第十七組

題目:

餐廳管理系統

組員:

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41143224林震宇

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老師:

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目錄

一、 應用情境與使用案例 .....................................................................3 二、 系統需求 ......................................................................................3 三、 ER Diagram ................................................................................... 4 四、 完整性限制 ..................................................................................5五、 CREATE TABLE程式碼 .................................................................15 六、 INSERT 資料 ............................................................................... 21 七、 View-說明 ................................................................................... 57 八、 心得 ............................................................................................ 73

1. 應用情境與使用案例

現代社會的人們更重視服務的效率與便利性，而我們為了提升顧客整體用餐體驗，同時簡化繁瑣的內部營運流程，決定製作一套全方位餐廳管理系統。這是一個完整的餐廳管理系統，適用於中小型餐廳或連鎖餐飲業者，整合了顧客管理、訂位訂餐、庫存管理、員工排班與財務記錄等功能。系統將幫助餐廳實現數位化轉型，提升營運效率與顧客服務品質。

二、 系統需求

* 顧客:

1. 註冊與登入
2. 線上預約座位
3. 瀏覽菜單並點餐
4. 線上訂單與外送
5. 付款與結帳

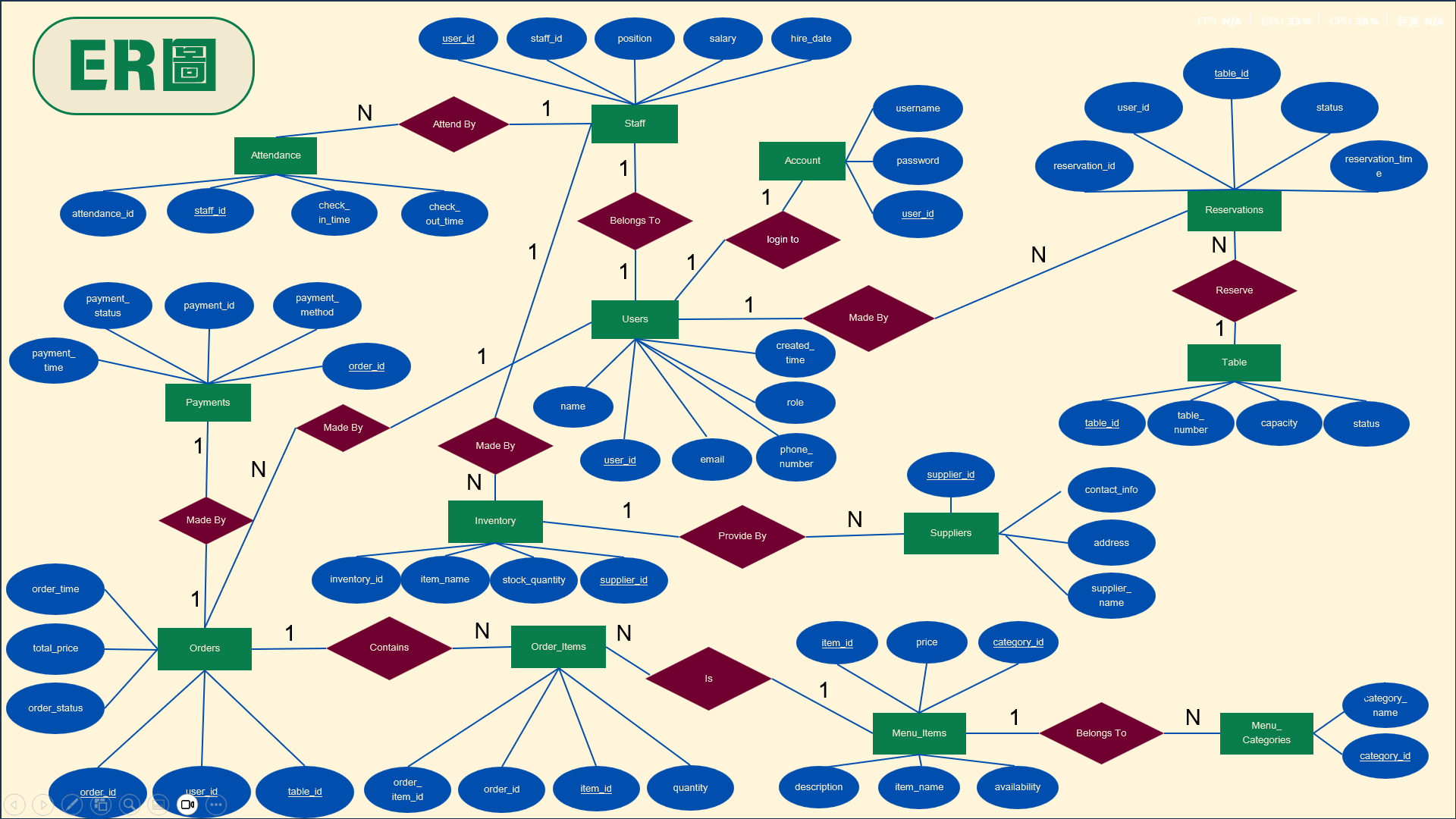
* 員工（店員與廚房人員）:

