902,'2019-07-31','2019-08-06',"catering","Ophelia Wisp");
insert into Booking values(303,3,'2019-07-22',"Online","Jayvion Fox","Cash",903,'2019-08-21','2019-08-27',"self-service","Donald Duck");
insert into Booking values(304,4,'2019-07-29',"Online","Asia Chung","Cash",904,'2019-06-30','2019-07-08',"catering","Ophelia Wisp");
insert into Booking values(305,5,'2019-09-03',"Online","Grant Wu","Card",905,'2019-08-23','2019-08-29',"self-service","Corn Bread");
insert into Booking values(306,6,'2019-09-07',"Online","Cassandra Patel","Cash",906,'2019-09-14','2019-09-20',"self-service","Lennard Klog");
insert into Booking values(307,7,'2019-09-27',"Offline","Lexi Schmidt","Cash",907,'2019-11-03','2019-11-11',"catering","Beatrice Hans");
insert into Booking values(308,8,'2019-11-06',"Offline","Justus Waller","Cash",908,'2019-12-08','2019-12-12',"self-service","Flora Fauna");
insert into Booking values(309,9,'2020-04-11',"Online","Devan Singleton","Cash",909,'2020-04-28','2020-05-03',"self-service","Dora Explora");
insert into Booking values(310,10,'2020-06-30',"Offline","Lebron James","Card",910,'2020-07-14','2020-07-17',"catering","Thomas Tank");
insert into Booking values(311,11,'2020-08-11',"Online","Jean Glover","Card",911,'2020-08-25','2020-09-05',"self-service","Lukas Rad");
insert into Booking values(312,12,'2020-09-14',"Online","Stephen Curry","Card",912,'2020-09-28','2020-10-06',"catering","Thomas Tank");
insert into Booking values(313,13,'2020-09-23',"Offline","Andreas Petersen","Card",913,'2020-09-28','2020-10-07',"self-service","Flint Lockwood");
insert into Booking values(314,14,'2020-11-14',"Offline","Jocelyn Vang","Cash",914,'2020-11-21','2020-11-28',"catering","Hannah Jones");
insert into Booking values(315,15,'2020-12-13',"Online","Maddison Nelson","Cash",915,'2020-12-28','2020-12-31',"self-service","Flint Lockwood");
insert into Booking values(316,16,'2019-03-18',"Online","Semaj Kramer","Card",916,'2019-01-19','2019-02-01',"self-service","Dixy Fritz");
insert into Booking values(317,17,'2019-07-18',"Offline","Tanner Harrell","Card",917,'2019-01-21','2019-02-02',"catering","Star Shine");
insert into Booking values(318,18,'2019-07-22',"Online","Ashanti Graves","Cash",918,'2019-03-25','2019-04-03',"catering","Lukas Rad");
insert into Booking values(319,19,'2019-08-19',"Online","Nikola Yokic","Cash",919,'2019-04-08','2019-04-14',"self-service","Itkitt Cheng");
insert into Booking values(320,20,'2019-09-23',"Online","Wendy Wilcox","Card",920,'2019-05-16','2019-05-20',"self-service","Finn Mertinz");
insert into Booking values(321,21,'2019-10-20',"Online","Manu Ginobili","Card",921,'2019-05-24','2019-05-29',"catering","Giordo Giovardo");
insert into Booking values(322,22,'2019-12-22',"Offline","Demi Lovato","Cash",922,'2019-07-28','2019-08-03',"self-service","Thomas Tank");
insert into Booking values(323,23,'2020-01-13',"Online","Ashlynn Mcgee","Card",923,'2019-10-30','2019-11-03',"catering","Beatrice Hans");
insert into Booking values(324,24,'2020-03-17',"Online","Kiana Mcclure","Card",924,'2020-02-02','2020-02-14',"catering","Andrias Amphibian");
insert into Booking values(325,25,'2020-06-07',"Offline","Chelsea Barnes","Cash",925,'2020-04-14','2020-04-25',"self-service","Jon Stump");
insert into Booking values(326,26,'2020-08-24',"Online","Makaila Stark","Cash",926,'2020-05-27','2020-06-06',"self-service","Gordon Cahill");
insert into Booking values(327,27,'2020-11-03',"Online","Saige Dyer","Cash",927,'2020-06-13','2020-06-27',"catering","Gordon Cahill");
insert into Booking values(328,28,'2020-11-25',"Offline","Brittany Stuart","Card",928,'2020-06-27','2020-07-08',"self-service","Lennard Klog");
insert into Booking values(329,29,'2020-12-26',"Online","Molly Neal","Cash",929,'2020-09-01','2020-09-09',"self-service","Flora Fauna");
insert into Booking values(330,30,'2020-12-31',"Offline","Jaycee Irwin","Cash",930,'2020-11-11','2020-11-20',"catering","Dross Lever");
```

[Output]

✓	1060	20:33:36	insert into Booking values(301,1,'2019-04-25',"Offline","Brianna Strickland","Card",901,'2019-05-13','2019-05-15',"self-service","Thomas Ta...	1 row(s) affected
✓	1061	20:33:36	insert into Booking values(302,2,'2019-07-04',"Online","Kaylyn Morton","Cash",902,'2019-07-31','2019-08-06',"catering","Ophelia Wisp")	1 row(s) affected
✓	1062	20:33:36	insert into Booking values(303,3,'2019-07-22',"Online","Jayvion Fox","Cash",903,'2019-08-21','2019-08-27',"self-service","Donald Duck")	1 row(s) affected
✓	1063	20:33:36	insert into Booking values(304,4,'2019-07-29',"Online","Asia Chung","Cash",904,'2019-06-30','2019-07-08',"catering","Ophelia Wisp")	1 row(s) affected
✓	1064	20:33:36	insert into Booking values(305,5,'2019-09-03',"Online","Grant Wu","Card",905,'2019-08-23','2019-08-29',"self-service","Corn Bread")	1 row(s) affected
✓	1065	20:33:36	insert into Booking values(306,6,'2019-09-07',"Online","Cassandra Patel","Cash",906,'2019-09-14','2019-09-20',"self-service","Lennard Klog")	1 row(s) affected
✓	1066	20:33:36	insert into Booking values(307,7,'2019-09-27',"Offline","Lexi Schmidt","Cash",907,'2019-11-03','2019-11-11',"catering","Beatrice Hans")	1 row(s) affected
✓	1067	20:33:36	insert into Booking values(308,8,'2019-11-06',"Offline","Justus Waller","Cash",908,'2019-12-08','2019-12-12',"self-service","Flora Fauna")	1 row(s) affected
✓	1068	20:33:36	insert into Booking values(309,9,'2020-04-11',"Online","Devan Singleton","Cash",909,'2020-04-28','2020-05-03',"self-service","Dora Explora")	1 row(s) affected
✓	1069	20:33:36	insert into Booking values(310,10,'2020-06-30',"Offline","Lebron James","Card",910,'2020-07-14','2020-07-17',"catering","Thomas Tank")	1 row(s) affected
✓	1070	20:33:36	insert into Booking values(311,11,'2020-08-11',"Online","Jean Glover","Card",911,'2020-08-25','2020-09-05',"self-service","Lukas Rad")	1 row(s) affected
✓	1071	20:33:36	insert into Booking values(312,12,'2020-09-14',"Online","Stephen Curry","Card",912,'2020-09-28','2020-10-06',"catering","Thomas Tank")	1 row(s) affected
✓	1072	20:33:36	insert into Booking values(313,13,'2020-09-23',"Offline","Andreas Petersen","Card",913,'2020-09-28','2020-10-07',"self-service","Flint Lock...	1 row(s) affected
✓	1073	20:33:36	insert into Booking values(314,14,'2020-11-14',"Offline","Jocelyn Vang","Cash",914,'2020-11-21','2020-11-28',"catering","Hannah Jones")	1 row(s) affected
✓	1074	20:33:36	insert into Booking values(315,15,'2020-12-13',"Online","Maddison Nelson","Cash",915,'2020-12-28','2020-12-31',"self-service","Flint Lock...	1 row(s) affected
✓	1075	20:33:36	insert into Booking values(316,16,'2019-03-18',"Online","Semaj Kramer","Card",916,'2019-01-19','2019-02-01',"self-service","Dixy Fritz")	1 row(s) affected
✓	1076	20:33:36	insert into Booking values(317,17,'2019-07-18',"Offline","Tanner Harrell","Card",917,'2019-01-21','2019-02-02',"catering","Star Shine")	1 row(s) affected
✓	1077	20:33:36	insert into Booking values(318,18,'2019-07-22',"Online","Ashanti Graves","Cash",918,'2019-03-25','2019-04-03',"catering","Lukas Rad")	1 row(s) affected
✓	1078	20:33:36	insert into Booking values(319,19,'2019-08-19',"Online","Nikola Yokic","Cash",919,'2019-04-08','2019-04-14',"self-service","Itkitt Cheng")	1 row(s) affected
✓	1079	20:33:36	insert into Booking values(320,20,'2019-09-23',"Online","Wendy Wilcox","Card",920,'2019-05-16','2019-05-20',"self-service","Finn Mertinz")	1 row(s) affected
✓	1080	20:33:36	insert into Booking values(321,21,'2019-10-20',"Online","Manu Ginobili","Card",921,'2019-05-24','2019-05-29',"catering","Giordo Giovardo")	1 row(s) affected
✓	1081	20:33:36	insert into Booking values(322,22,'2019-12-22',"Offline","Demi Lovato","Cash",922,'2019-07-28','2019-08-03',"self-service","Thomas Tank")	1 row(s) affected
✓	1082	20:33:36	insert into Booking values(323,23,'2020-01-13',"Online","Ashlynn Mcgee","Card",923,'2019-10-30','2019-11-03',"catering","Beatrice Hans")	1 row(s) affected
✓	1083	20:33:36	insert into Booking values(324,24,'2020-03-17',"Online","Kiana Mcclure","Card",924,'2020-02-02','2020-02-14',"catering","Andrias Amphibia...	1 row(s) affected
✓	1084	20:33:36	insert into Booking values(325,25,'2020-06-07',"Offline","Chelsea Barnes","Cash",925,'2020-04-14','2020-04-25',"self-service","Jon Stump")	1 row(s) affected
✓	1085	20:33:36	insert into Booking values(326,26,'2020-08-24',"Online","Makaila Stark","Cash",926,'2020-05-27','2020-06-06',"self-service","Gordon Cahill")	1 row(s) affected
✓	1086	20:33:36	insert into Booking values(327,27,'2020-11-03',"Online","Saige Dyer","Cash",927,'2020-06-13','2020-06-27',"catering","Gordon Cahill")	1 row(s) affected
✓	1087	20:33:36	insert into Booking values(328,28,'2020-11-25',"Offline","Brittany Stuart","Card",928,'2020-06-27','2020-07-08',"self-service","Lennard Klog")	1 row(s) affected
✓	1088	20:33:36	insert into Booking values(329,29,'2020-12-26',"Online","Molly Neal","Cash",929,'2020-09-01','2020-09-09',"self-service","Flora Fauna")	1 row(s) affected
✓	1089	20:33:36	insert into Booking values(330,30,'2020-12-31',"Offline","Jaycee Irwin","Cash",930,'2020-11-11','2020-11-20',"catering","Dross Lever")	1 row(s) affected

Figure 11 : Query and output of data insertions for table Booking.

Figure 12 shows the query and output of data insertions for table Facility.

[Query]

