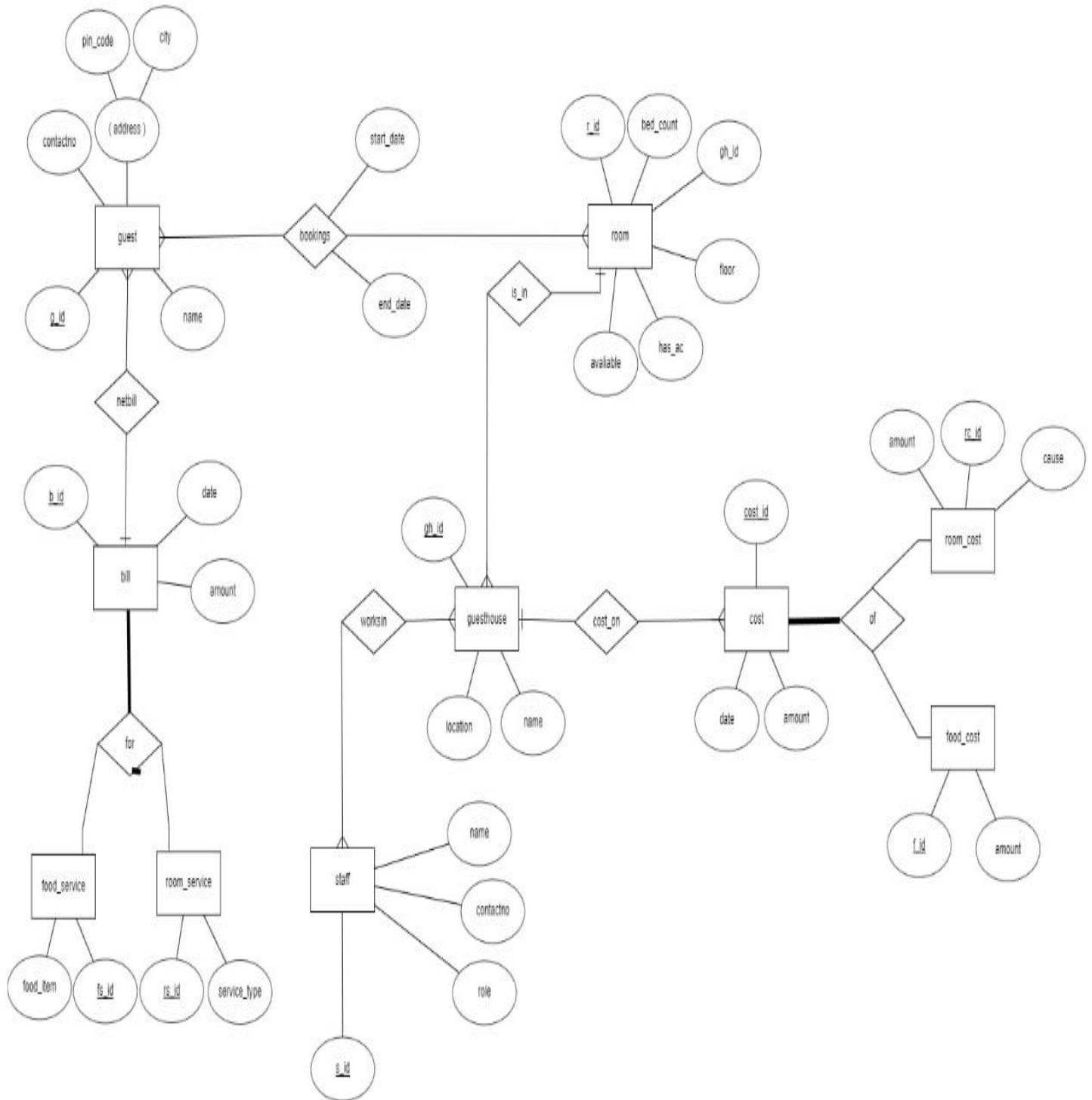