1. 登入系統與身份辨識
2. 查看訂位與訂單資訊
3. 接收廚房點餐通知
4. 打卡上下班與出勤記錄

* 管理者:

1. 使用者與員工管理
2. 庫存與進貨管理
3. 查看營運報表

三、 ER Diagram



四、 完整性限制

Users(使用者):

|  |  |  |  |
| --- | --- | --- | --- |
| **欄位名稱** | **資料型態** | **是否為null** | **完整性限制** |
| **user\_id** | **INT UNSIGNED** | **NOT NULL** | 範圍為 '1' 到'4,294,967,295'，每次創建新資料時自動 +1 遞增 |
| **name** | **VARCHAR(100)** | **NOT NULL** | 最多 100 字元，超過長度將無法儲存 |
| **email** | **VARCHAR(100)** | **NOT NULL** | 最多 100 字元，需為唯一值，必須有@，超過長度將無法儲存 |
| **phone\_**  **number** | **VARCHAR(10)** | **NOT NULL** | 共10字元，前兩位數字 必須是'09'後八位數字可 以是從'00000000'到 '99999999'的任意組合 ，如'0912345678' |
| **role** | **ENUM('Customer',**  **'** **Staff ',**  **'Admin')** | **NOT NULL** | 列舉型別，限定為：Customer、Staff、Admin，不可填入其他未定義的值 |
| **created\_time** | **TIMESTAMP** | **NOT NULL** | 時間格式，預設為系統目前時間（CURRENT\_TIMESTAMP） |

Accounts(帳號):

|  |  |  |  |
| --- | --- | --- | --- |
| **欄位名稱** | **資料型態** | **是否為null** | **完整性限制** |
| **account\_id** | **INT UNSIGNED** | **NOT NULL** | 範圍為 '1' 到'4,294,967,295'，每次創建新資料時自動 +1 遞增 |
| **user\_id** | **INT UNSIGNED** | **NOT NULL** | 參照 Users(user\_id)，刪除時級聯刪除 |
| **username** | **VARCHAR(100)** | **NOT NULL** | 此欄位值需為唯一，不能與其他紀錄重複，系統將強制檢查， 最多 100 字元 |
| **password** | **VARCHAR(64)** | **NOT NULL** | 以安全演算法SHA-256加密處理的密碼雜湊值，由英數組合長度為 255 字元，避免儲存明文密碼 |

Reservations (訂位):

|  |  |  |  |
| --- | --- | --- | --- |
| **欄位名稱** | **資料型態** | **是否為null** | **完整性限制** |
| **reservation\_id** | **INT UNSIGNED** | **NOT NULL** | 範圍為 '1' 到'4,294,967,295'，每次創建新資料時自動 +1 遞增 |
| **user\_id** | **INT UNSIGNED** | **NOT NULL** | 參照 Users(user\_id) |
| **table\_id** | **INT UNSIGNED** | **NOT NULL** | 參照 Tables(table\_id) |
| **reservation\_time** | **DATETIME** | **NOT NULL** | 標準時間格式，需符合 YYYY-MM-DD HH:MM:SS 格式 |