```
insert into Facility values(101,"Computer Room 1","Computing Lab","Makaila Stark",80,"Card",501);
insert into Facility values(102,"Computer Room 2","Computing Lab","Grant Wu",80,"Card",517);
insert into Facility values(103,"Computer Room 3","Computing Lab","Molly Neal",80,"Cash",508);
insert into Facility values(104,"Computer Room 4","Computing Lab","Maddison Nelson",80,"Cash",509);
insert into Facility values(105,"Meeting Room 1","Board Meeting Room","Tanner Harrell",100,"Card",503);
insert into Facility values(106,"Meeting Room 2","Board Meeting Room","Brittany Stuart",100,"Cash",519);
insert into Facility values(107,"Meeting Room 3","Board Meeting Room","Demi Lovato",100,"Cash",525);
insert into Facility values(108,"Meeting Room 4","Board Meeting Room","Lexi Schmidt",100,"Cash",518);
insert into Facility values(109,"Hall 1","Conference Hall","Manu Ginobili",150,"Cash",510);
insert into Facility values(110,"Hall 2","Conference Hall","Devan Singleton",150,"Cash",519);
insert into Facility values(111,"Hall 3","Conference Hall","Semaj Kramer",150,"Card",524);
insert into Facility values(112,"Hall 4","Conference Hall","Brianna Strickland",150,"Cash",503);
insert into Facility values(113,"Swimming Pool","Leisure","Ashanti Graves",300,"Card",517);
insert into Facility values(114,"Poolside Bar","Shop","Ashlynn Mcgee",130,"Cash",510);
insert into Facility values(115,"Spa","Leisure","Kaylyn Morton",100,"Card",501);
insert into Facility values(116,"Restaurant","Shop","Cassandra Patel",200,"Card",524);
insert into Facility values(117,"Gym","Leisure","Saige Dyer",180,"Cash",505);
insert into Facility values(118,"Terrace bar","Shop","Demi Lovato",160,"Card",522);
insert into Facility values(119,"Play Room","Leisure","Ashlynn Mcgee",140,"Card",508);
insert into Facility values(120,"Café","Shop","Chelsea Barnes",110,"Cash",514);
```

[Output]

✓	100	20:56:53	insert into Facility values(101,"Computer Room 1","Computing Lab","Makaila Stark",80,"Card",501)	1 row(s) affected
✓	101	20:56:53	insert into Facility values(102,"Computer Room 2","Computing Lab","Grant Wu",80,"Card",517)	1 row(s) affected
✓	102	20:56:53	insert into Facility values(103,"Computer Room 3","Computing Lab","Molly Neal",80,"Cash",508)	1 row(s) affected
✓	103	20:56:53	insert into Facility values(104,"Computer Room 4","Computing Lab","Maddison Nelson",80,"Cash",509)	1 row(s) affected
✓	104	20:56:53	insert into Facility values(105,"Meeting Room 1","Board Meeting Room","Tanner Harrell",100,"Card",503)	1 row(s) affected
✓	105	20:56:53	insert into Facility values(106,"Meeting Room 2","Board Meeting Room","Brittany Stuart",100,"Cash",519)	1 row(s) affected
✓	106	20:56:53	insert into Facility values(107,"Meeting Room 3","Board Meeting Room","Demi Lovato",100,"Cash",525)	1 row(s) affected
✓	107	20:56:53	insert into Facility values(108,"Meeting Room 4","Board Meeting Room","Lexi Schmidt",100,"Cash",518)	1 row(s) affected
✓	108	20:56:53	insert into Facility values(109,"Hall 1","Conference Hall","Manu Ginobili",150,"Cash",510)	1 row(s) affected
✓	109	20:56:53	insert into Facility values(110,"Hall 2","Conference Hall","Devan Singleton",150,"Cash",519)	1 row(s) affected
✓	110	20:56:53	insert into Facility values(111,"Hall 3","Conference Hall","Semaj Kramer",150,"Card",524)	1 row(s) affected
✓	111	20:56:53	insert into Facility values(112,"Hall 4","Conference Hall","Brianna Strickland",150,"Cash",503)	1 row(s) affected
✓	112	20:56:53	insert into Facility values(113,"Swimming Pool","Leisure","Ashanti Graves",300,"Card",517)	1 row(s) affected
✓	113	20:56:54	insert into Facility values(114,"Poolside Bar","Shop","Ashlynn Mcgee",130,"Cash",510)	1 row(s) affected
✓	114	20:56:54	insert into Facility values(115,"Spa","Leisure","Kaylyn Morton",100,"Card",501)	1 row(s) affected
✓	115	20:56:54	insert into Facility values(116,"Restaurant","Shop","Cassandra Patel",200,"Card",524)	1 row(s) affected
✓	116	20:56:54	insert into Facility values(117,"Gym","Leisure","Saige Dyer",180,"Cash",505)	1 row(s) affected
✓	117	20:56:54	insert into Facility values(118,"Terrace bar","Shop","Demi Lovato",160,"Card",522)	1 row(s) affected
✓	118	20:56:54	insert into Facility values(119,"Play Room","Leisure","Ashlynn Mcgee",140,"Card",508)	1 row(s) affected
✓	119	20:56:54	insert into Facility values(120,"Café","Shop","Chelsea Barnes",110,"Cash",514)	1 row(s) affected

Figure 12 : Query and output of data insertions for table Facility.

Figure 13 shows the query and output of data insertions for table Activity.

[Query]