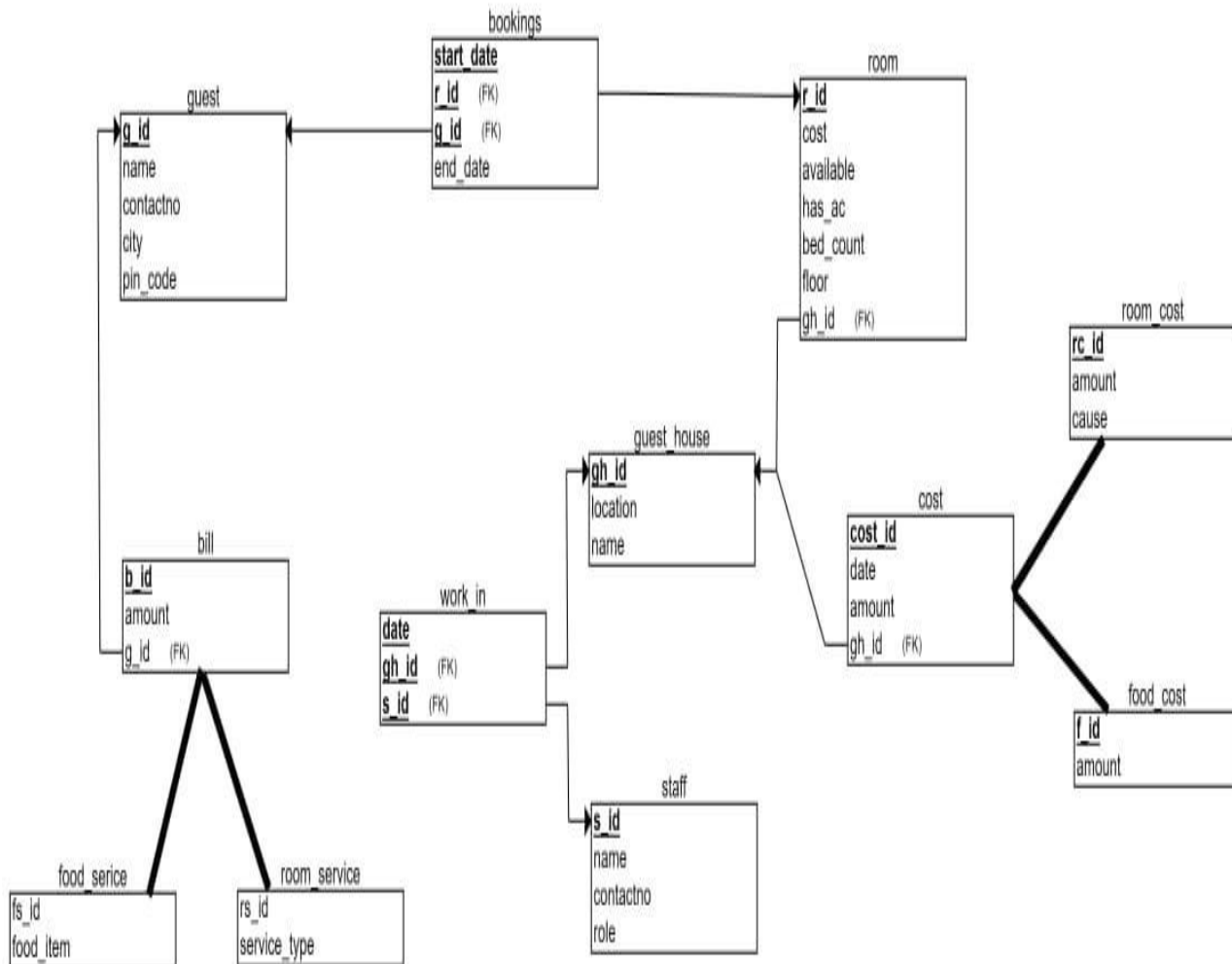


