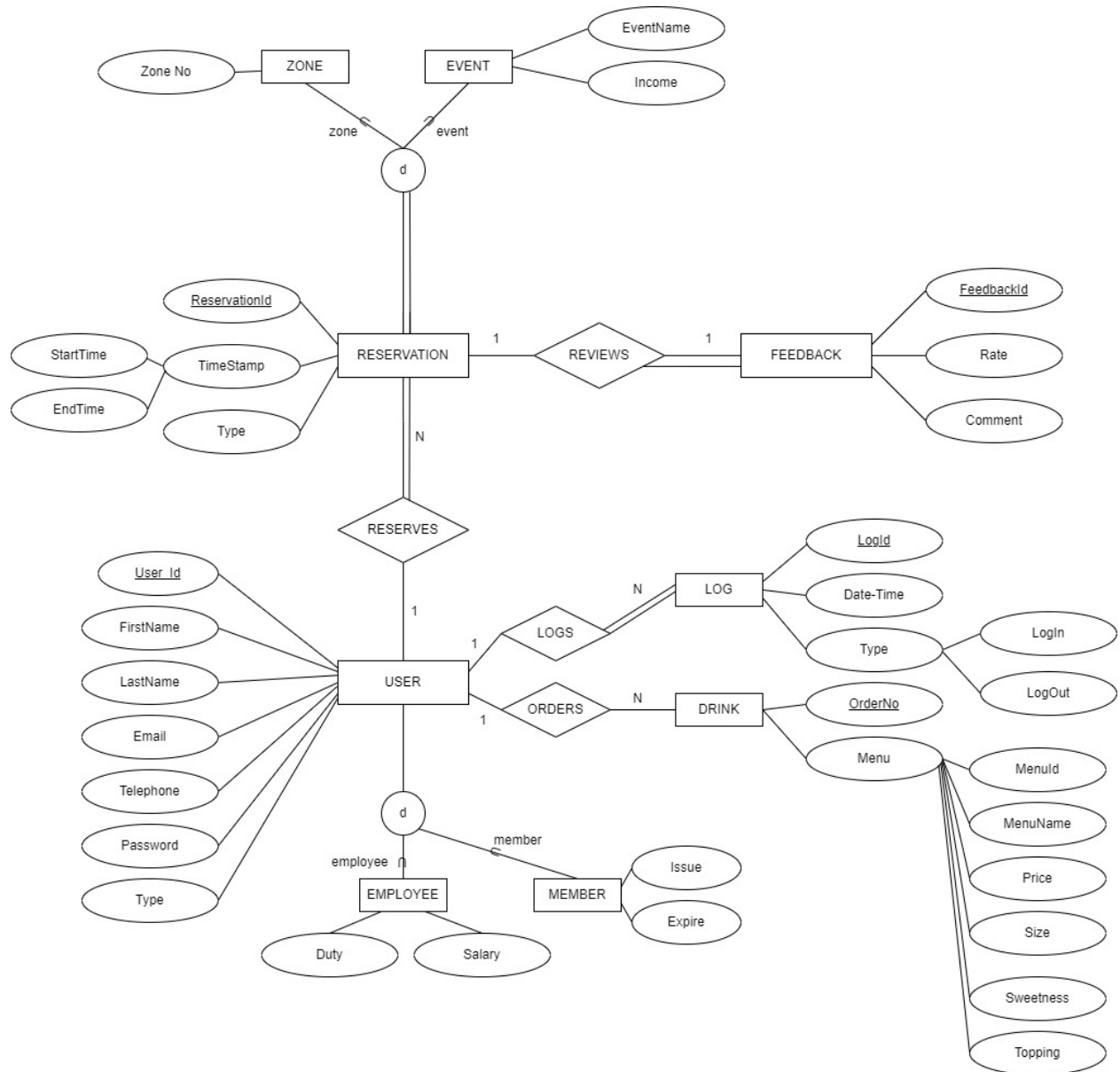


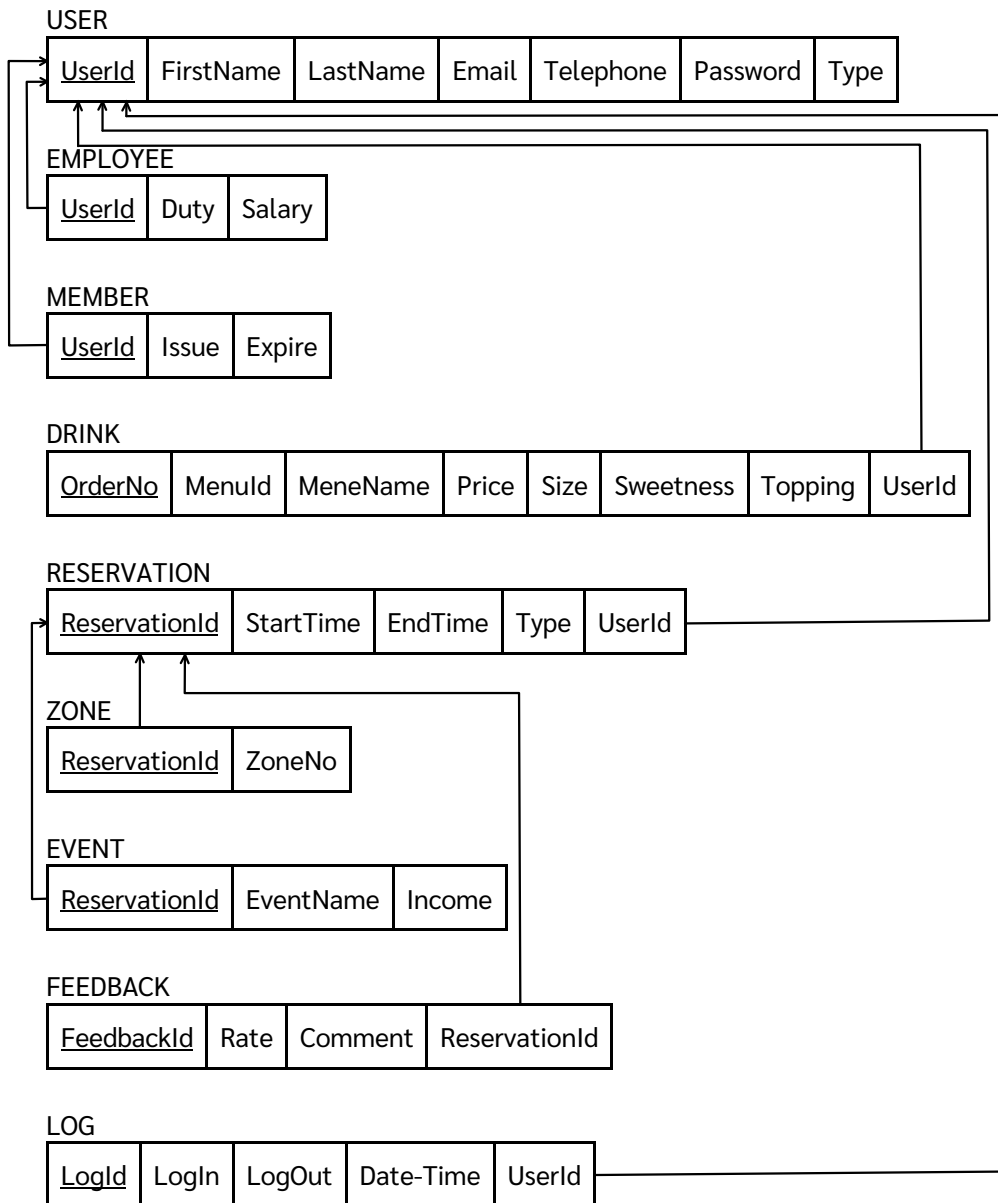
Co-working Space Reservation GROUP 27

- 6633097121 Tanathorn Piyachart
- 6633161621 Parit Ongartittichai
- 6633177721 Penpitcha Ketpetch
- 6633225121 Witchapat Jindanath
- 6633265221 Suchaya Limprasitissara
- 6633288721 Aiyapat Vorasaran