```
insert into Activity values(601,"Sports","Basketball",80,"Makaila Stark","Gym",'2019-01-07');
insert into Activity values(602,"Sports","BaseBall",80,"Grant Wu","Gym",'2019-02-04');
insert into Activity values(603,"Sports","Soccer",70,"Molly Neal","Gym",'2019-04-04');
insert into Activity values(604,"Sports","Badminton",60,"Maddison Nelson","Gym",'2019-04-16');
insert into Activity values(605,"Sports","Tennis",60,"Tanner Harrell","Gym",'2019-05-23');
insert into Activity values(606,"Sports","Swimming",30,"Brittany Stuart","Swimming Pool",'2019-10-25');
insert into Activity values(607,"Sports","Paintball-war games",90,"Demi Lovato","Gym",'2019-12-11');
insert into Activity values(608,"Sports","Futsal",70,"Lexi Schmidt","Gym",'2020-01-04');
insert into Activity values(609,"Sports","Valleyball",70,"Manu Ginobili","Gym",'2020-02-08');
insert into Activity values(610,"Indoor Game","Table Tennis",15,"Devan Singleton","Play Room",'2020-03-12');
insert into Activity values(611,"Indoor Game","Billiard",25,"Semaj Kramer","Play Room",'2020-03-15');
insert into Activity values(612,"Indoor Game","Hockey",15,"Brianna Strickland","Play Room",'2020-03-19');
insert into Activity values(613,"Indoor Game","Table Soccer",25,"Ashanti Graves","Play Room",'2020-03-20');
insert into Activity values(614,"Indoor Game","Old Maid",10,"Ashlynn Mcgee","Play Room",'2020-06-19');
insert into Activity values(615,"Indoor Game","Monopoly",10,"Kaylyn Morton","Meeting Room 4",'2020-06-23');
insert into Activity values(616,"Indoor Activity","Table-turning",10,"Cassandra Patel","Meeting Room 2",'2020-07-07');
insert into Activity values(617,"Indoor Activity","Brain Storming",10,"Saige Dyer","Meeting Room 3",'2020-07-16');
insert into Activity values(618,"Indoor Activity","Werewolf game",10,"Demi Lovato","Meeting Room 3",'2020-09-14');
insert into Activity values(619,"Indoor Activity","Scavenger Hunt",10,"Ashlynn Mcgee","Hall 1",'2020-09-18');
insert into Activity values(620,"Indoor Activity","Truth And Lie",10,"Chelsea Barnes","Meeting Room 1",'2020-11-22');
```

[Output]

✓	120	20:59:13	insert into Activity values(601,"Sports","Basketball",80,"Makaila Stark","Gym",'2019-01-07')	1 row(s) affected
✓	121	20:59:13	insert into Activity values(602,"Sports","BaseBall",80,"Grant Wu","Gym",'2019-02-04')	1 row(s) affected
✓	122	20:59:13	insert into Activity values(603,"Sports","Soccer",70,"Molly Neal","Gym",'2019-04-04')	1 row(s) affected
✓	123	20:59:13	insert into Activity values(604,"Sports","Badminton",60,"Maddison Nelson","Gym",'2019-04-16')	1 row(s) affected
✓	124	20:59:13	insert into Activity values(605,"Sports","Tennis",60,"Tanner Harrell","Gym",'2019-05-23')	1 row(s) affected
✓	125	20:59:13	insert into Activity values(606,"Sports","Swimming",30,"Brittany Stuart","Swimming Pool",'2019-10-25')	1 row(s) affected
✓	126	20:59:13	insert into Activity values(607,"Sports","Paintball-war games",90,"Demi Lovato","Gym",'2019-12-11')	1 row(s) affected
✓	127	20:59:13	insert into Activity values(608,"Sports","Futsal",70,"Lexi Schmidt","Gym",'2020-01-04')	1 row(s) affected
✓	128	20:59:13	insert into Activity values(609,"Sports","Valleyball",70,"Manu Ginobili","Gym",'2020-02-08')	1 row(s) affected
✓	129	20:59:13	insert into Activity values(610,"Indoor Game","Table Tennis",15,"Devan Singleton","Play Room",'2020-03-12')	1 row(s) affected
✓	130	20:59:13	insert into Activity values(611,"Indoor Game","Billiard",25,"Semaj Kramer","Play Room",'2020-03-15')	1 row(s) affected
✓	131	20:59:13	insert into Activity values(612,"Indoor Game","Hockey",15,"Brianna Strickland","Play Room",'2020-03-19')	1 row(s) affected
✓	132	20:59:13	insert into Activity values(613,"Indoor Game","Table Soccer",25,"Ashanti Graves","Play Room",'2020-03-20')	1 row(s) affected
✓	133	20:59:13	insert into Activity values(614,"Indoor Game","Old Maid",10,"Ashlynn Mcgee","Play Room",'2020-06-19')	1 row(s) affected
✓	134	20:59:13	insert into Activity values(615,"Indoor Game","Monopoly",10,"Kaylyn Morton","Meeting Room 4",'2020-06-23')	1 row(s) affected
✓	135	20:59:13	insert into Activity values(616,"Indoor Activity","Table-turning",10,"Cassandra Patel","Meeting Room 2",'2020...	1 row(s) affected
✓	136	20:59:13	insert into Activity values(617,"Indoor Activity","Brain Storming",10,"Saige Dyer","Meeting Room 3",'2020-07-...	1 row(s) affected
✓	137	20:59:13	insert into Activity values(618,"Indoor Activity","Werewolf game",10,"Demi Lovato","Meeting Room 3",'2020-...	1 row(s) affected
✓	138	20:59:13	insert into Activity values(619,"Indoor Activity","Scavenger Hunt",10,"Ashlynn Mcgee","Hall 1",'2020-09-18')	1 row(s) affected
✓	139	20:59:13	insert into Activity values(620,"Indoor Activity","Truth And Lie",10,"Chelsea Barnes","Meeting Room 1",'2020...	1 row(s) affected

Figure 13 : Query and output of data insertions for table Activity.

Figure 14 shows the query and output of data insertions for table Staff.

[Query]

```
insert into Staff values(201,"Flint Lockwood",25,"Male",60142289674,"staff01@gmail.com","Full Time",517);
insert into Staff values(202,"Dross Lever",19,"Male",60186127884,"staff02@gmail.com","Full Time",507);
insert into Staff values(203,"Hannah Jones",23,"Female",60198643333,"staff03@gmail.com","Full Time",509);
insert into Staff values(204,"Ophelia Wisp",18,"Female",60152770312,"staff04@gmail.com","Full Time",505);
insert into Staff values(205,"Lennard Klog",28,"Male",60192175695,"staff05@gmail.com","Full Time",512);
insert into Staff values(206,"Dora Explora",22,"Female",60130330213,"staff06@gmail.com","Part Time",502);
insert into Staff values(207,"Flora Fauna",20,"Female",60131883982,"staff07@gmail.com","Part Time",524);
insert into Staff values(208,"Gordon Cahill",26,"Male",60125806398,"staff08@gmail.com","Part Time",525);
insert into Staff values(209,"Donald Duck",22,"Male",60199594844,"staff09@gmail.com","Part Time",516);
insert into Staff values(210,"Corn Bread",18,"Female",60185827223,"staff10@gmail.com","Part Time",511);
insert into Staff values(211,"Star Shine",17,"Female",60138373155,"staff11@gmail.com","Part Time",522);
insert into Staff values(212,"Beatrice Hans",19,"Female",60112118268,"staff12@gmail.com","Part Time",519);
insert into Staff values(213,"Dixy Fritz",20,"Female",60105733224,"staff13@gmail.com","Part Time",514);
insert into Staff values(214,"Giordo Giovardo",26,"Male",60131743131,"staff14@gmail.com","Part Time",523);
insert into Staff values(215,"Jon Stump",24,"Male",60124061913,"staff15@gmail.com","Part Time",508);
insert into Staff values(216,"Finn Mertinz",27,"Male",60129624701,"staff16@gmail.com","Part Time",506);
insert into Staff values(217,"Andrias Amphibian",21,"Male",60147593588,"staff17@gmail.com","Part Time",521);
insert into Staff values(218,"Thomas Tank",28,"Male",60187612841,"staff18@gmail.com","Part Time",513);
insert into Staff values(219,"Lukas Rad",23,"Male",60131799278,"staff19@gmail.com","Part Time",518);
insert into Staff values(220,"Itkitt Cheng",19,"Male",60195257957,"staff20@gmail.com","Part Time",501);
```

[Output]

✓	185	21:09:54	insert into Staff values(201,"Flint Lockwood",25,"Male",60142289674,"staff01@gmail.com","Full Time",5...	1 row(s) affected
✓	186	21:09:54	insert into Staff values(202,"Dross Lever",19,"Male",60186127884,"staff02@gmail.com","Full Time",507)	1 row(s) affected
✓	187	21:09:54	insert into Staff values(203,"Hannah Jones",23,"Female",60198643333,"staff03@gmail.com","Full Time",...	1 row(s) affected
✓	188	21:09:54	insert into Staff values(204,"Ophelia Wisp",18,"Female",60152770312,"staff04@gmail.com","Full Time",5...	1 row(s) affected
✓	189	21:09:54	insert into Staff values(205,"Lennard Klog",28,"Male",60192175695,"staff05@gmail.com","Full Time",512)	1 row(s) affected
✓	190	21:09:54	insert into Staff values(206,"Dora Explora",22,"Female",60130330213,"staff06@gmail.com","Part Time",5...	1 row(s) affected
✓	191	21:09:54	insert into Staff values(207,"Flora Fauna",20,"Female",60131883982,"staff07@gmail.com","Part Time",5...	1 row(s) affected
✓	192	21:09:54	insert into Staff values(208,"Gordon Cahill",26,"Male",60125806398,"staff08@gmail.com","Part Time",525)	1 row(s) affected
✓	193	21:09:54	insert into Staff values(209,"Donald Duck",22,"Male",60199594844,"staff09@gmail.com","Part Time",516)	1 row(s) affected
✓	194	21:09:54	insert into Staff values(210,"Corn Bread",18,"Female",60185827223,"staff10@gmail.com","Part Time",511)	1 row(s) affected
✓	195	21:09:54	insert into Staff values(211,"Star Shine",17,"Female",60138373155,"staff11@gmail.com","Part Time",522)	1 row(s) affected
✓	196	21:09:54	insert into Staff values(212,"Beatrice Hans",19,"Female",60112118268,"staff12@gmail.com","Part Time",...	1 row(s) affected
✓	197	21:09:54	insert into Staff values(213,"Dixy Fritz",20,"Female",60105733224,"staff13@gmail.com","Part Time",514)	1 row(s) affected
✓	198	21:09:54	insert into Staff values(214,"Giordo Giovardo",26,"Male",60131743131,"staff14@gmail.com","Part Time",...	1 row(s) affected
✓	199	21:09:54	insert into Staff values(215,"Jon Stump",24,"Male",60124061913,"staff15@gmail.com","Part Time",508)	1 row(s) affected
✓	200	21:09:54	insert into Staff values(216,"Finn Mertinz",27,"Male",60129624701,"staff16@gmail.com","Part Time",506)	1 row(s) affected
✓	201	21:09:54	insert into Staff values(217,"Andrias Amphibian",21,"Male",60147593588,"staff17@gmail.com","Part Tim...	1 row(s) affected
✓	202	21:09:54	insert into Staff values(218,"Thomas Tank",28,"Male",60187612841,"staff18@gmail.com","Part Time",513)	1 row(s) affected
✓	203	21:09:54	insert into Staff values(219,"Lukas Rad",23,"Male",60131799278,"staff19@gmail.com","Part Time",518)	1 row(s) affected
✓	204	21:09:54	insert into Staff values(220,"Itkitt Cheng",19,"Male",60195257957,"staff20@gmail.com","Part Time",501)	1 row(s) affected

Figure 14 : Query and output of data insertions for table Staff.

Figure 15 shows the query and output of data insertions for table Client_makes_Booking.

[Query]

