資料庫系統

第十一組-學舍管理系統

組員

40743214 呂嘉哲

40743256 蔣哲宇

40743257 盧新岱

40743259 簡孝齊

(一)應用情境與使用案例

1.首頁

- ●公告
- ●登入/註冊
- ●問題與回答
- ●系統功能

2.登入後學生

- ●修改帳戶資訊
- ●簽到查詢
- ●房間資訊
- ●登記住宿訊息
- ●報修壞的設備

3.登入後管理員

- ●審核學生的註冊訊息
- ●學生簽到審核修改
- ●發布公告
- ●查看設備清單
- ●查看學生報修的物品

(二)系統需求說明

1.系統功能分析

- ●會員(註冊,登入,登出)

- ●房間學生查詢

- ●點名、簽到查詢

- ●報修申請、查詢

- ●管理員發布公告

(三)完整性限制

Student

欄位名稱	說明	資料型態
<u>ID</u>	學號	Numeric(8)
Name	學生姓名	Varchar(20)
Phone	電話	Numeric(10)
Password	密碼	Numeric(8)

學號為407432XX的數字
電話為09開頭10個號碼的數字

Administrator

欄位名稱	說明	資料型態
<u>ID</u>	管理員編號	Numeric(8)
Name	管理員姓名	Varchar(20)
Password	密碼	Numeric(8)

管理員編號為100000XX的數字

Announcement

欄位名稱	說明	資料型態
<u>Ann_ID</u>	公告清單編號	Numeric(8)
Title	公告標題	Varchar(20)
Content	詳細內容	Varchar(100)

公告清單編號為200000XX的數字

Announced

欄位名稱	說明	資料型態
Adm_ID	管理員編號	Numeric(8)
Ann_ID	公告清單編號	Numeric(8)

Room

欄位名稱	說明	資料型態
Room_ID	房間編號	Numeric(5)
Floor	樓層	Numeric(1)
Room_number	房間號碼	Numeric(2)
People	容納人數	Numeric(1)

房間編號為50XXX的數字

Stay

欄位名稱	說明	資料型態
Room_ID	房間編號	Numeric(5)
S_ID	學號	Numeric(8)

Euqipment

欄位名稱	說明	資料型態
Equip_ID	設備ID	Numeric(8)
Equip_name	設備名稱	Varchar(20)
Equip_count	設備數量	Numeric(4)

設備ID為300000XX的數字

Equipment_List

欄位名稱	說明	資料型態
Room_ID	房間編號	Numeric(5)
Equip_ID	設備ID	Numeric(8)

Fix_Equipment

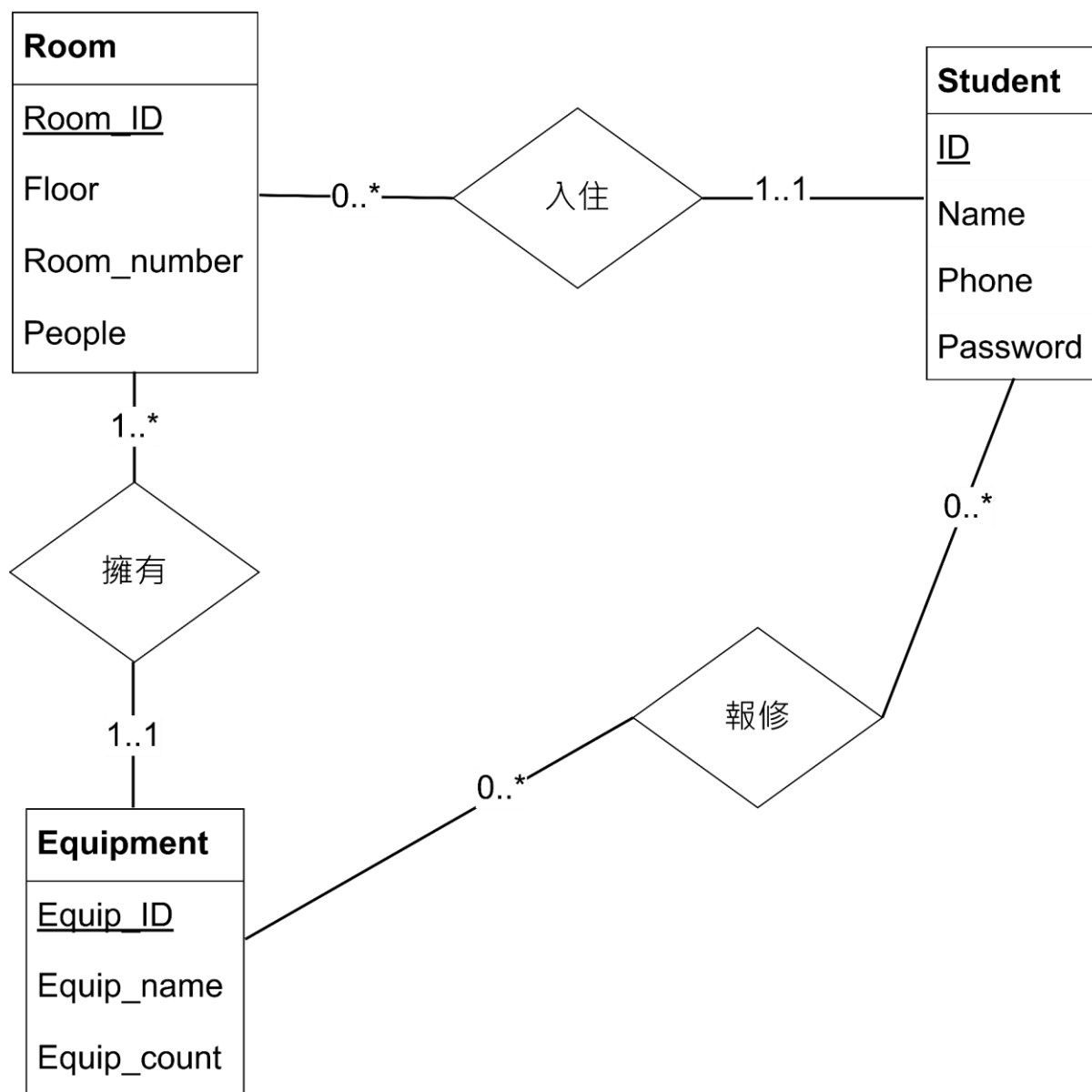| 欄位名稱	說明	資料型態
S_ID	報修學生	Numeric(8)
Equip_ID	設備ID	Numeric(8)
Time	申請時間	Datetime
Situation	報修情形	Char(3)
Content	設備問題描述	Varchar(50)