1) ER diagram (Chen's notation)



2) Schema diagram (Referential integrity)



3) SQL commands

รวมโค้ด และผลลัพธ์+สร้างตารางในลิงก์

https://drive.google.com/drive/folders/1_JEEQc7haZvmAGyQu9iN1mhDgfMDHLYTy?usp=sharing

1.Register_user

```
INSERT INTO users (user_id, user_firstname, user_lastname, user_telephone, user_email,
user_passwords)
VALUES(nextval('users_user_id_seq'), 'user_firstname', 'user_lastname', 0888888888, 'user@email',
'user@password');
```

Expected Output:

```
"user_id","user_firstname","user_lastname","user_email","user_telephone","user_passwords","user_type"
1,"Adam","Warlock","test@test",630930231,"password","non-member"
2,"Prame","Sudlhor","test@test2",630930232,"password2","non-member"
3,"Lucky","Sumchai","test@test3",630930233,"password3","non-member"
4,"Pingy","Sudsuay","test@test4",630930234,"password4","non-member"
5,"Prim","Rose","test@test5",630930235,"password5","non-member"
6,"Leo","Parit","test@test6",630930236,"password6","non-member"
7,"user_firstname","user_lastname","user@email",888888888,"user@password","non-member"
```

2.Login_Logout

```
INSERT INTO logs (log_id, log_type, log_date, user_id)
VALUES (nextval('logs_log_id_seq'), 'login', now(), 1);

INSERT INTO logs (log_id, log_type, log_date, user_id)
VALUES (nextval('logs_log_id_seq'), 'logout', now(), 1);
```

Expected Output:

```
"log_id","log_type","log_date","user_id"
1,"login","2024-02-11 13:54:02.722857",1
2,"logout","2024-02-11 13:54:02.722857",1
```

3.Reservation

```
INSERT INTO reservation (reservation_id, reservation_start_time, reservation_end_time,
reservation_type, user_id)
VALUES (nextval('reservation_reservation_id_seq'),'2024-03-12 12:00:00','2024-03-12 14:00:00',
'zone', 1 );
```

Expected Output:

```
"reservation_id","reservation_start_time","reservation_end_time","reservation_type","user_id"
1,"2023-03-12 12:00:00","2023-03-12 14:00:00","zone",1
2,"2023-03-13 12:00:00","2023-03-13 14:00:00","zone",1
3,"2023-03-14 12:00:00","2023-03-14 14:00:00","zone",1
4,"2023-03-15 12:00:00","2023-03-15 14:00:00","zone",1
5,"2023-03-12 14:00:00","2023-03-12 16:00:00","zone",2
6,"2023-03-13 14:00:00","2023-03-13 16:00:00","zone",3
7,"2023-03-14 14:00:00","2023-03-14 16:00:00","zone",2
8,"2023-03-15 14:00:00","2023-03-15 16:00:00","event",4
9,"2023-03-16 14:00:00","2023-03-16 16:00:00","zone",2
10,"2023-03-17 14:00:00","2023-03-17 16:00:00","zone",3
11,"2024-03-12 12:00:00","2024-03-12 14:00:00","zone",1
```

4.View Reservation

```
SELECT reservation.reservation_id, reservation.reservation_start_time,
reservation.reservation_end_time, reservation.reservation_type
FROM reservation
WHERE reservation.user_id = '1' AND reservation.reservation_start_time >= '2023-03-14 12:00:00';
```

Expected Output:

```
"reservation_id","reservation_start_time","reservation_end_time","reservation_type"
3,"2023-03-14 12:00:00","2023-03-14 14:00:00","zone"
4,"2023-03-15 12:00:00","2023-03-15 14:00:00","zone"
11,"2024-03-12 12:00:00","2024-03-12 14:00:00","zone"
```