```
insert into Client_makes_Booking values(001,301);
insert into Client_makes_Booking values(002,302);
insert into Client_makes_Booking values(003,303);
insert into Client_makes_Booking values(004,304);
insert into Client_makes_Booking values(005,305);
insert into Client_makes_Booking values(006,306);
insert into Client_makes_Booking values(007,307);
insert into Client_makes_Booking values(008,308);
insert into Client_makes_Booking values(009,309);
insert into Client_makes_Booking values(010,310);
insert into Client_makes_Booking values(011,311);
insert into Client_makes_Booking values(012,312);
insert into Client_makes_Booking values(013,313);
insert into Client_makes_Booking values(014,314);
insert into Client_makes_Booking values(015,315);
insert into Client_makes_Booking values(016,316);
insert into Client_makes_Booking values(017,317);
insert into Client_makes_Booking values(018,318);
insert into Client_makes_Booking values(019,319);
insert into Client_makes_Booking values(020,320);
insert into Client_makes_Booking values(021,321);
insert into Client_makes_Booking values(022,322);
insert into Client_makes_Booking values(023,323);
insert into Client_makes_Booking values(024,324);
insert into Client_makes_Booking values(025,325);
insert into Client_makes_Booking values(026,326);
insert into Client_makes_Booking values(027,327);
insert into Client_makes_Booking values(028,328);
insert into Client_makes_Booking values(029,329);
insert into Client_makes_Booking values(030,330);
```

[Output]

✓	205	21:16:07	insert into Client_makes_Booking values(001,301)	1 row(s) affected
✓	206	21:16:07	insert into Client_makes_Booking values(002,302)	1 row(s) affected
✓	207	21:16:07	insert into Client_makes_Booking values(003,303)	1 row(s) affected
✓	208	21:16:07	insert into Client_makes_Booking values(004,304)	1 row(s) affected
✓	209	21:16:07	insert into Client_makes_Booking values(005,305)	1 row(s) affected
✓	210	21:16:07	insert into Client_makes_Booking values(006,306)	1 row(s) affected
✓	211	21:16:07	insert into Client_makes_Booking values(007,307)	1 row(s) affected
✓	212	21:16:07	insert into Client_makes_Booking values(008,308)	1 row(s) affected
✓	213	21:16:07	insert into Client_makes_Booking values(009,309)	1 row(s) affected
✓	214	21:16:07	insert into Client_makes_Booking values(010,310)	1 row(s) affected
✓	215	21:16:07	insert into Client_makes_Booking values(011,311)	1 row(s) affected
✓	216	21:16:07	insert into Client_makes_Booking values(012,312)	1 row(s) affected
✓	217	21:16:07	insert into Client_makes_Booking values(013,313)	1 row(s) affected
✓	218	21:16:07	insert into Client_makes_Booking values(014,314)	1 row(s) affected
✓	219	21:16:07	insert into Client_makes_Booking values(015,315)	1 row(s) affected
✓	220	21:16:07	insert into Client_makes_Booking values(016,316)	1 row(s) affected
✓	221	21:16:07	insert into Client_makes_Booking values(017,317)	1 row(s) affected
✓	222	21:16:07	insert into Client_makes_Booking values(018,318)	1 row(s) affected
✓	223	21:16:07	insert into Client_makes_Booking values(019,319)	1 row(s) affected
✓	224	21:16:07	insert into Client_makes_Booking values(020,320)	1 row(s) affected
✓	225	21:16:07	insert into Client_makes_Booking values(021,321)	1 row(s) affected
✓	226	21:16:07	insert into Client_makes_Booking values(022,322)	1 row(s) affected
✓	227	21:16:07	insert into Client_makes_Booking values(023,323)	1 row(s) affected
✓	228	21:16:07	insert into Client_makes_Booking values(024,324)	1 row(s) affected
✓	229	21:16:07	insert into Client_makes_Booking values(025,325)	1 row(s) affected
✓	230	21:16:07	insert into Client_makes_Booking values(026,326)	1 row(s) affected
✓	231	21:16:07	insert into Client_makes_Booking values(027,327)	1 row(s) affected
✓	232	21:16:07	insert into Client_makes_Booking values(028,328)	1 row(s) affected
✓	233	21:16:07	insert into Client_makes_Booking values(029,329)	1 row(s) affected
✓	234	21:16:07	insert into Client_makes_Booking values(030,330)	1 row(s) affected

Figure 15 : Query and output of data insertions for table Client_makes_Booking.

Figure 16 shows the query and output of data insertions for table Client_books_Room.

[Query]

```
insert into Client_books_Room values(001,921);
insert into Client_books_Room values(002,906);
insert into Client_books_Room values(003,902);
insert into Client_books_Room values(004,904);
insert into Client_books_Room values(005,917);
insert into Client_books_Room values(006,910);
insert into Client_books_Room values(007,924);
insert into Client_books_Room values(008,925);
insert into Client_books_Room values(009,901);
insert into Client_books_Room values(010,927);
insert into Client_books_Room values(011,929);
insert into Client_books_Room values(012,918);
insert into Client_books_Room values(013,908);
insert into Client_books_Room values(014,930);
insert into Client_books_Room values(015,915);
insert into Client_books_Room values(016,926);
insert into Client_books_Room values(017,923);
insert into Client_books_Room values(018,922);
insert into Client_books_Room values(019,911);
insert into Client_books_Room values(020,912);
insert into Client_books_Room values(021,905);
insert into Client_books_Room values(022,913);
insert into Client_books_Room values(023,916);
insert into Client_books_Room values(024,914);
insert into Client_books_Room values(025,907);
insert into Client_books_Room values(026,903);
insert into Client_books_Room values(027,919);
insert into Client_books_Room values(028,909);
insert into Client_books_Room values(029,920);
insert into Client_books_Room values(030,928);
```

[Output]

✓	236	21:23:05	insert into Client_books_Room values(001,921)	1 row(s) affected
✓	237	21:23:05	insert into Client_books_Room values(002,906)	1 row(s) affected
✓	238	21:23:05	insert into Client_books_Room values(003,902)	1 row(s) affected
✓	239	21:23:05	insert into Client_books_Room values(004,904)	1 row(s) affected
✓	240	21:23:05	insert into Client_books_Room values(005,917)	1 row(s) affected
✓	241	21:23:05	insert into Client_books_Room values(006,910)	1 row(s) affected
✓	242	21:23:05	insert into Client_books_Room values(007,924)	1 row(s) affected
✓	243	21:23:05	insert into Client_books_Room values(008,925)	1 row(s) affected
✓	244	21:23:05	insert into Client_books_Room values(009,901)	1 row(s) affected
✓	245	21:23:05	insert into Client_books_Room values(010,927)	1 row(s) affected
✓	246	21:23:05	insert into Client_books_Room values(011,929)	1 row(s) affected
✓	247	21:23:05	insert into Client_books_Room values(012,918)	1 row(s) affected
✓	248	21:23:05	insert into Client_books_Room values(013,908)	1 row(s) affected
✓	249	21:23:05	insert into Client_books_Room values(014,930)	1 row(s) affected
✓	250	21:23:05	insert into Client_books_Room values(015,915)	1 row(s) affected
✓	251	21:23:05	insert into Client_books_Room values(016,926)	1 row(s) affected
✓	252	21:23:05	insert into Client_books_Room values(017,923)	1 row(s) affected
✓	253	21:23:05	insert into Client_books_Room values(018,922)	1 row(s) affected
✓	254	21:23:05	insert into Client_books_Room values(019,911)	1 row(s) affected
✓	255	21:23:05	insert into Client_books_Room values(020,912)	1 row(s) affected
✓	256	21:23:05	insert into Client_books_Room values(021,905)	1 row(s) affected
✓	257	21:23:05	insert into Client_books_Room values(022,913)	1 row(s) affected
✓	258	21:23:05	insert into Client_books_Room values(023,916)	1 row(s) affected
✓	259	21:23:05	insert into Client_books_Room values(024,914)	1 row(s) affected
✓	260	21:23:05	insert into Client_books_Room values(025,907)	1 row(s) affected
✓	261	21:23:05	insert into Client_books_Room values(026,903)	1 row(s) affected
✓	262	21:23:05	insert into Client_books_Room values(027,919)	1 row(s) affected
✓	263	21:23:05	insert into Client_books_Room values(028,909)	1 row(s) affected
✓	264	21:23:05	insert into Client_books_Room values(029,920)	1 row(s) affected
✓	265	21:23:05	insert into Client_books_Room values(030,928)	1 row(s) affected

Figure 16 : Query and output of data insertions for table Client_books_Room.

Figure 17 shows the query and output of data insertions for table Staff_manages_Facility.
[Query]