Punch

欄位名稱	說明	資料型態
S_ID	簽到學生	Numeric(8)
Sign_in	日期	Datetime

(四)ER Diagram

學生

學生可以報修"至少一個"設備

設備可以被"至少一個"學生 報修

學生可以入住"最多一個"房間

房間可以被"至少一個"學生入住

房間可以擁有"至少一個"設備

設備可以在"一個"房間裡面

管理員
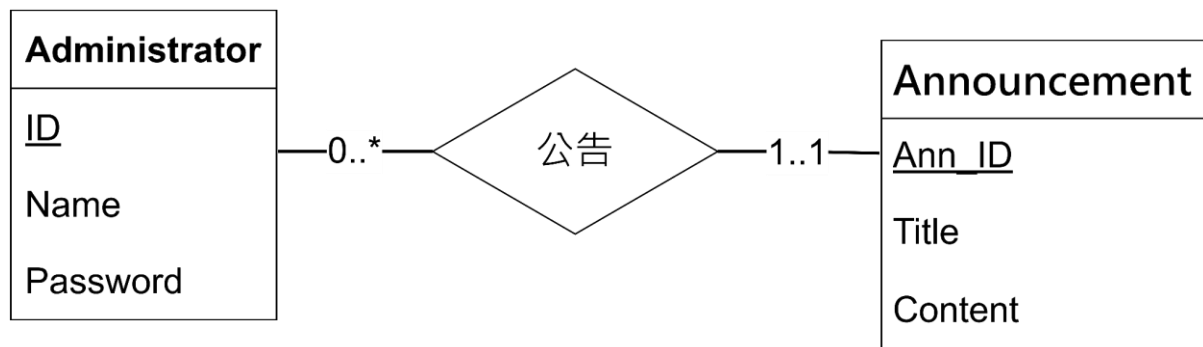
管理員可以發布"0個或多個"公告

公告可以被"一個"管理員發布

(五)資料庫Schema

Room

Room_ID

Floor

Room_number

People

Stay

Room_ID

S_ID

Student

ID

Name

Phone

Password

Punch

S_ID

Sign_in

Equipment_List

Room_ID

Equip_ID

Fix_Equipment

S_ID

Equip_ID

Time

Situation

Content

Equipment

Equip_ID

Equip_name

Equip_count

Administrator

ID

Name

Password

Announced

Adm_ID

Ann_ID

Announcement

Ann_ID

Title

Content
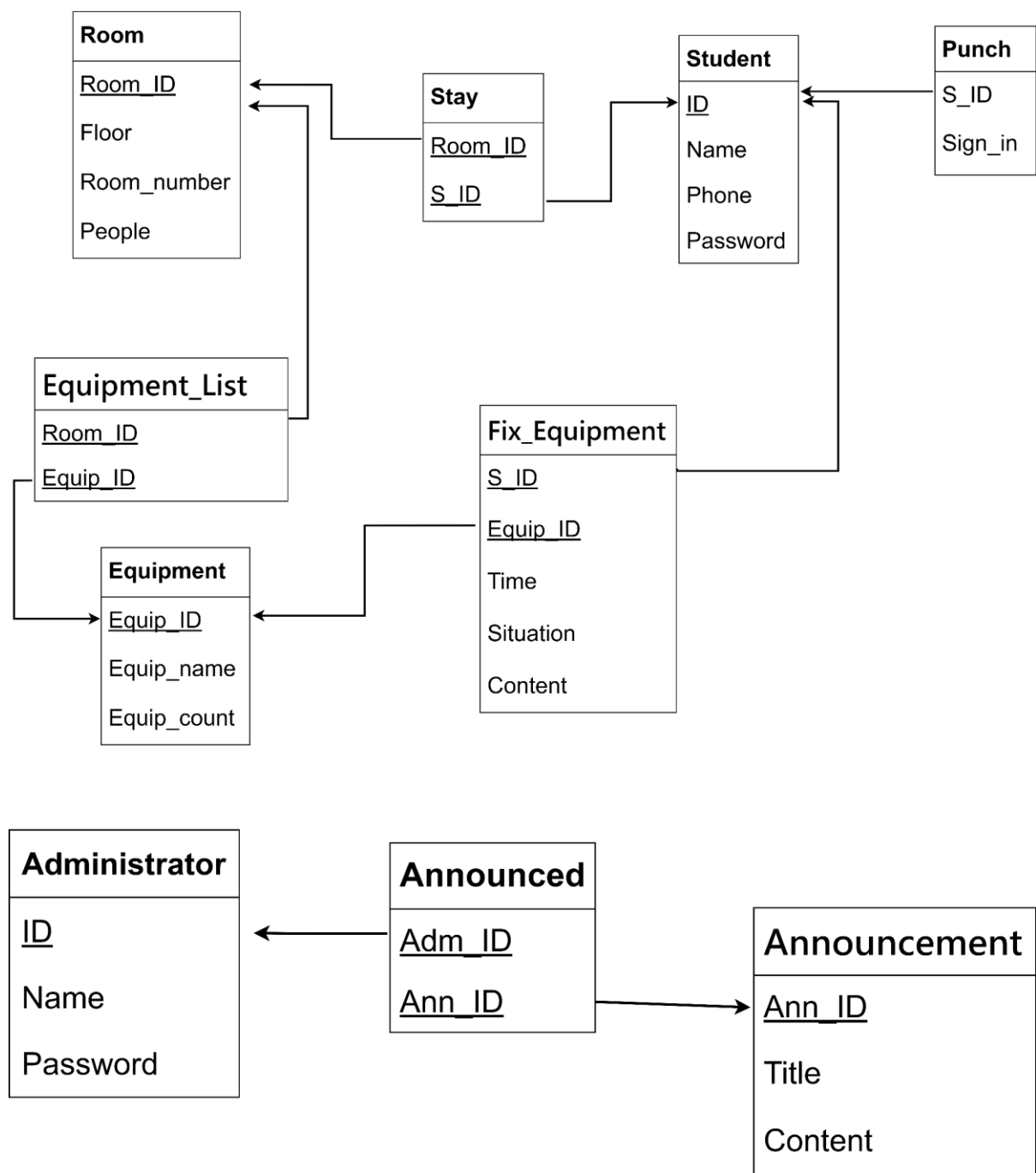
(六)SQL語法

```sql
create table Student
        (ID numeric(8),
         Name varchar(20),
         Phone numeric(10),
         Password numeric(8),
         primary key (ID)
        );

create table Administrator
        (ID numeric(8),
         Name varchar(20),
         Password numeric(8),
         primary key (ID)
        );

create table Announcement
        (Ann_ID numeric(8),
         Title varchar(20),
         Content varchar(100),
         primary key (Ann_ID)
        );

create table Announced
        (Adm_ID numeric(8),
         Ann_ID numeric(8),
         primary key (Adm_ID,Ann_ID),
         foreign key (Adm_ID) references Administrator (ID),
         foreign key (Ann_ID) references Announcement (Ann_ID)
        );

create table Room
        (Room_ID numeric(5),
         Floor numeric(1),
         Room_number numeric(2),
         People numeric(1),
         primary key (Room_ID)
        );
```

```sql
create table Stay
        (Room_ID numeric(5),
         S_ID numeric(8),
         primary key (Room_ID,S_ID),
         foreign key (Room_ID) references Room(Room_ID),
         foreign key (S_ID) references Student (ID)
        );

create table Equipment
        (Equip_ID numeric(8),
         Equip_name varchar(20),
         Equip_count numeric(4),
         primary key (Equip_ID)
        );

create table Equipment_List
        (Room_ID numeric(5),
         Equip_ID numeric(8),
         primary key (Room_ID,Equip_ID),
         foreign key (Room_ID) references Room(Room_ID),
         foreign key (Equip_ID) references Equipment(Equip_ID)
        );

create table Fix_Equipment
        (S_ID numeric(8),
         Equip_ID numeric(8),
         Time datetime,
         Situation char(3),
         Content varchar(50),
         primary key(S_ID,Equip_ID),
         foreign key (S_ID) references Student (ID),
         foreign key (Equip_ID) references Equipment (Equip_ID)
        );

create table Punch
        (S_ID numeric(8),
         Sign_in datetime,
         foreign key (S_ID) references Student (ID)
        );
```