GUESTHOUSE

ER-DIAGRAM



RELATIONAL SCHEMA



The database made for guesthouse consists of 10 entities and 5 relations:

ENTITIES:

GUESTHOUSE:

```
CREATE TABLE guesthouse(gh_id varchar(10) PRIMARY KEY,location varchar(50),name  
varchar(50));
```

COST:

```
CREATE TABLE cost(cost_id varchar (10) PRIMARY KEY,date_1 DATE ,amount INT,gh_id  
varchar(10),FOREIGN KEY (gh_id) REFERENCES guesthouse(gh_id));
```

ROOM_COST:

```
CREATE TABLE room_cost(rc_id varchar(10) PRIMARY KEY,amount INT,cause varchar(50));
```

FOOD_COST:

```
CREATE TABLE food_cost(f_id varchar(10) PRIMARY KEY,amount INT);
```

GUEST:

```
CREATE TABLE guest(g_id varchar(10) PRIMARY KEY,name varchar(50),contactno  
BIGINT,city varchar(20),pin_code INT);
```

ROOM_SERVICES:

```
CREATE TABLE room_service(rs_id varchar(10) PRIMARY KEY,service_type varchar(50));
```

FOOD_SERVICES:

```
CREATE TABLE food_service(fs_id varchar(10) PRIMARY KEY,food_item  
varchar(50)); ROOM:
```

```
CREATE TABLE room(r_id varchar(10) PRIMARY KEY,gh_id varchar(10),cost INT,available  
varchar(4),has_ac varchar(4),bed_count INT,floor INT,FOREIGN KEY (gh_id) REFERENCES  
guesthouse(gh_id));
```

STAFF:

```
CREATE TABLE staff(s_id varchar(10) PRIMARY KEY,name varchar(50),contactno  
BIGINT,role varchar(30)); BILL:
```

```
CREATE TABLE bill(b_id varchar(10) PRIMARY KEY,g_id varchar(10),amount INT,FOREIGN  
KEY (g_id) REFERENCES guest(g_id));
```

RELATIONS:

BOOKINGS:

```
CREATE TABLE bookings(r_id varchar(10),g_id varchar(10),start_date DATE,end_date  
DATE,PRIMARY  
KEY(r_id,g_id,start_date),FOREIGN KEY (r_id) REFERENCES room(r_id),FOREIGN KEY  
(g_id)  
REFERENCES guest(g_id));
```

WORK_IN:

```
CREATE TABLE work_in (gh_id varchar(10),s_id varchar(10),date DATE ,PRIMARY  
KEY(gh_id,s_id,date),FOREIGN KEY (s_id) REFERENCES staff(s_id),FOREIGN KEY (gh_id)  
REFERENCES guesthouse(gh_id));
```

IS_IN: shows rooms in respective guest houses.

COST_ON: connects expenses and guests.