```
insert into Staff_manages_Facility values(201,114);
insert into Staff_manages_Facility values(202,110);
insert into Staff_manages_Facility values(203,103);
insert into Staff_manages_Facility values(204,107);
insert into Staff_manages_Facility values(205,105);
insert into Staff_manages_Facility values(206,106);
insert into Staff_manages_Facility values(207,108);
insert into Staff_manages_Facility values(208,113);
insert into Staff_manages_Facility values(209,101);
insert into Staff_manages_Facility values(210,112);
insert into Staff_manages_Facility values(211,111);
insert into Staff_manages_Facility values(212,116);
insert into Staff_manages_Facility values(213,109);
insert into Staff_manages_Facility values(214,102);
insert into Staff_manages_Facility values(215,120);
insert into Staff_manages_Facility values(216,115);
insert into Staff_manages_Facility values(217,104);
insert into Staff_manages_Facility values(218,118);
insert into Staff_manages_Facility values(219,119);
insert into Staff_manages_Facility values(220,117);
```

[Output]

✓	266	21:26:30	insert into Staff_manages_Facility values(201,114)	1 row(s) affected
✓	267	21:26:30	insert into Staff_manages_Facility values(202,110)	1 row(s) affected
✓	268	21:26:30	insert into Staff_manages_Facility values(203,103)	1 row(s) affected
✓	269	21:26:30	insert into Staff_manages_Facility values(204,107)	1 row(s) affected
✓	270	21:26:30	insert into Staff_manages_Facility values(205,105)	1 row(s) affected
✓	271	21:26:30	insert into Staff_manages_Facility values(206,106)	1 row(s) affected
✓	272	21:26:30	insert into Staff_manages_Facility values(207,108)	1 row(s) affected
✓	273	21:26:30	insert into Staff_manages_Facility values(208,113)	1 row(s) affected
✓	274	21:26:30	insert into Staff_manages_Facility values(209,101)	1 row(s) affected
✓	275	21:26:30	insert into Staff_manages_Facility values(210,112)	1 row(s) affected
✓	276	21:26:30	insert into Staff_manages_Facility values(211,111)	1 row(s) affected
✓	277	21:26:30	insert into Staff_manages_Facility values(212,116)	1 row(s) affected
✓	278	21:26:30	insert into Staff_manages_Facility values(213,109)	1 row(s) affected
✓	279	21:26:30	insert into Staff_manages_Facility values(214,102)	1 row(s) affected
✓	280	21:26:30	insert into Staff_manages_Facility values(215,120)	1 row(s) affected
✓	281	21:26:30	insert into Staff_manages_Facility values(216,115)	1 row(s) affected
✓	282	21:26:30	insert into Staff_manages_Facility values(217,104)	1 row(s) affected
✓	283	21:26:30	insert into Staff_manages_Facility values(218,118)	1 row(s) affected
✓	284	21:26:30	insert into Staff_manages_Facility values(219,119)	1 row(s) affected
✓	285	21:26:30	insert into Staff_manages_Facility values(220,117)	1 row(s) affected

Figure 17 : Query and output of data insertions for table Staff_manages_Facility.

Figure 18 shows the query and output of data insertions for table Staff_manages_Activity.
[Query]

```
insert into Staff_manages_Activity values(201,612);
insert into Staff_manages_Activity values(202,613);
insert into Staff_manages_Activity values(203,609);
insert into Staff_manages_Activity values(204,614);
insert into Staff_manages_Activity values(205,603);
insert into Staff_manages_Activity values(206,618);
insert into Staff_manages_Activity values(207,607);
insert into Staff_manages_Activity values(208,615);
insert into Staff_manages_Activity values(209,619);
insert into Staff_manages_Activity values(210,601);
insert into Staff_manages_Activity values(211,620);
insert into Staff_manages_Activity values(212,602);
insert into Staff_manages_Activity values(213,616);
insert into Staff_manages_Activity values(214,617);
insert into Staff_manages_Activity values(215,610);
insert into Staff_manages_Activity values(216,605);
insert into Staff_manages_Activity values(217,608);
insert into Staff_manages_Activity values(218,606);
insert into Staff_manages_Activity values(219,611);
insert into Staff_manages_Activity values(220,604);
```

[Output]

✓	286	21:28:30	insert into Staff_manages_Activity values(201,612)	1 row(s) affected
✓	287	21:28:30	insert into Staff_manages_Activity values(202,613)	1 row(s) affected
✓	288	21:28:30	insert into Staff_manages_Activity values(203,609)	1 row(s) affected
✓	289	21:28:30	insert into Staff_manages_Activity values(204,614)	1 row(s) affected
✓	290	21:28:30	insert into Staff_manages_Activity values(205,603)	1 row(s) affected
✓	291	21:28:30	insert into Staff_manages_Activity values(206,618)	1 row(s) affected
✓	292	21:28:30	insert into Staff_manages_Activity values(207,607)	1 row(s) affected
✓	293	21:28:30	insert into Staff_manages_Activity values(208,615)	1 row(s) affected
✓	294	21:28:30	insert into Staff_manages_Activity values(209,619)	1 row(s) affected
✓	295	21:28:30	insert into Staff_manages_Activity values(210,601)	1 row(s) affected
✓	296	21:28:30	insert into Staff_manages_Activity values(211,620)	1 row(s) affected
✓	297	21:28:30	insert into Staff_manages_Activity values(212,602)	1 row(s) affected
✓	298	21:28:30	insert into Staff_manages_Activity values(213,616)	1 row(s) affected
✓	299	21:28:30	insert into Staff_manages_Activity values(214,617)	1 row(s) affected
✓	300	21:28:30	insert into Staff_manages_Activity values(215,610)	1 row(s) affected
✓	301	21:28:30	insert into Staff_manages_Activity values(216,605)	1 row(s) affected
✓	302	21:28:30	insert into Staff_manages_Activity values(217,608)	1 row(s) affected
✓	303	21:28:30	insert into Staff_manages_Activity values(218,606)	1 row(s) affected
✓	304	21:28:30	insert into Staff_manages_Activity values(219,611)	1 row(s) affected
✓	305	21:28:30	insert into Staff_manages_Activity values(220,604)	1 row(s) affected

Figure 18 : Query and output of data insertions for table Staff_manages_Activity.

Figure 19 shows the query and output of data insertions for table Staff_manages_Booking.

[Query]

```
insert into Staff_manages_Booking values(201,313);
insert into Staff_manages_Booking values(202,330);
insert into Staff_manages_Booking values(203,314);
insert into Staff_manages_Booking values(204,302);
insert into Staff_manages_Booking values(205,306);
insert into Staff_manages_Booking values(206,309);
insert into Staff_manages_Booking values(207,308);
insert into Staff_manages_Booking values(208,326);
insert into Staff_manages_Booking values(209,303);
insert into Staff_manages_Booking values(210,305);
insert into Staff_manages_Booking values(211,317);
insert into Staff_manages_Booking values(212,307);
insert into Staff_manages_Booking values(213,316);
insert into Staff_manages_Booking values(214,321);
insert into Staff_manages_Booking values(215,325);
insert into Staff_manages_Booking values(216,320);
insert into Staff_manages_Booking values(217,324);
insert into Staff_manages_Booking values(218,301);
insert into Staff_manages_Booking values(219,311);
insert into Staff_manages_Booking values(220,319);
```

[Output]

✓	306	21:31:48	insert into Staff_manages_Booking values(201,313)	1 row(s) affected
✓	307	21:31:48	insert into Staff_manages_Booking values(202,330)	1 row(s) affected
✓	308	21:31:48	insert into Staff_manages_Booking values(203,314)	1 row(s) affected
✓	309	21:31:48	insert into Staff_manages_Booking values(204,302)	1 row(s) affected
✓	310	21:31:48	insert into Staff_manages_Booking values(205,306)	1 row(s) affected
✓	311	21:31:48	insert into Staff_manages_Booking values(206,309)	1 row(s) affected
✓	312	21:31:48	insert into Staff_manages_Booking values(207,308)	1 row(s) affected
✓	313	21:31:48	insert into Staff_manages_Booking values(208,326)	1 row(s) affected
✓	314	21:31:48	insert into Staff_manages_Booking values(209,303)	1 row(s) affected
✓	315	21:31:48	insert into Staff_manages_Booking values(210,305)	1 row(s) affected
✓	316	21:31:49	insert into Staff_manages_Booking values(211,317)	1 row(s) affected
✓	317	21:31:49	insert into Staff_manages_Booking values(212,307)	1 row(s) affected
✓	318	21:31:49	insert into Staff_manages_Booking values(213,316)	1 row(s) affected
✓	319	21:31:49	insert into Staff_manages_Booking values(214,321)	1 row(s) affected
✓	320	21:31:49	insert into Staff_manages_Booking values(215,325)	1 row(s) affected
✓	321	21:31:49	insert into Staff_manages_Booking values(216,320)	1 row(s) affected
✓	322	21:31:49	insert into Staff_manages_Booking values(217,324)	1 row(s) affected
✓	323	21:31:49	insert into Staff_manages_Booking values(218,301)	1 row(s) affected
✓	324	21:31:49	insert into Staff_manages_Booking values(219,311)	1 row(s) affected
✓	325	21:31:49	insert into Staff_manages_Booking values(220,319)	1 row(s) affected

Figure 19 : Query and output of data insertions for table Staff_manages_Booking.

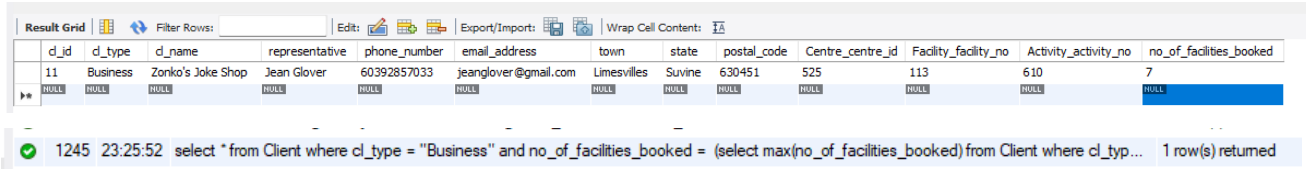
Question 4

Provide a list of businesses that have the most service transaction (service transaction means – they have booked many facilities / services using this system) by state or Town.

Figure 20 shows the query and output of the answer for question 4.
[Query]