(七)真實資料

學生資料

insert into Student values ('40743201','零零一','0912345678','86543478');
insert into Student values ('40743202','零零二','0922345678','75453675');
insert into Student values ('40743203','零零三','0932345678','35342314');
insert into Student values ('40743204','零零四','0952345678','78640586');
insert into Student values ('40743205','零零五','0962345678','50434846');
insert into Student values ('40743206','零零六','0972345678','78903730');
insert into Student values ('40743207','零零七','0982345678','78674354');
insert into Student values ('40743208','零零八','0992345678','86946788');
insert into Student values ('40743209','零零九','0902345678','13649758');
insert into Student values ('40743210','零一零','0900000123','94572873');

管理員資料

insert into Administrator values ('10000001','管理一','11111111');
insert into Administrator values ('10000002','管理二','22222222');
insert into Administrator values ('10000003','管理三','33333333');
insert into Administrator values ('10000004','管理四','44444444');
insert into Administrator values ('10000005','管理五','55555555');
insert into Administrator values ('10000006','管理六','66666666');
insert into Administrator values ('10000007','管理七','77777777');
insert into Administrator values ('10000008','管理八','88888888');
insert into Administrator values ('10000009','管理九','99999999');
insert into Administrator values ('10000010','管理十','10000100');

公告資料

insert into Announcement values ('20000001','歡迎','歡迎各位蒞臨本館');
insert into Announcement values ('20000002','垃圾事宜','請勿隨手丟棄垃圾，違者依法處分');
insert into Announcement values ('20000003','清理冰箱','有一瓶牛奶過期了');
insert into Announcement values ('20000004','網路IP被禁名單','再用爆網路一個月禁用');
insert into Announcement values ('20000005','被記點名單','還敢喝酒阿');
insert into Announcement values ('20000006','設備故障維護清單','是要用壞幾張椅子');
insert into Announcement values ('20000007','遺失物招領','誰的內褲掉了');
insert into Announcement values ('20000008','學生宿舍相關法規','不會有人看我知道');
insert into Announcement values ('20000009','門禁遲到名單','給我全部睡外面');
insert into Announcement values ('20000010','網路IP被禁名單','再用爆網路禁用一周');

發布資料

insert into Announced values ('10000008','20000004');
insert into Announced values ('10000008','20000010');
insert into Announced values ('10000001','20000001');
insert into Announced values ('10000001','20000002');
insert into Announced values ('10000002','20000003');
insert into Announced values ('10000003','20000005');
insert into Announced values ('10000004','20000006');
insert into Announced values ('10000007','20000007');
insert into Announced values ('10000009','20000008');
insert into Announced values ('10000010','20000009');

房間資料

insert into Room values ('50101','1','01','4');
insert into Room values ('50102','1','02','4');
insert into Room values ('50201','2','01','4');
insert into Room values ('50202','2','02','4');
insert into Room values ('50301','3','01','4');
insert into Room values ('50302','3','02','4');
insert into Room values ('50401','4','01','4');
insert into Room values ('50402','4','02','4');
insert into Room values ('50403','4','03','4');
insert into Room values ('50404','4','04','4');

入住清單

insert into Stay values ('50101','40743201');
insert into Stay values ('50101','40743202');
insert into Stay values ('50101','40743203');
insert into Stay values ('50101','40743204');
insert into Stay values ('50102','40743205');
insert into Stay values ('50102','40743206');
insert into Stay values ('50201','40743207');
insert into Stay values ('50201','40743208');
insert into Stay values ('50201','40743209');
insert into Stay values ('50201','40743210');

設備資料

insert into Equipment values('30000001','冷氣','1');
insert into Equipment values('30000002','椅子','4');
insert into Equipment values('30000003','電風扇','2');
insert into Equipment values('30000004','床鋪','4');
insert into Equipment values('30000005','燈','4');
insert into Equipment values('30000006','衣櫥','4');
insert into Equipment values('30000007','書桌','4');
insert into Equipment values('30000008','冷氣','1');
insert into Equipment values('30000009','電風扇','1');
insert into Equipment values('30000010','椅子','5');
insert into Equipment values('30000011','冷氣','1');
insert into Equipment values('30000012','椅子','4');
insert into Equipment values('30000013','電風扇','2');
insert into Equipment values('30000014','床鋪','4');
insert into Equipment values('30000015','電燈','4');
insert into Equipment values('30000016','衣櫥','4');
insert into Equipment values('30000017','書桌','4');
insert into Equipment values('30000018','冷氣','1');
insert into Equipment values('30000019','椅子','4');
insert into Equipment values('30000020','電風扇','2');
insert into Equipment values('30000021','床鋪','4');
insert into Equipment values('30000022','電燈','4');
insert into Equipment values('30000023','衣櫥','4');
insert into Equipment values('30000024','書桌','4');

設備清單資料

insert into Equipment_List values ('50101','30000001');
insert into Equipment_List values ('50101','30000002');
insert into Equipment_List values ('50101','30000003');
insert into Equipment_List values ('50101','30000004');
insert into Equipment_List values ('50101','30000005');
insert into Equipment_List values ('50101','30000006');
insert into Equipment_List values ('50101','30000007');
insert into Equipment_List values ('50102','30000011');
insert into Equipment_List values ('50102','30000012');
insert into Equipment_List values ('50102','30000013');
insert into Equipment_List values ('50102','30000014');
insert into Equipment_List values ('50102','30000015');
insert into Equipment_List values ('50102','30000016');
insert into Equipment_List values ('50102','30000017');
insert into Equipment_List values ('50201','30000018');
insert into Equipment_List values ('50201','30000019');

insert into Equipment_List values ('50201','30000020');
insert into Equipment_List values ('50201','30000021');
insert into Equipment_List values ('50201','30000022');
insert into Equipment_List values ('50201','30000023');
insert into Equipment_List values ('50201','30000024');
insert into Equipment_List values ('50201','30000008');
insert into Equipment_List values ('50201','30000009');
insert into Equipment_List values ('50201','30000010');