5.Update Reservation

UPDATE reservation

SET reservation_start_time = '2023-03-20 13:00:00', reservation_end_time = '2023-03-20 15:00:00'

WHERE reservation.reservation_id = 1;

Expected Output:

```
"reservation_id","reservation_start_time","reservation_end_time","reservation_type","user_id"
2,"2023-03-13 12:00:00","2023-03-13 14:00:00","zone",1
3,"2023-03-14 12:00:00","2023-03-14 14:00:00","zone",1
4,"2023-03-15 12:00:00","2023-03-15 14:00:00","zone",1
5,"2023-03-12 14:00:00","2023-03-12 16:00:00","zone",2
6,"2023-03-13 14:00:00","2023-03-13 16:00:00","zone",3
7,"2023-03-14 14:00:00","2023-03-14 16:00:00","zone",2
8,"2023-03-15 14:00:00","2023-03-15 16:00:00","event",4
9,"2023-03-16 14:00:00","2023-03-16 16:00:00","zone",2
10,"2023-03-17 14:00:00","2023-03-17 16:00:00","zone",3
11,"2024-03-12 12:00:00","2024-03-12 14:00:00","zone",1
1,"2023-03-20 13:00:00","2023-03-20 15:00:00","zone",1
```

6.Delete Reservation

DELETE FROM reservation

WHERE reservation_id = 11;

Expected Output:

```
"reservation_id","reservation_start_time","reservation_end_time","reservation_type","user_id"
2,"2023-03-13 12:00:00","2023-03-13 14:00:00","zone",1
3,"2023-03-14 12:00:00","2023-03-14 14:00:00","zone",1
4,"2023-03-15 12:00:00","2023-03-15 14:00:00","zone",1
5,"2023-03-12 14:00:00","2023-03-12 16:00:00","zone",2
6,"2023-03-13 14:00:00","2023-03-13 16:00:00","zone",3
7,"2023-03-14 14:00:00","2023-03-14 16:00:00","zone",2
8,"2023-03-15 14:00:00","2023-03-15 16:00:00","event",4
9,"2023-03-16 14:00:00","2023-03-16 16:00:00","zone",2
10,"2023-03-17 14:00:00","2023-03-17 16:00:00","zone",3
1,"2023-03-20 13:00:00","2023-03-20 15:00:00","zone",1
```

4) SQL complex query

เป็น query ที่ค้นหา ชื่อจริง (Customer_First_Name) นามสกุล (Customer_Last_Name) และ เบอร์โทร (Customer_Telephone_Number) สำหรับ user ที่มีการเค้าใช้งานมากกว่า 3 ครั้ง และมีเรตติ้งหลังการใช้งานเฉลี่ยมากกว่าเท่ากับ 4

```
SELECT
    alltable.user_firstname as Customer_First_Name,
    alltable.user_lastname as Customer_Last_Name,
    alltable.user_telephone as Customer_Telephone_Number
FROM
    ((users NATURAL JOIN reservation) NATURAL JOIN feedback) as alltable
GROUP BY alltable.user_firstname, alltable.user_lastname, alltable.user_telephone
HAVING
    (SUM(alltable.feedback_rate)/COUNT(alltable.feedback_rate)) >= 4
    and COUNT(alltable.reservation_id) >= 3;
```

Expected Output:

```
"customer_first_name","customer_last_name","customer_telephone_number"
"Adam","Warlock",630930231
```

5) Document-based design schema

```
{
  "title": "users",
  "required": ["_id", "user_firstname", "user_lastname", "user_email", "user_telephone",
    "user_password", "user_type"]
  "properties": {
    "_id": {"bsonType": "objectId"},
    "user_firstname": {"bsonType": "string"},
    "user_lastname": {"bsonType": "string"},
    "user_email": {"bsonType": "string"},
    "user_telephone": {"bsonType": "string", "pattern": "/^[0-9]{3}-[0-9]{7}$"},
    "user_passwords": {"bsonType": "string"},
    "user_type": {"bsonType": "string", "default": "non-member"}
  }
}
```