```
select * from Client where cl_type = "Business" and no_of_facilities_booked =
(select max(no_of_facilities_booked) from Client where cl_type = "Business")
order by town or state;
```

[Output]



Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

cl_id	cl_type	cl_name	representative	phone_number	email_address	town	state	postal_code	Centre_centre_id	Facility_facility_no	Activity_activity_no	no_of_facilities_booked
11	Business	Zonko's Joke Shop	Jean Glover	60392857033	jeanglover@gmail.com	Limesvilles	Suvine	630451	525	113	610	7
NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL

1245 23:25:52 select * from Client where cl_type = "Business" and no_of_facilities_booked = (select max(no_of_facilities_booked) from Client where cl_typ... 1 row(s) returned

Figure 20 : Query and output of the answer for question 4.

Question 5

Provide a list of clients by business clients, school and Youth group - representative (name & contact numbers).

Figure 21 shows the query and output of the answer for question 5.
[Query]

```
select representative, phone_number from Client
where cl_type = "Business" or cl_type = "School"
or cl_type = "Youth Group";
```

[Output]

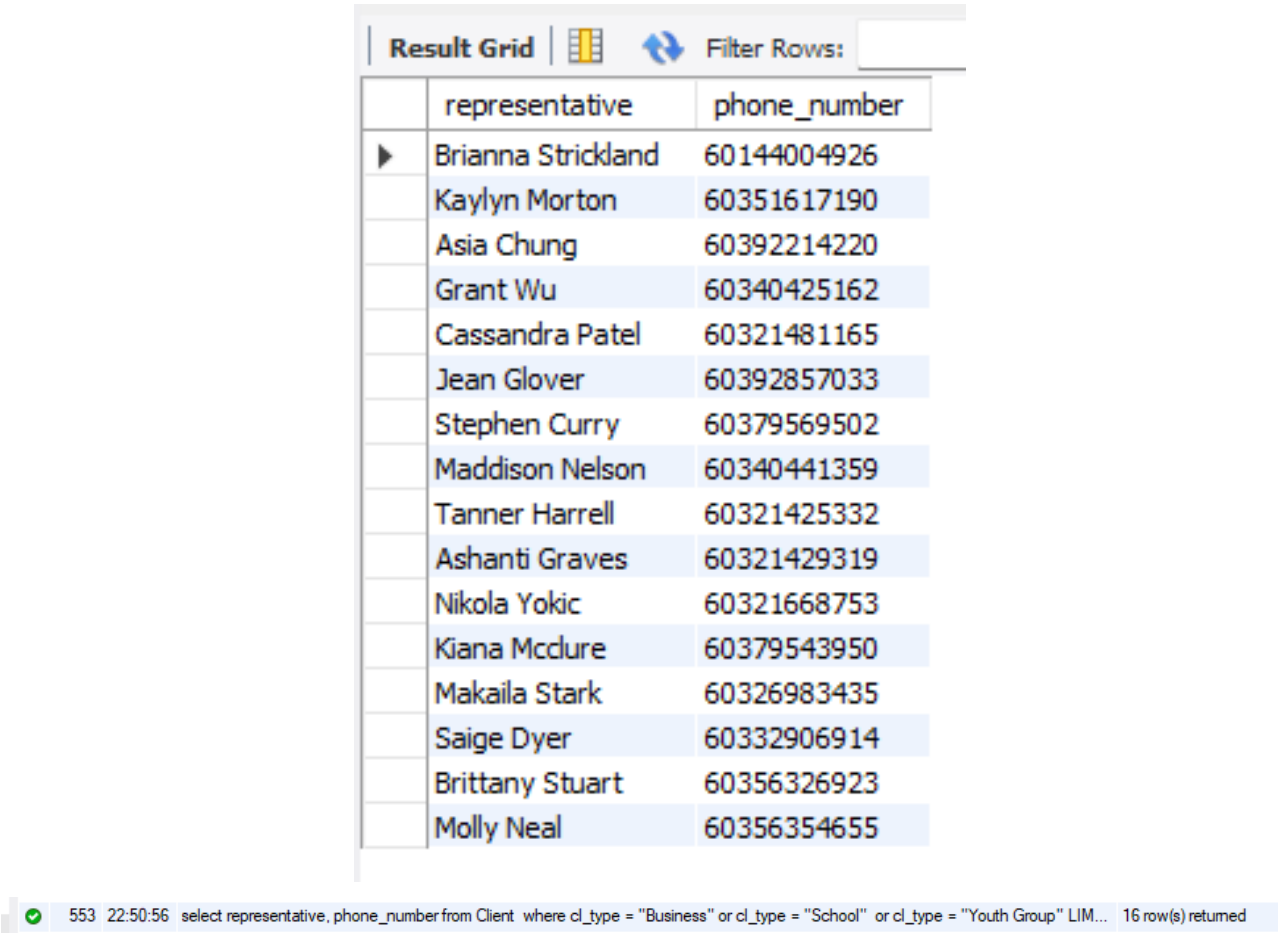


Figure 21 : Query and output of the answer for question 5.

Question 6

Write SQL query to list down total number of rooms that are of type dormitories.

Figure 22 shows the query and output of the answer of question 6.
[Query]

```
select count(room_id) from Room where room_type = "Dormitory";
```

[Output]

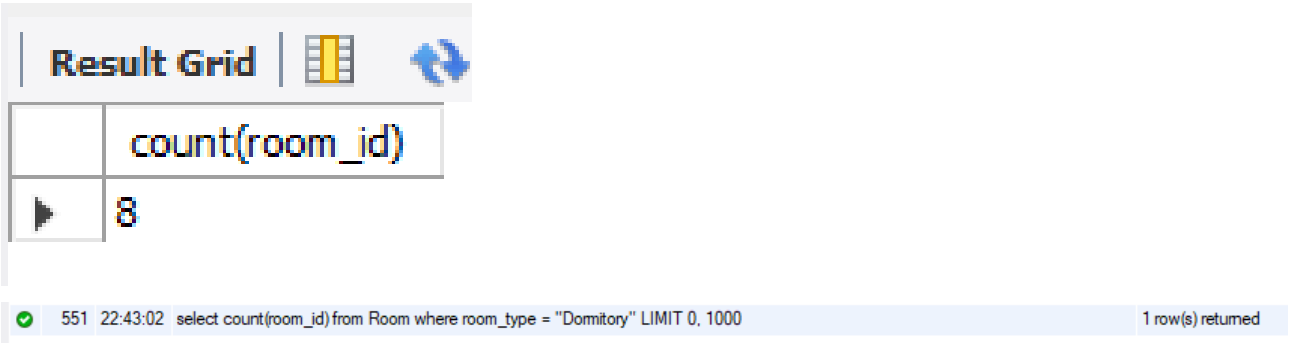


Figure 22 : Query and output of the answer of question 6.

Question 7

Compute an increase of 6% on booking charges for all the facilities. Upon having the increased price now compute the raw income that would have been achieved in 2019 using the new price.

a. **Compute an increase of 6% on booking charges for all the facilities.**

Figure 23 shows the query and output of an increase of 6% on charges.
[Query]

```
select price*1.06 as newprice from Facility;
```

[Output]

Figure 23 : query and output of an increase of 6% on charges.

b. **Compute the raw income that would have been achieved in 2019 using the new price.**

Figure 24 shows the query and output of raw income using the new price.
[Query]

```
select sum(price*1.06) from Facility where reserved_date like'2019_____';
```

[Output]

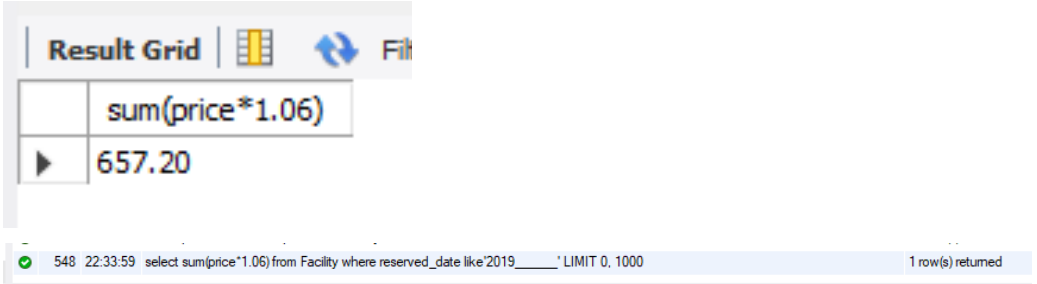


Figure 24 : Query and output of raw income using the new price, answer of question 7.

Question 8

Provide a report that indicates the total number of bookings closed by staff in the year 2020.

Figure 25 shows the query and output of question 8.
[Query]