NETTBILL: connects and bill entities.

```
Windows PowerShell - mysql x + v
mysql> CREATE DATABASE miniproject;
Query OK, 1 row affected (0.03 sec)

mysql> USE miniproject;
Database changed
mysql> CREATE TABLE guesthouse(gh_id varchar(10) PRIMARY KEY,location varchar(50),name varchar(50));
Query OK, 0 rows affected (0.17 sec)

mysql> CREATE TABLE cost(cost_id varchar(10) PRIMARY KEY,date_1 DATE ,amount INT,gh_id varchar(10),FOREIGN KEY (gh_id) REFERENCES guesthouse(gh_id));
Query OK, 0 rows affected (0.05 sec)

mysql> CREATE TABLE room_cost(rc_id varchar(10) PRIMARY KEY,amount INT,cause varchar(50));
Query OK, 0 rows affected (0.03 sec)

mysql> CREATE TABLE food_cost(f_id varchar(10) PRIMARY KEY,amount INT);
Query OK, 0 rows affected (0.02 sec)

mysql> CREATE TABLE guest(g_id varchar(10) PRIMARY KEY,name varchar(50),contactno BIGINT,city varchar(20),pin_code INT);
Query OK, 0 rows affected (0.02 sec)

mysql> CREATE TABLE room_service(rs_id varchar(10),service_type varchar(50));
Query OK, 0 rows affected (0.02 sec)

mysql> CREATE TABLE food_service(fs_id varchar(10),food_item varchar(50));
Query OK, 0 rows affected (0.03 sec)

mysql> CREATE TABLE room(r_id varchar(10) PRIMARY KEY,gh_id varchar(10),cost INT,available varchar(4),has_ac varchar(4),bed_count INT,floor INT,FOREIGN KEY (gh_id) REFERENCES guesthouse(gh_id));
Query OK, 0 rows affected (0.04 sec)

mysql> CREATE TABLE staff(s_id varchar(10) PRIMARY KEY,name varchar(50),contactno BIGINT,role varchar(30));
Query OK, 0 rows affected (0.03 sec)

mysql> CREATE TABLE bookings(r_id varchar(10),g_id varchar(10),start_date DATE,end_date DATE,PRIMARY KEY(r_id,g_id,start_date),FOREIGN KEY (r_id) REFERENCES room(r_id),FOREIGN KEY (g_id) REFERENCES guest(g_id));
Query OK, 0 rows affected (0.04 sec)

mysql> CREATE TABLE work_in (gh_id varchar(10),s_id varchar(10),date DATE ,PRIMARY KEY(gh_id,s_id,date),FOREIGN KEY (s_id) REFERENCES staff(s_id),FOREIGN KEY (gh_id) REFERENCES guesthouse(gh_id));
Query OK, 0 rows affected (0.05 sec)
```

```

Windows PowerShell - mysql
mysql> CREATE TABLE bill(b_id varchar(10) PRIMARY KEY,g_id varchar(10),amount INT,FOREIGN KEY (g_id) REFERENCES guest(g_id));
Query OK, 0 rows affected (0.02 sec)

mysql> INSERT INTO guesthouse VALUES('gh_1','l_1','iitp_1'),('gh_2','l_2','iitp_2'),('gh_3','l_3','iitp_3'),('gh_4','l_1','iitp_4'),('gh_5','l_5','iitp_5'),
('gh_6','l_1','iitp_6'),
-> ('gh_7','l_1','iitp_1'),('gh_8','l_3','iitp_1'),('gh_9','l_9','iitp_2'),('gh_10','l_1','iitp_2'),('gh_11','l_11','iitp_4'),('gh_12','l_12','iitp_3'),
('gh_13','l_2','iitp_4');
Query OK, 13 rows affected (0.01 sec)
Records: 13 Duplicates: 0 Warnings: 0

mysql>
mysql> INSERT INTO cost VALUES ('c_1','2022-11-11',2000,'gh_1'),('c_2','2022-11-12',3000,'gh_1'),('c_3','2022-11-13',2000,'gh_2'),('c_4','2022-11-14',2000,'
gh_2'),('c_5','2022-11-11',2000,'gh_1'),
-> ('c_6','2022-11-12',2000,'gh_1'),('c_7','2022-11-13',2000,'gh_3'),('c_8','2022-11-14',4000,'gh_1'),('c_9','2022-11-15',3000,'gh_4'),
-> ('c_10','2022-11-13',1500,'gh_3'),('c_11','2022-11-12',2000,'gh_1'),('c_12','2022-11-11',2000,'gh_4'),('c_13','2022-11-13',2000,'gh_1');
Query OK, 13 rows affected (0.00 sec)
Records: 13 Duplicates: 0 Warnings: 0

mysql>
mysql> INSERT INTO room_cost VALUES ('rc_1',1000,'rent'),('rc_2',1000,'rent'),('rc_3',1100,'rent'),('rc_4',1000,'rent'),('rc_5',1200,'rent'),('rc_6',1300,'r
ent'),('rc_7',1400,'rent'),
-> ('rc_8',1500,'rent'),('rc_9',1000,'rent'),('rc_10',1600,'rent'),('rc_11',1200,'rent'),('rc_12',1000,'rent'),('rc_13',1000,'rent'),('rc_14',1400,'rent
'),('rc_15',1300,'rent');
Query OK, 15 rows affected (0.00 sec)
Records: 15 Duplicates: 0 Warnings: 0

mysql>
mysql> INSERT INTO food_cost VALUES('f_1',1000),('f_2',1000),('f_3',1000),('f_4',1100),('f_5',1000),('f_6',800),('f_7',1300),('f_8',1000),('f_9',1000),('f_1
0',700),('f_11',800),
-> ('f_12',1500),('f_13',1400),('f_14',1300),('f_15',1200),('f_16',1100),('f_17',900),('f_18',100);
Query OK, 18 rows affected (0.00 sec)
Records: 18 Duplicates: 0 Warnings: 0

mysql>
mysql> INSERT INTO guest VALUES ('g_1','n_1',1999999999,'city_1',500074),('g_2','n_1',2999999999,'city_2',500054),('g_3','n_1',3999999999,'city_3',500064),('
g_4','n_1',4999999999,'city_4',500074),
-> ('g_5','n_1',5999999999,'city_2',500274),('g_6','n_1',6999999999,'city_1',500074),('g_7','n_1',7999999999,'city_5',500174),('g_8','n_1',8999999999,'c
ity_4',500014),
-> ('g_9','n_1',9999999999,'city_4',500054),('g_10','n_1',9999999999,'city_3',500024),('g_11','n_1',9999999991,'city_6',500073),('g_12','n_1',9999999992
,'city_5',510074);