報修清單

insert into Fix_Equipment values ('40743201','30000001','2022-05-09 10:10:10','已修理','冷氣發出怪聲');
insert into Fix_Equipment values ('40743201','30000002','2022-05-18 09:10:10','已處理','椅子被搖塌了');
insert into Fix_Equipment values ('40743205','30000003','2022-05-20 12:10:10','已處理','電風扇壞了');
insert into Fix_Equipment values ('40743202','30000004','2022-06-03 21:10:10','已處理','床鋪凹陷');
insert into Fix_Equipment values ('40743205','30000005','2022-06-10 16:10:10','未處理','電燈不會亮');
insert into Fix_Equipment values ('40743208','30000006','2022-06-11 15:10:10','未處理','衣櫥發霉');
insert into Fix_Equipment values ('40743204','30000007','2022-06-15 20:10:10','未處理','桌子很搖');
insert into Fix_Equipment values ('40743203','30000008','2022-06-20 20:10:10','未處理','冷氣漏水');
insert into Fix_Equipment values ('40743206','30000009','2022-06-21 20:10:10','已處理','椅子不見了');
insert into Fix_Equipment values ('40743209','30000010','2022-06-22 20:10:10','未處理','電風扇壞了');
insert into Fix_Equipment values ('40743259','30000004','2022-06-24 20:10:10','未處理','床鋪凹陷');
insert into Fix_Equipment values ('40743259','30000006','2022-07-31 15:10:10','未處理','衣櫥發霉');

簽到資料

insert into Punch values ('40743201','2022-06-09 10:10:10');
insert into Punch values ('40743202','2022-06-09 00:00:00');
insert into Punch values ('40743210','2022-06-09 12:12:12');
insert into Punch values ('40743208','2022-06-09 23:59:59');
insert into Punch values ('40743205','2022-06-09 10:10:11');
insert into Punch values ('40743203','2022-06-09 12:00:00');
insert into Punch values ('40743207','2022-06-10 23:59:59');
insert into Punch values ('40743208','2022-06-10 11:11:11');
insert into Punch values ('40743209','2022-06-10 12:00:01');
insert into Punch values ('40743210','2022-06-13 22:00:00');
insert into Punch values ('40743201','2022-06-22 11:11:11');

(八)View

所有學生住的房間

create view Student_Room as select ID,Name,Room_ID from Student,Stay

where Student.ID=Stay.S_ID;

每個房間擁有的設備

create view Room_Equipment as

 select Room.Room_ID,Equipment_List.Equip_ID,Equip_name,Equip_count

from Room,Equipment,Equipment_list

where Room.Room_ID=Equipment_List.Room_ID and Equipment.Equip_ID=Equipment_List.Equip_ID;

學生報修的所有設備資訊及所在位置

create view Student_Fix_Equipmen as

select ID,Name,Room_ID,Fix_Equipment.Equip_ID,Equip_name,Time,Situation,Content

from Student,Fix_Equipment,Equipment,Equipment_List

where Student.ID=Fix_Equipment.S_ID and Fix_Equipment.Equip_ID=Equipment.Equip_ID and Equipment.Equip_ID=Equipment_List.Equip_ID;

學生簽到資訊

create view Student_Punch as

select ID,Name,Sign_in from Student,Punch where Student.ID=Punch.S_ID;

發布公告的管理員資訊及公告資訊

create view Administrator_Announcement as

select ID,Name,Announcement.Ann_ID,Title,Content

from Administrator,Announced,Announcement

where Administrator.ID=Announced.Adm_ID and Announced.Ann_ID=Announcement.Ann_ID;