```
select count(booking_no) from Booking where date_to like '2020_____';
```

[Output]

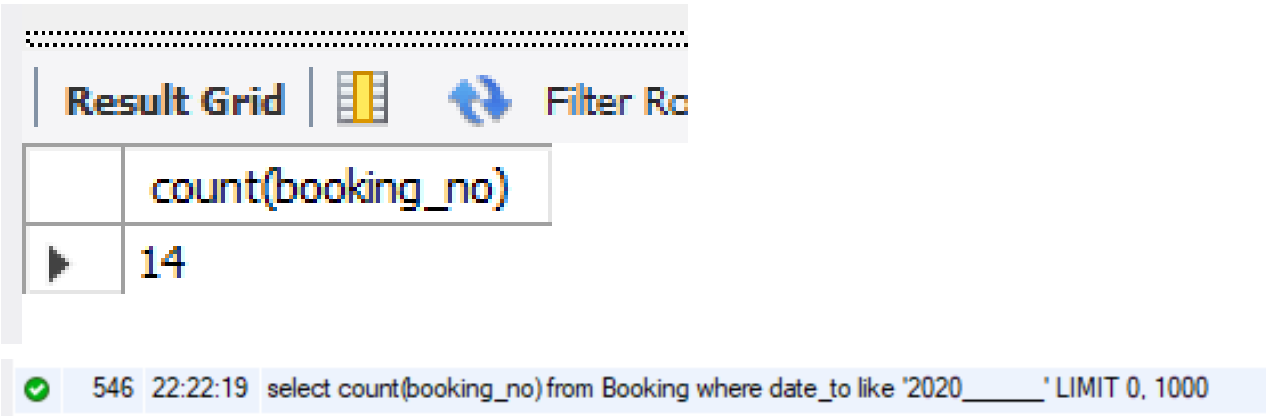


Figure 25 : Query and output of question 8.

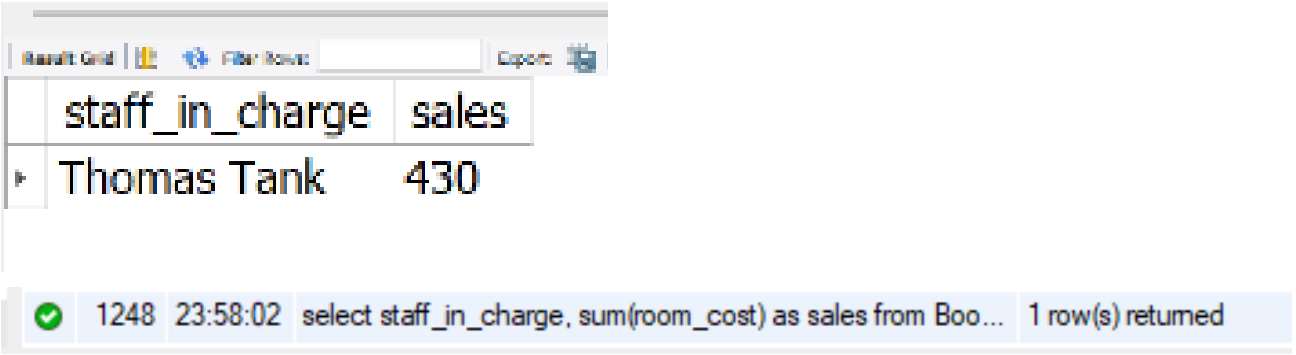
Question 9

Identify from the system the staff that have closed the highest sales for the year 2020.

Figure 26 shows the query and output of question 9.
[Query]

```
select staff_in_charge, sum(room_cost) as sales from Booking
inner join Room on Booking.room_no = Room.room_id
group by staff_in_charge order by sales desc limit 1;
```

[Output]



staff_in_charge	sales
Thomas Tank	430

1248 23:58:02 select staff_in_charge, sum(room_cost) as sales from Boo... 1 row(s) returned

Figure 26 : Query and output of question 9.

Part D

Question 10

(i) The bargain sale has been promoted and all types of rooms are discounted now. 10% for single room, 20% for Double, 30% for King Suite, and 50% for Luxury Suite room. Compute the costs of each type of room again with applying the discounts. Show the lists of all rooms having discounted room costs. Order by room_id in ascending.

Figure 27 shows the query and output of question 10 (i).

[Query]

```
(select room_id, room_type, room_cost*(1 - 0.1) as discounted_room_cost from Room where room_type = "Single") union
(select room_id, room_type, room_cost*(1 - 0.2) as discounted_room_cost from Room where room_type = "Double") union
(select room_id, room_type, room_cost*(1 - 0.3) as discounted_room_cost from Room where room_type = "King Suite") union
(select room_id, room_type, room_cost*(1 - 0.5) as discounted_room_cost from Room where room_type = "Luxury Suite") union
(select room_id, room_type, room_cost*1 as discounted_room_cost from Room where room_type = "Dormitory")
order by room_id asc;
```

[Output]

room_id	room_type	discounted_room_cost
901	Dormitory	50.0
902	Dormitory	50.0
903	King Suite	105.0
904	King Suite	105.0
905	Luxury Suite	90.0
906	Double	96.0
907	Double	96.0
908	King Suite	105.0
909	Dormitory	50.0
910	Single	72.0
911	Single	72.0
912	King Suite	105.0
913	King Suite	105.0
914	Double	96.0
915	Dormitory	50.0
916	Double	96.0
917	Single	72.0
918	Luxury Suite	90.0
919	Dormitory	50.0
920	Luxury Suite	90.0
921	Dormitory	50.0
922	King Suite	105.0
923	Double	96.0
924	King Suite	105.0
925	Double	96.0
926	Dormitory	50.0
927	Dormitory	50.0
928	Luxury Suite	90.0
929	Double	96.0
930	Single	72.0

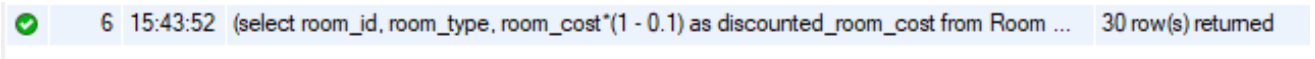


Figure 27 : Query and output of question 10 (i).

(ii) "The new discount promotion for family members, youth groups, and schools!! These are for the people who wants to make trips with the EMC's centres but do not have much money to book rooms. For all families and youth groups who have made a booking within July to August 2019, 30% discounts will be applied for 30% discounts!! Don't lose the chance and book now!!"
This statement has been released from EMC. Hence, list the client name, representative, and discounted amount of room_cost as discounted_rates based on the promotion states.

Figure 28 shows the query and output of question 10 (ii).
[Query]

```
select cl_type, cl_name, (room_cost*(1 - 0.3)) as discounted_rates from Booking as b
inner join Client as c on b.booked_person = c.representative
inner join Room as r on b.room_no = r.room_id
where (cl_type = "Family Members" or cl_type = "Youth Group" or cl_type = "School")
 and (date_from like '2019-07-%' or date_from like '2019-08-%') order by cl_name asc;
```

[Output]

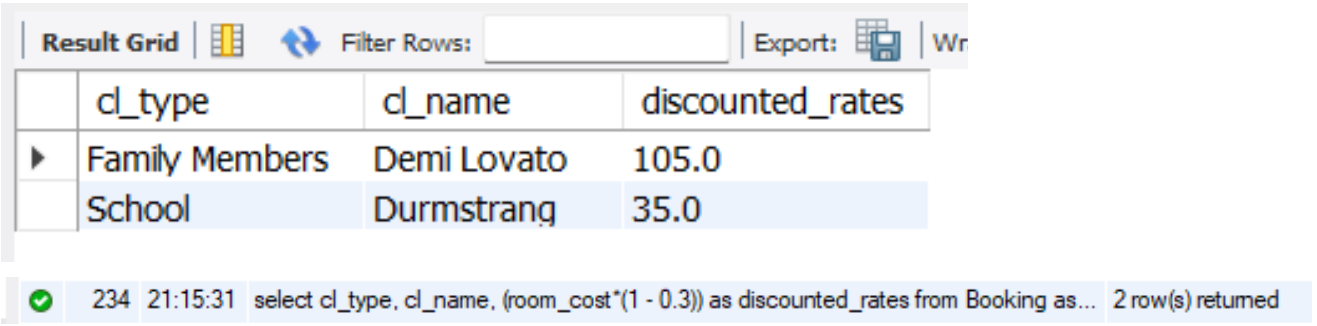


Figure 28 : Query and output of question 10 (ii).

(iii) Because of the global pandemic, centres belong to EMC has been undergoing the critical deficit and forced to dismiss staff. Therefore, EMC has decided to dismiss 5 staffs that have closed the worst 5 sales. Provide a list of staff_id, staff_name, and closed_sales of those 5 staff.

Figure 29 shows the query and output of question 10 (iii).

[Query]

```
select staff_in_charge, sum(room_cost) as closed_sales from Booking
inner join Room on Booking.room_no = Room.room_id
group by staff_in_charge order by closed_sales asc limit 10;
```

[Output]

	staff_in_charge	closed_sales
▶	Giordo Giovardo	50
	Itkitt Cheng	50
	Dora Explora	50
	Star Shine	80
	Dross Lever	80
	Gordon Cahill	100
	Dixy Fritz	120
	Jon Stump	120
	Hannah Jones	120
	Donald Duck	150

✔	248	21:40:41	select staff_in_charge, sum(room_cost) as closed_sales from Booking inner join R...	10 row(s) returned

Figure 29 : Query and output of question 10 (iii).

(iv) Manager would like to see the details of the customers who have chosen the catering service and assign the staff that arent managing activites(Table tennis , Billiard,hockey) to work as caterers.

Figure 30 shows the query and output of question 10 (iv).

[Query]