```

```

Windows PowerShell - mysql
mysql>
mysql> INSERT INTO room_service VALUES('rs_1','serve'),('rs_2','serve'),('rs_3','serve'),('rs_4','serve'),('rs_5','serve'),('rs_6','serve'),('rs_7','serve'),
('rs_8','serve'),('rs_9','serve'),
-> ('rs_10','serve'),('rs_11','serve'),('rs_12','kettle'),('rs_13','serve'),('rs_14','serve'),('rs_15','serve'),('rs_16','kettle');
Query OK, 16 rows affected (0.00 sec)
Records: 16 Duplicates: 0 Warnings: 0

mysql>
mysql> INSERT INTO food_service VALUES('fs_1','food_1'),('fs_2','food_2'),('fs_3','food_3'),('fs_4','food_4'),('fs_5','food_5'),('fs_6','food_6'),('fs_7','f
ood_7'),('fs_8','food_8'),
-> ('fs_9','food_9'),('fs_10','food_10'),('fs_12','food_12'),('fs_13','food_13'),
-> ('fs_14','food_14'),('fs_15','food_15');
Query OK, 14 rows affected (0.00 sec)
Records: 14 Duplicates: 0 Warnings: 0

mysql>
mysql> INSERT INTO room VALUES('r_1','gh_1',1000,'yes','yes',2,3),('r_2','gh_1',1500,'yes','yes',3,3),('r_3','gh_1',1000,'yes','yes',2,2),('r_4','gh_1',800,
'yes','yes',1,1),
-> ('r_5','gh_1',1000,'yes','yes',2,2),('r_6','gh_2',1000,'yes','yes',2,2),('r_7','gh_2',1000,'yes','yes',2,3),('r_8','gh_2',1000,'yes','yes',2,1);
Query OK, 8 rows affected (0.00 sec)
Records: 8 Duplicates: 0 Warnings: 0

mysql>
mysql> INSERT INTO staff VALUES('s_1','sn_1',1999999991,'sweep'),('s_2','sn_2',1999999992,'sweep'),('s_3','sn_3',1999999993,'clean'),('s_4','sn_4',199999999
4,'receptionist'),
-> ('s_5','sn_5',1999999995,'sweep'),('s_6','sn_6',1999999996,'clean'),('s_7','sn_1',1999999997,'sweep'),('s_8','sn_8',1999999998,'receptionist'),('s_9'
,'sn_9',1999999999,'sweep');
Query OK, 9 rows affected (0.00 sec)
Records: 9 Duplicates: 0 Warnings: 0

mysql>
mysql>
mysql> INSERT INTO work_in VALUES('gh_1','s_1','2022-11-16'),('gh_1','s_2','2022-11-17'),('gh_1','s_3','2022-11-18'),('gh_2','s_1','2022-11-16'),('gh_2','s_
2','2022-11-17'),
-> ('gh_2','s_3','2022-11-18'),('gh_3','s_1','2022-11-16'),('gh_3','s_2','2022-11-17'),('gh_3','s_3','2022-11-18'),('gh_1','s_4','2022-11-16'),('gh_1','s_
5','2022-11-16');
Query OK, 11 rows affected (0.00 sec)
Records: 11 Duplicates: 0 Warnings: 0

```

PROCEDURE AND TRIGGERS:

TRIGGER1: AFTER_BOOKINGS_INSERT

UPDATES THE ROOMS AVAILABILITY IF NEW BOOKING IS DONE

DELIMITER \$\$

CREATE TRIGGER after_bookings_insert

AFTER INSERT

ON bookings FOR EACH ROW

BEGIN

UPDATE room SET available = 'no' WHERE room.r_id = new.r_id;

END \$\$

DELIMITER;

PROCEDURE 1: monthly expenditure

Calculates monthly bill for all guesthouses

DELIMITER \$\$

CREATE PROCEDURE monthly_expenditure (IN iYear_Month varchar(5),IN year_mm
varchar(5))

BEGIN

SELECT gh_id, SUM(amount) AS Total_Expenditure FROM cost WHERE MONTH(date_1)=
iYear_Month AND YEAR(date_1) GROUP BY gh_id;

END \$\$

DELIMITER ;

PROCEDURE 2: GENERATING BILL

Generates bill for a given guest

delimiter \$\$

CREATE PROCEDURE generate_bill(IN ig_id varchar(10)) BEGIN

SELECT * FROM bill WHERE g_id = ig_id;

END \$\$

DELIMITER ;

QUERIES:

1:

After computing this query the status of the availability in room table changes to no.

```
mysql> INSERT INTO bookings VALUES('r_1','g_1','2022-11-18','2022-11-19');
```

Query OK, 1 row affected (0.01 sec)

2:

generates bill for guest no 1.