(九)執行結果

資料表

```
MariaDB [school]> select * from Student;
+----------+--------+-----------+----------+
| ID       | Name   | Phone     | Password |
+----------+--------+-----------+----------+
| 40743201 | 零零一 | 912345678 | 86543478 |
| 40743202 | 零零二 | 922345678 | 75453675 |
| 40743203 | 零零三 | 932345678 | 35342314 |
| 40743204 | 零零四 | 952345678 | 78640586 |
| 40743205 | 零零五 | 962345678 | 50434846 |
| 40743206 | 零零六 | 972345678 | 78903730 |
| 40743207 | 零零七 | 982345678 | 78674354 |
| 40743208 | 零零八 | 992345678 | 86946788 |
| 40743209 | 零零九 | 902345678 | 13649758 |
| 40743210 | 零一零 | 900000123 | 94572873 |
+----------+--------+-----------+----------+
10 rows in set (0.000 sec)

MariaDB [school]> select * from Administrator;
+----------+--------+----------+
| ID       | Name   | Password |
+----------+--------+----------+
| 10000001 | 管理一 | 11111111 |
| 10000002 | 管理二 | 22222222 |
| 10000003 | 管理三 | 33333333 |
| 10000004 | 管理四 | 44444444 |
| 10000005 | 管理五 | 55555555 |
| 10000006 | 管理六 | 66666666 |
| 10000007 | 管理七 | 77777777 |
| 10000008 | 管理八 | 88888888 |
| 10000009 | 管理九 | 99999999 |
| 10000010 | 管理十 | 10000100 |
+----------+--------+----------+
10 rows in set (0.001 sec)
```

```
MariaDB [school]> select * from Announcement;
+-----------+--------------------+------------------------------------+
| Ann_ID    | Title              | Content                            |
+-----------+--------------------+------------------------------------+
| 20000001  | 歡迎               | 歡迎各位蒞臨本館                   |
| 20000002  | 垃圾事宜           | 請勿隨手丟棄垃圾，違者依法處分     |
| 20000003  | 清理冰箱           | 有一瓶牛奶過期了                   |
| 20000004  | 網路IP被禁名單     | 再用爆網路一個月禁用               |
| 20000005  | 被記點名單         | 還敢喝酒阿                         |
| 20000006  | 設備故障維護清單   | 是要用壞幾張椅子                   |
| 20000007  | 遺失物招領         | 誰的內褲掉了                       |
| 20000008  | 學生宿舍相關法規   | 不會有人看我知道                   |
| 20000009  | 門禁遲到名單       | 給我全部睡外面                     |
| 20000010  | 網路IP被禁名單     | 再用爆網路禁用一周                 |
+-----------+--------------------+------------------------------------+
10 rows in set (0.000 sec)

MariaDB [school]> select * from Announced;
+-----------+-----------+
| Adm_ID    | Ann_ID    |
+-----------+-----------+
| 10000001  | 20000001  |
| 10000001  | 20000002  |
| 10000002  | 20000003  |
| 10000003  | 20000005  |
| 10000004  | 20000006  |
| 10000007  | 20000007  |
| 10000008  | 20000004  |
| 10000008  | 20000010  |
| 10000009  | 20000008  |
| 10000010  | 20000009  |
+-----------+-----------+
10 rows in set (0.000 sec)
```

```
MariaDB [school]> select * from Room;
+---------+-------+-------------+--------+
| Room_ID | Floor | Room_number | People |
+---------+-------+-------------+--------+
|   50101 |     1 |           1 |      4 |
|   50102 |     1 |           2 |      4 |
|   50201 |     2 |           1 |      4 |
|   50202 |     2 |           2 |      4 |
|   50301 |     3 |           1 |      4 |
|   50302 |     3 |           2 |      4 |
|   50401 |     4 |           1 |      4 |
|   50402 |     4 |           2 |      4 |
|   50403 |     4 |           3 |      4 |
|   50404 |     4 |           4 |      4 |
+---------+-------+-------------+--------+
10 rows in set (0.000 sec)

MariaDB [school]> select * from Stay;
+---------+----------+
| Room_ID | S_ID     |
+---------+----------+
|   50101 | 40743201 |
|   50101 | 40743202 |
|   50101 | 40743203 |
|   50101 | 40743204 |
|   50102 | 40743205 |
|   50102 | 40743206 |
|   50201 | 40743207 |
|   50201 | 40743208 |
|   50201 | 40743209 |
|   50201 | 40743210 |
+---------+----------+