```
select cl_name, staff_id, staff_in_charge, activity_no, activity_name from Client as c
inner join Booking as b on b.booked_person = c.representative
inner join Staff as s on b.staff_in_charge = s.staff_name
inner join Staff_manages_Activity as sa on s.staff_id = sa.Staff_staff_id
inner join Activity as a on sa.Activity_activity_no = a.activity_no
where meal_service = "catering"
and (activity_name <> "Table Tennis" and activity_name <> "Billiard" and activity_name <> "Hockey");
```

[Output]

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

cl_name	staff_id	staff_in_charge	activity_no	activity_name
Durmstrang	204	Ophelia Wisp	614	Old Maid
Hogwarts	204	Ophelia Wisp	614	Old Maid
Department ...	212	Beatrice Hans	602	BaseBall
Lebron James	218	Thomas Tank	606	Swimming
Stephen Curry	218	Thomas Tank	606	Swimming
Department ...	203	Hannah Jones	609	Valleyball
Weasleys' Wi...	211	Star Shine	620	Truth And Lie
Manu Ginobili	214	Giordo Giovardo	617	Brain Storming
Nurmenguard	212	Beatrice Hans	602	BaseBall
Castelobruxo	217	Andrias Amphibian	608	Futsal
Uagadou	208	Gordon Cahill	615	Monopoly
Magical Cong...	202	Dross Lever	613	Table Soccer

261 22:38:20 select cl_name, staff_id, staff_in_charge, activity_no, activity_name from Client as ... 12 row(s) returned

Figure 30 : Query and output of question 10 (iv).

(v) An assembly has been conducted and all centres joined together. The ranking of total revenue of each centre has been released by EMC. Provide a list of centre name and total revenue of each centre order by the total revenue on descending order.

Figure 31 shows the query and output of question 10 (v).

[Query]

```
select centre_name, SUM(room_cost) as total_revenue from Room
inner join Centre on Centre.room_no = Room.room_id
inner join Booking on Room.room_id = Booking.room_no
where date_from like '2020_____'
group by centre_name order by total_revenue desc limit 1;
```

[Output]

	centre_name	total_revenue
▶	Swan Cottage	280
	Sunway Mix	270
	JW Marriott	170
	Lexis Suite	150
	Snoopy Lupiz	80

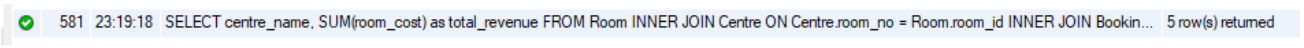


Figure 31 : Query and output of question 10 (v).

Question 11

Global pandemic has occurred due to the rage of COVID-19 initially discovered in late 2019. It has caused an enormous impact on school educations, businesses, hospitals' medical systems, and the economy. Therefore, the systems that do not require close contact have become popular, so remote working, remote diagnosis, and e-learning have become essential to help society slow down the spread of the coronavirus and raise people's safety.

Due to the rise of Covid-19 virus, the database would require a Boolean on if they've been recently tested for the virus and if they've tested positive or negative. This means a column/entity would be added to the client table called "Tested" and "Date of Test". Furthermore, if they have stayed and have been reported that they've been recently infected, a table would be required to record on which rooms they stayed and if disinfection would be required. The table would be named "Compromised Rooms" with the columns/entities "Status", "Room No", "Recently Infected Date", "Quarantine Period" and "Disinfection Date" with "Status" and "Room No" being composite primary key".

It is also worthy to note that this impact will also affect the EMC's business database system development and design. For example, Facility table and Activity table will not be required because a lockdown will be implemented and people cannot go outside for any reason except for the case of going to grocery shops or hospitals. And the room_cost must dramatically decrease due to the pandemic, also. For example, "Single" is $80 and "Double" is $120 in the project, but this will be less than half or maybe a quarter during the global pandemic.

After the climax of the pandemic, when all of the industries are going to start operating to increase the business volume again, the business owner should come out with some catching eye's marketing strategies. One of the methods to survive is to list a competitive price by selling the room in a bundle such as lower the room price and providing free breakfast and tea lunch, a free voucher to enjoy the activities in the hotel. In this condition, the room table and activity table will change.

Conclusion

This ITS62904 Database Systems module assessment was about designing data models, creating databases, tables, inserting datas into tables, and solving the questions using those tables created beforehand based on the case study that has already been provided.

During the duration of the project, we've learnt to create and utilise models and diagrams to effectively plan out the creation of the database. This allowed for a more concise and structured database, allowing us to continue on with creating the database with confidence.

Another major consequence to discuss is the great improvement on writing SQL queries. We needed to use what kind of commands we have learnt in our classes fully in this project, such as CREATE or INSERT. Nested query tips also helped us a lot because some questions were required to answer as nested queries. Although it was a bit difficult to understand and apply to answering, it was also a huge advance for us.

Besides that, we could try new major knowledge of SQL commands such as JOIN, ORDER BY, GROUP BY, or ASC/DESC. These were active mainly on Q4 and Q9 in part C, and some of the questions in part D.

Before we end this report, we want to appreciate especially to our lecturer, Ms. Yogeswari Shabadurai. Ms. Yogeswari provided us such a wonderful opportunity to improve ourselves, work hard and make an achievement together with group members. Indeed, we have learnt a lot from this assignment not only skills but also the importance of teamworks and distribution. The work was so hard that if we did not cooperate with each other, it was impossible to complete this assessment. Again, special thanks to our lecturer, Ms. Yogeswari Shabadurai.

Rubric

DATABASE SYSTEMS

ITS62904
Assignment – Group
Marking Rubrics (MARCH 2022)

Criteria	Score			
	Excellent	**Good**	**Average**	**Poor**
	>= 90% of the marks	< 90% to >= 75% of the marks	< 75% to >= 40% of the marks	< 40% of the marks
A. Database design (ERD and Physical Model)	Both ERD and Physical models are designed and drawn accurately. All the relationships are considered and highlighted properly. All the primary and foreign keys are defined and linked correctly. Necessary information for the physical model is provided sufficiently. The similarity is less than 2%.	Both ERD and Physical models are designed and drawn accurately. Most of the relationships are considered and highlighted properly. All the primary and foreign keys are defined and linked correctly. Necessary information for the physical model is provided acceptably. The similarity is less than 4%.	Both ERD and Physical models are designed and drawn with minor mistakes. Some of the relationship are considered and highlighted properly. Some the primary and foreign keys are defined and linked correctly. Necessary information for the physical model is provided acceptably or the information is missing. The similarity is less than 4%.	Both ERD and Physical models having major mistakes or any of them is missing. A few of the relationships are considered and highlighted. Rarely the primary and foreign keys are defined and linked correctly. Necessary information for the physical model is missing. The similarity is more than 5%.

B. Database deployment	The deployment is done with no error. All the tables having a sufficient number or records. The similarity is less than 2%.	The deployment is done with minor errors. Most of the tables having a sufficient number or records. The similarity is less than 4%.	The deployment is done with Major errors OR only a few of the tables having a sufficient number or records. The similarity is less than 4%.	The deployment is done with Major errors AND only a few of the tables having a sufficient number or records. The similarity is more than 5%.
C. SQL Report	All the SQL script are accurate with no error and the results are demonstrated. The similarity is less than 2%.	Most of the SQL script are accurate with no error and the results are demonstrated. The similarity is less than 4%.	Some of the SQL script are accurate with no error and the results are demonstrated with minor errors. The	Only a few of the SQL script are accurate with no error and the results are demonstrated with major errors. The similarity is more than 5%.
D.Analysing database structure and designing useful reports	All the SQL script are accurate with no error and the results are demonstrated. The similarity is less than 2%.	Most of the SQL script are accurate with no error and the results are demonstrated. The similarity is less than 4%.	Some of the SQL script are accurate with no error and the results are demonstrated with minor errors. The similarity is less than 4%.	Only a few of the SQL script are accurate with no error and the results are demonstrated with major errors. The similarity is more than 5%.
E. Handling with unforeseen challenges	Explanation is detailed and valid with relevant samples. The similarity is less than 2%.	Explanation is detailed and valid with samples but not very relevant. The similarity is less than 4%.	Explanation is available with samples but not very relevant. The similarity is less than 4%.	The explanation is not detail and valid. It's without relevant examples. The similarity is more than 5%.

Reference

Li, W.Z., Zhang, Z.P., He, W. (2020) Information Technology Solutions, Challenges, and Suggestions for Tackling the COVID-19 Pandemic. International Journal of Information Management [online]. 57 (102287), pp. 1-8. [Accessed 19 Jun 2022]

Contribution of group members

Member Name	Student ID	Contribution Details
Ishihara Satoaki (Group Leader)	0354208	・Report(Introduction ~ Conclusion) ・Created 5 relationship tables + Client + Room + Facility ・inserted datas into 5 relationship tables + Client + Room + Facility ・Solved Question 4 ~ Question 10 ・Drew ER-Diagram ・Designed Physical Model ・Submission of Report & SQL file
Mohammad Sameed Khan	0353846	・Created Booking table ・Inserted datas into Booking table ・Mainly determined tables and attributes used in this project ・Contribution on solving Question 10 & 11
Mohammad Nafay	0353574	
Wong Lee Looi	0338049	・Created Centre table ・inserted datas into Centre table ・Mainly determined tables and attributes used in this project ・Contribution on solving Question 10 & 11
Tee Kwan Ho	0353836	・Create Staff table ・Inserted datas into Staff table ・Contribution on solving Question 11 ・Report(Question 11 & Conclusion)
Tong Jian Wen	0347931	・Create Activity table ・Insert datas into Activity table ・Contribution on solving Question 11