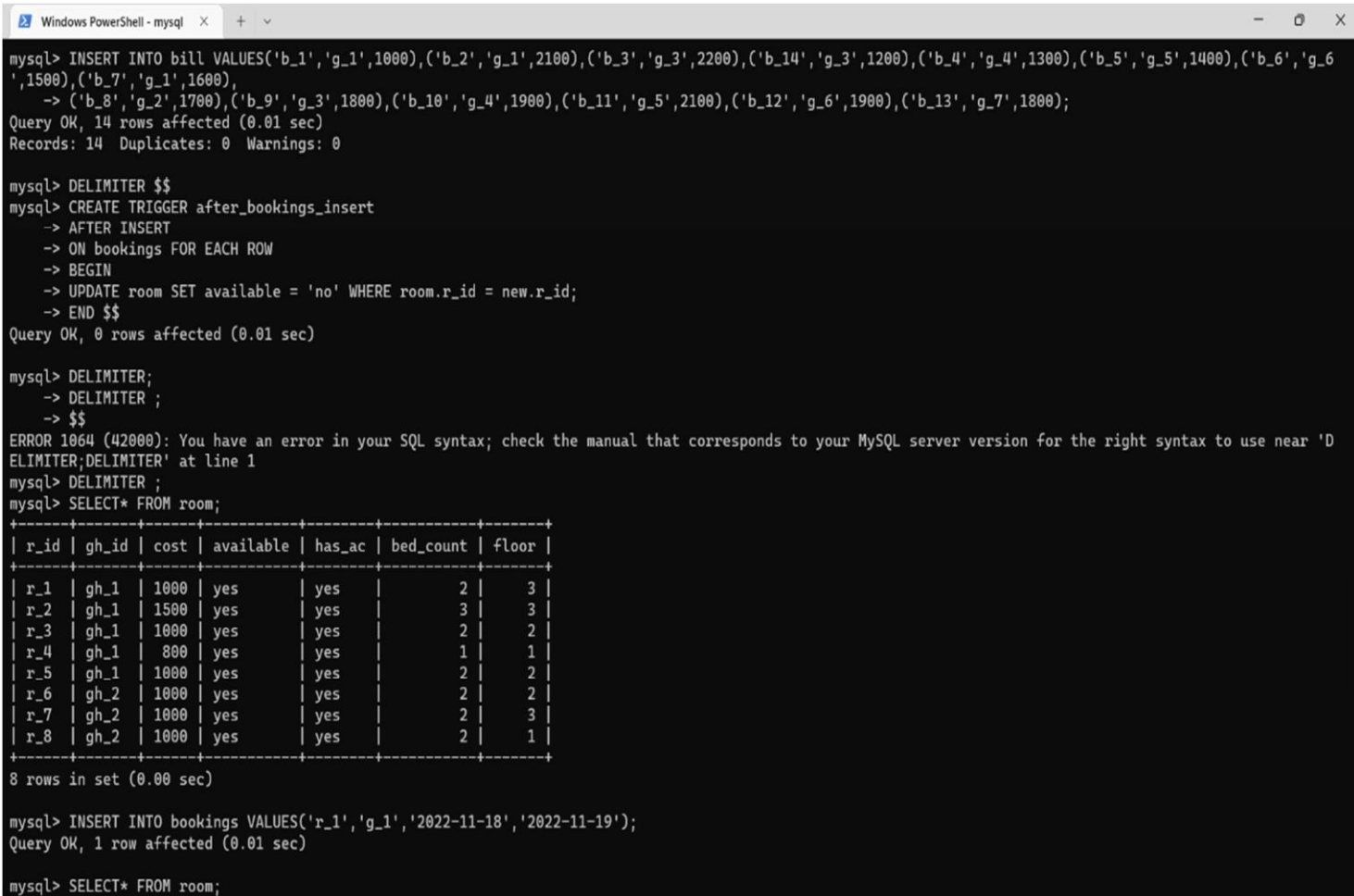
```
mysql> CALL generate_bill('g_1');
```

3:

displays the total expenditure in the month of November

```
mysql> CALL monthly_expenditure('11','2022');
```