10 rows in set (0.000 sec)
```

```
MariaDB [school]> select * from Equipment;
+-----------+------------+-------------+
| Equip_ID  | Equip_name | Equip_count |
+-----------+------------+-------------+
| 30000001  | 冷氣       |           1 |
| 30000002  | 椅子       |           4 |
| 30000003  | 電風扇     |           2 |
| 30000004  | 鋪         |           4 |
| 30000005  | 燈         |           4 |
| 30000006  | 衣櫥       |           4 |
| 30000007  | 書桌       |           4 |
| 30000008  | 冷氣       |           1 |
| 30000009  | 電風扇     |           1 |
| 30000010  | 椅子       |           5 |
| 30000011  | 冷氣       |           1 |
| 30000012  | 椅子       |           4 |
| 30000013  | 電風扇     |           2 |
| 30000014  | 床鋪       |           4 |
| 30000015  | 電燈       |           4 |
| 30000016  | 衣櫥       |           4 |
| 30000017  | 書桌       |           4 |
| 30000018  | 冷氣       |           1 |
| 30000019  | 椅子       |           4 |
| 30000020  | 電風扇     |           2 |
| 30000021  | 床鋪       |           4 |
| 30000022  | 電燈       |           4 |
| 30000023  | 衣櫥       |           4 |
| 30000024  | 書桌       |           4 |
+-----------+------------+-------------+
24 rows in set (0.000 sec)
```

```
MariaDB [school]> select * from Equipment_List;
+---------+----------+
| Room_ID | Equip_ID |
+---------+----------+
|   50101 | 30000001 |
|   50101 | 30000002 |
|   50101 | 30000003 |
|   50101 | 30000004 |
|   50101 | 30000005 |
|   50101 | 30000006 |
|   50101 | 30000007 |
|   50102 | 30000011 |
|   50102 | 30000012 |
|   50102 | 30000013 |
|   50102 | 30000014 |
|   50102 | 30000015 |
|   50102 | 30000016 |
|   50102 | 30000017 |
|   50201 | 30000008 |
|   50201 | 30000009 |
|   50201 | 30000010 |
|   50201 | 30000018 |
|   50201 | 30000019 |
|   50201 | 30000020 |
|   50201 | 30000021 |
|   50201 | 30000022 |
|   50201 | 30000023 |
|   50201 | 30000024 |
+---------+----------+
24 rows in set (0.000 sec)
```

```
MariaDB [school]> select * from Fix_Equipment;
+----------+----------+---------------------+-----------+--------------------+
| S_ID     | Equip_ID | Time                | Situation | Content            |
+----------+----------+---------------------+-----------+--------------------+
| 40743201 | 30000001 | 2022-05-09 10:10:10 | 已修理    | 冷氣發出怪聲       |
| 40743201 | 30000002 | 2022-05-18 09:10:10 | 已處理    | 椅子被搖塌了       |
| 40743202 | 30000004 | 2022-06-03 21:10:10 | 已處理    | 窗鋪凹陷           |
| 40743203 | 30000008 | 2022-06-20 20:10:10 | 未處理    | 冷氣漏水           |
| 40743204 | 30000007 | 2022-06-15 20:10:10 | 未處理    | 桌子很搖           |
| 40743205 | 30000003 | 2022-05-20 12:10:10 | 已處理    | 電風扇壞了         |
| 40743205 | 30000005 | 2022-06-10 16:10:10 | 未處理    | 電燈不會亮         |
| 40743206 | 30000009 | 2022-06-21 20:10:10 | 已處理    | 椅子不見了         |
| 40743208 | 30000006 | 2022-06-11 15:10:10 | 未處理    | 衣櫥發霉           |
| 40743209 | 30000010 | 2022-06-22 20:10:10 | 未處理    | 電風扇壞了         |
+----------+----------+---------------------+-----------+--------------------+
10 rows in set (0.000 sec)

MariaDB [school]> select * from Punch;
+----------+---------------------+
| S_ID     | Sign_in             |
+----------+---------------------+
| 40743201 | 2022-06-09 10:10:10 |
| 40743202 | 2022-06-09 00:00:00 |
| 40743210 | 2022-06-09 12:12:12 |
| 40743208 | 2022-06-09 23:59:59 |
| 40743205 | 2022-06-09 10:10:11 |
| 40743203 | 2022-06-09 12:00:00 |
| 40743207 | 2022-06-10 23:59:59 |
| 40743208 | 2022-06-10 11:11:11 |
| 40743209 | 2022-06-10 12:00:01 |
| 40743210 | 2022-06-13 22:00:00 |
+----------+---------------------+
10 rows in set (0.000 sec)
```