RESPECTIVE IMAGES OF 1,2 AND 3:



```
mysql> INSERT INTO bill VALUES('b_1','g_1',1000),('b_2','g_1',2100),('b_3','g_3',2200),('b_14','g_3',1200),('b_4','g_4',1300),('b_5','g_5',1400),('b_6','g_6',1500),('b_7','g_1',1600),
-> ('b_8','g_2',1700),('b_9','g_3',1800),('b_10','g_4',1900),('b_11','g_5',2100),('b_12','g_6',1900),('b_13','g_7',1800);
Query OK, 14 rows affected (0.01 sec)
Records: 14 Duplicates: 0 Warnings: 0

mysql> DELIMITER $$
mysql> CREATE TRIGGER after_bookings_insert
-> AFTER INSERT
-> ON bookings FOR EACH ROW
-> BEGIN
-> UPDATE room SET available = 'no' WHERE room.r_id = new.r_id;
-> END $$
Query OK, 0 rows affected (0.01 sec)

mysql> DELIMITER;
-> DELIMITER ;
-> $$
ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'DELIMITER;DELIMITER' at line 1
mysql> DELIMITER ;
mysql> SELECT* FROM room;
+-----+-----+-----+-----+-----+-----+
| r_id | gh_id | cost | available | has_ac | bed_count | floor |
+-----+-----+-----+-----+-----+-----+
| r_1 | gh_1 | 1000 | yes | yes | 2 | 3 |
| r_2 | gh_1 | 1500 | yes | yes | 3 | 3 |
| r_3 | gh_1 | 1000 | yes | yes | 2 | 2 |
| r_4 | gh_1 | 800 | yes | yes | 1 | 1 |
| r_5 | gh_1 | 1000 | yes | yes | 2 | 2 |
| r_6 | gh_2 | 1000 | yes | yes | 2 | 2 |
| r_7 | gh_2 | 1000 | yes | yes | 2 | 3 |
| r_8 | gh_2 | 1000 | yes | yes | 2 | 1 |
+-----+-----+-----+-----+-----+-----+
8 rows in set (0.00 sec)

mysql> INSERT INTO bookings VALUES('r_1','g_1','2022-11-18','2022-11-19');
Query OK, 1 row affected (0.01 sec)

mysql> SELECT* FROM room;
```

```

8 rows in set (0.00 sec)

mysql> INSERT INTO bookings VALUES('r_1','g_1','2022-11-18','2022-11-19');
Query OK, 1 row affected (0.01 sec)

mysql> SELECT* FROM room;
+-----+-----+-----+-----+-----+-----+
| r_id | gh_id | cost | available | has_ac | bed_count | floor |
+-----+-----+-----+-----+-----+-----+
| r_1  | gh_1  | 1000 | no        | yes    | 2         | 3      |
| r_2  | gh_1  | 1500 | yes       | yes    | 3         | 3      |
| r_3  | gh_1  | 1000 | yes       | yes    | 2         | 2      |
| r_4  | gh_1  | 800  | yes       | yes    | 1         | 1      |
| r_5  | gh_1  | 1000 | yes       | yes    | 2         | 2      |
| r_6  | gh_2  | 1000 | yes       | yes    | 2         | 2      |
| r_7  | gh_2  | 1000 | yes       | yes    | 2         | 3      |
| r_8  | gh_2  | 1000 | yes       | yes    | 2         | 1      |
+-----+-----+-----+-----+-----+-----+
8 rows in set (0.00 sec)

mysql> delimiter $$
mysql> CREATE PROCEDURE generate_bill(IN ig_id varchar(10)) BEGIN
-> SELECT * FROM bill WHERE g_id = ig_id;
-> END $$
Query OK, 0 rows affected (0.01 sec)

mysql> DELIMITER ;
mysql> CALL generate_bill('g_1');
+-----+-----+-----+
| b_id | g_id | amount |
+-----+-----+-----+
| b_1  | g_1  | 1000   |
| b_2  | g_1  | 2100   |
| b_7  | g_1  | 1600   |
+-----+-----+-----+
3 rows in set (0.00 sec)

Query OK, 0 rows affected (0.01 sec)

```

```

mysql> CREATE PROCEDURE generate_bill(IN ig_id varchar(10)) BEGIN
-> SELECT * FROM bill WHERE g_id = ig_id;
-> END $$
Query OK, 0 rows affected (0.01 sec)

mysql> DELIMITER ;
mysql> CALL generate_bill('g_1');
+-----+-----+-----+
| b_id | g_id | amount |
+-----+-----+-----+
| b_1  | g_1  | 1000   |
| b_2  | g_1  | 2100   |
| b_7  | g_1  | 1600   |
+-----+-----+-----+
3 rows in set (0.00 sec)

Query OK, 0 rows affected (0.01 sec)

mysql> DELIMITER $$
mysql> CREATE PROCEDURE monthly_expenditure ( IN iYear_Month varchar(5),IN year_mm varchar(5))
-> BEGIN
-> SELECT gh_id, SUM(amount) AS Total_Expenditure FROM cost WHERE MONTH(date_1)= iYear_Month AND YEAR(date_1) GROUP BY gh_id;
-> END $$
Query OK, 0 rows affected (0.01 sec)

mysql> DELIMITER ;
mysql> CALL monthly_expenditure('11','2022');
+-----+-----+
| gh_id | Total_Expenditure |
+-----+-----+
| gh_1  | 17000             |
| gh_2  | 4000              |
| gh_3  | 3500              |
| gh_4  | 5000              |
+-----+-----+
4 rows in set (0.01 sec)

Query OK, 0 rows affected (0.01 sec)

mysql>