(十)View執行結果

```
MariaDB [school]> select * from Student_Room;
+----------+----------+----------+
| ID       | Name     | Room_ID  |
+----------+----------+----------+
| 40743201 | 零零一   |    50101 |
| 40743202 | 零零二   |    50101 |
| 40743203 | 零零三   |    50101 |
| 40743204 | 零零四   |    50101 |
| 40743205 | 零零五   |    50102 |
| 40743206 | 零零六   |    50102 |
| 40743207 | 零零七   |    50201 |
| 40743208 | 零零八   |    50201 |
| 40743209 | 零零九   |    50201 |
| 40743210 | 零一零   |    50201 |
+----------+----------+----------+
10 rows in set (0.001 sec)
```

顯示所有學生住的房間

```
MariaDB [school]> select * from Room_Equipment;
+---------+----------+------------+-------------+
| Room_ID | Equip_ID | Equip_name | Equip_count |
+---------+----------+------------+-------------+
|   50101 | 30000001 | 冷氣        |           1 |
|   50101 | 30000002 | 椅子        |           4 |
|   50101 | 30000003 | 電風扇      |           2 |
|   50101 | 30000004 | 鋪         |           4 |
|   50101 | 30000005 | 燈         |           4 |
|   50101 | 30000006 | 衣櫥        |           4 |
|   50101 | 30000007 | 書桌        |           4 |
|   50102 | 30000011 | 冷氣        |           1 |
|   50102 | 30000012 | 椅子        |           4 |
|   50102 | 30000013 | 電風扇      |           2 |
|   50102 | 30000014 | 床鋪        |           4 |
|   50102 | 30000015 | 電燈        |           4 |
|   50102 | 30000016 | 衣櫥        |           4 |
|   50102 | 30000017 | 書桌        |           4 |
|   50201 | 30000008 | 冷氣        |           1 |
|   50201 | 30000009 | 電風扇      |           1 |
|   50201 | 30000010 | 椅子        |           5 |
|   50201 | 30000018 | 冷氣        |           1 |
|   50201 | 30000019 | 椅子        |           4 |
|   50201 | 30000020 | 電風扇      |           2 |
|   50201 | 30000021 | 床鋪        |           4 |
|   50201 | 30000022 | 電燈        |           4 |
|   50201 | 30000023 | 衣櫥        |           4 |
|   50201 | 30000024 | 書桌        |           4 |
+---------+----------+------------+-------------+
24 rows in set (0.000 sec)
```