```


4: Shows the staff work schedule for the guest houses

```
SELECT staff.s_id, staff.name, guesthouse.gh_id, guesthouse.name, work_in.date
```

```
FROM guesthouse
```

```
INNER JOIN work_in ON guesthouse.gh_id= work_in.gh_id INNER JOIN Staff ON staff.s_id =  
work_in.s_id
```

```
ORDER BY work_in.date DESC;
```

```
mysql> SELECT staff.s_id, staff.name, guesthouse.gh_id, guesthouse.name, work_in.date  
-> FROM guesthouse  
-> INNER JOIN work_in ON guesthouse.gh_id= work_in.gh_id INNER JOIN Staff ON staff.s_id = work_in.s_id  
-> ORDER BY work_in.date DESC;
```

s_id	name	gh_id	name	date
s_3	sn_3	gh_1	iipt_1	2022-11-18
s_3	sn_3	gh_2	iipt_2	2022-11-18
s_3	sn_3	gh_3	iipt_3	2022-11-18
s_2	sn_2	gh_1	iipt_1	2022-11-17
s_2	sn_2	gh_2	iipt_2	2022-11-17
s_2	sn_2	gh_3	iipt_3	2022-11-17
s_1	sn_1	gh_1	iipt_1	2022-11-16
s_1	sn_1	gh_2	iipt_2	2022-11-16
s_1	sn_1	gh_3	iipt_3	2022-11-16
s_4	sn_4	gh_1	iipt_1	2022-11-16
s_5	sn_5	gh_1	iipt_1	2022-11-16

11 rows in set (0.01 sec)

5: Shows the food billing information for all possible months and years.

```
SELECT bill.b_id, bill.g_id, month(bill.date) AS Food_Billing_Month,  
bill.amount, food_service.food_item FROM bill INNER JOIN food_service
```

```
ON bill.b_id= food_service.fs_id GROUP BY Food_Billing_Month; 6:
```

Returns guest, room and booking details of a particular month of a year.

```
SELECT guest.g_id, guest.name, room.r_id, room.bed_count, month(bookings.start_date),  
bookings.end_date FROM guest INNER JOIN bookings ON bookings.g_id = guest.g_id INNER  
JOIN room ON room.r_id = bookings.r_id GROUP BY month(bookings.start_date);
```

```
mysql> SELECT guest.g_id, guest.name, room.r_id, room.bed_count, month(bookings.start_date), bookings.end_date FROM guest INNER JOIN bookings  
-> ON bookings.g_id = guest.g_id INNER JOIN room ON room.r_id = bookings.r_id GROUP BY month(bookings.start_date);
```

g_id	name	r_id	bed_count	month(bookings.start_date)	end_date
g_1	n_1	r_1	2	11	2022-11-19

1 row in set (0.01 sec)

7: shows all available rooms

SELECT* FROM room WHERE availability='yes';

```
ERROR 1146 (42S02): Table 'mainproject.rooms' doesn't exist
mysql> SELECT* FROM room WHERE available='yes';
+----+-----+-----+-----+-----+-----+-----+
| r_id | gh_id | cost | available | has_ac | bed_count | floor |
+----+-----+-----+-----+-----+-----+-----+
| r_2  | gh_1  | 1500 | yes       | yes    | 3         | 3      |
| r_3  | gh_1  | 1000 | yes       | yes    | 2         | 2      |
| r_4  | gh_1  | 800  | yes       | yes    | 1         | 1      |
| r_5  | gh_1  | 1000 | yes       | yes    | 2         | 2      |
| r_6  | gh_2  | 1000 | yes       | yes    | 2         | 2      |
| r_7  | gh_2  | 1000 | yes       | yes    | 2         | 3      |
| r_8  | gh_2  | 1000 | yes       | yes    | 2         | 1      |
+----+-----+-----+-----+-----+-----+-----+
7 rows in set (0.01 sec)
```