顯示每個房間所擁有的設備

```
MariaDB [school]> select * from Student_Fix_Equipmen;
+----------+--------+---------+----------+------------+---------------------+-----------+-------------------+
| ID       | Name   | Room_ID | Equip_ID | Equip_name | Time                | Situation | Content           |
+----------+--------+---------+----------+------------+---------------------+-----------+-------------------+
| 40743201 | 零零一 |   50101 | 30000001 | 冷氣       | 2022-05-09 10:10:10 | 已修理    | 冷氣發出怪聲      |
| 40743201 | 零零一 |   50101 | 30000002 | 椅子       | 2022-05-18 09:10:10 | 已處理    | 椅子被搖塌了      |
| 40743202 | 零零二 |   50101 | 30000004 | 鋪         | 2022-06-03 21:10:10 | 已處理    | 窗鋪凹陷          |
| 40743203 | 零零三 |   50201 | 30000008 | 冷氣       | 2022-06-20 20:10:10 | 未處理    | 冷氣漏水          |
| 40743204 | 零零四 |   50101 | 30000007 | 書桌       | 2022-06-15 20:10:10 | 未處理    | 桌子很搖          |
| 40743205 | 零零五 |   50101 | 30000003 | 電風扇     | 2022-05-20 12:10:10 | 已處理    | 電風扇壞了        |
| 40743205 | 零零五 |   50101 | 30000005 | 燈         | 2022-06-10 16:10:10 | 未處理    | 電燈不會亮        |
| 40743206 | 零零六 |   50201 | 30000009 | 電風扇     | 2022-06-21 20:10:10 | 已處理    | 椅子不見了        |
| 40743208 | 零零八 |   50101 | 30000006 | 衣櫥       | 2022-06-11 15:10:10 | 未處理    | 衣櫥發霉          |
| 40743209 | 零零九 |   50201 | 30000010 | 椅子       | 2022-06-22 20:10:10 | 未處理    | 電風扇壞了        |
+----------+--------+---------+----------+------------+---------------------+-----------+-------------------+
10 rows in set (0.000 sec)

MariaDB [school]> select * from Student_Punch;
+----------+--------+---------------------+
| ID       | Name   | Sign_in             |
+----------+--------+---------------------+
| 40743201 | 零零一 | 2022-06-09 10:10:10 |
| 40743202 | 零零二 | 2022-06-09 00:00:00 |
| 40743210 | 零一零 | 2022-06-09 12:12:12 |
| 40743208 | 零零八 | 2022-06-09 23:59:59 |
| 40743205 | 零零五 | 2022-06-09 10:10:11 |
| 40743203 | 零零三 | 2022-06-09 12:00:00 |
| 40743207 | 零零七 | 2022-06-10 23:59:59 |
| 40743208 | 零零八 | 2022-06-10 11:11:11 |
| 40743209 | 零零九 | 2022-06-10 12:00:01 |
| 40743210 | 零一零 | 2022-06-13 22:00:00 |
+----------+--------+---------------------+
10 rows in set (0.000 sec)
```

顯示學生報修的所有設備資訊

顯示所有學生簽到資訊

```
MariaDB [school]> select * from Administrator_Announcement;
+----------+--------+----------+------------------+----------------------------+
| ID       | Name   | Ann_ID   | Title            | Content                    |
+----------+--------+----------+------------------+----------------------------+
| 10000001 | 管理一 | 20000001 | 歡迎             | 歡迎各位蒞臨本館           |
| 10000001 | 管理一 | 20000002 | 垃圾事宜         | 請勿隨手丟棄垃圾，違者依法處分 |
| 10000002 | 管理二 | 20000003 | 清理冰箱         | 有一瓶牛奶過期了           |
| 10000003 | 管理三 | 20000005 | 被記點名單       | 還敢喝酒阿                 |
| 10000004 | 管理四 | 20000006 | 設備故障維護清單 | 是要用壞幾張椅子           |
| 10000007 | 管理七 | 20000007 | 遺失物招領       | 誰的內褲掉了               |
| 10000008 | 管理八 | 20000004 | 網路IP被禁名單   | 再用爆網路一個月禁用       |
| 10000008 | 管理八 | 20000010 | 網路IP被禁名單   | 再用爆網路禁用一周         |
| 10000009 | 管理九 | 20000008 | 學生宿舍相關法規 | 不會有人看我知道           |
| 10000010 | 管理十 | 20000009 | 門禁遲到名單     | 給我全部睡外面             |
+----------+--------+----------+------------------+----------------------------+
10 rows in set (0.001 sec)
```

顯示管理員發布的所有公告資訊

(十一)實作影片

https://youtu.be/AjfJ2W9JJpY