Menu\_Categories(菜單類別):

|  |  |  |  |
| --- | --- | --- | --- |
| **欄位名稱** | **資料型態** | **是否為null** | **完整性限制** |
| **category\_id** | **ENUM**  **('Pending',**  **'Confirmed',**  **'Cancelled')** | **NOT NULL** | 列舉型別，限定為：Pending、Confirmed、Cancelled，不可填入其他未定義的值 |
| **category\_name** | **VARCHAR(100)** | **NOT NULL** | 最多 100 字元，超過長度將無法儲存 |

Menu\_Items(菜單品項):

|  |  |  |  |
| --- | --- | --- | --- |
| **欄位名稱** | **資料型態** | **是否為null** | **完整性限制** |
| **item\_id** | **INT UNSIGNED** | **NOT NULL** | 範圍為 '1' 到'4,294,967,295'，每次創建新資料時自動 +1 遞增 |
| **category\_id** | **INT UNSIGNED** | **NOT NULL** | 最多 100 字元，超過長度將無法儲存 |
| **item\_name** | **VARCHAR(20)** | **NOT NULL** | 參照 Tables(table\_id) |
| **description** | **VARCHAR(100)** | **YES** | 最多 100 字元，超過長度將無法儲存 |
| **price** | **INT UNSIGNED** | **NOT NULL** | 必須大於 0 |
| **availability** | **ENUM('Available','Out of Stock')** | **NOT NULL** | 列舉型別，限定為：Available、Out of Stock，不可填入其他未定義的值 |

Orders (訂單):

|  |  |  |  |
| --- | --- | --- | --- |
| **欄位名稱** | **資料型態** | **是否為null** | **完整性限制** |
| **order\_id** | **INT UNSIGNED** | **NOT NULL** | 範圍為 '1' 到'4,294,967,295'，每次創建新資料時自動 +1 遞增 |
| **user\_id** | **INT UNSIGNED** | **NOT NULL** | 參照 Users(user\_id) |
| **table\_id** | **INT UNSIGNED** | **NOT NULL** | 參照 Tables(table\_id) |
| **order\_status** | **ENUM**  **('Pending',**  **'InProgress',**  **'Completed',**  **'Cancelled')** | **NOT NULL** | 列舉型別，限定為：Pending、In Progress、Completed、Cancelled，不可填入其他未定義的值 |
| **order\_time** | **TIMESTAMP** | **NOT NULL** | 時間格式，預設為系統目前時間（CURRENT\_TIMESTAMP） |
| **total\_price** | **INT UNSIGNED** | **NOT NULL** | 不得為負 |

Order\_Items(訂單品項):

|  |  |  |  |
| --- | --- | --- | --- |
| **欄位名稱** | **資料型態** | **是否為null** | **完整性限制** |
| **order\_item\_id** | **INT UNSIGNED** | **NOT NULL** | 範圍為 '1' 到'4,294,967,295'，每次創建新資料時自動 +1 遞增 |
| **order\_id** | **INT UNSIGNED** | **NOT NULL** | 參照 Orders(order\_id) |
| **item\_id** | **INT UNSIGNED** | **NOT NULL** | 參照 Menu\_Items(item\_id) |
| **quantity** | **INT UNSIGNED** | **NOT NULL** | 必須大於 0 |

Payments (付款方式):

|  |  |  |  |
| --- | --- | --- | --- |
| **欄位名稱** | **資料型態** | **是否為null** | **完整性限制** |
| **payment\_id** | **INT UNSIGNED** | **NOT NULL** | 範圍為 '1' 到'4,294,967,295'，每次創建新資料時自動 +1 遞增 |
| **order\_id** | **INT UNSIGNED** | **NOT NULL** | 參照 Orders(order\_id) |
| **payment\_**  **method** | **ENUM('Cash','Credit Card','online payment')** | **NOT NULL** | 列舉型別，限定為：Cash、Credit Card、online payment，不可填入其他未定義的值 |
| **payment\_**  **status** | **ENUM('Paid','Pending','Failed')** | **NOT NULL** | 列舉型別，限定為：Paid、Pending、Failed，不可填入其他未定義的值 |
| **payment\_time** | **TIMESTAMP** | **NOT NULL** | 時間格式，預設為系統目前時間（CURRENT\_TIMESTAMP） |

Staff (員工):

|  |  |  |  |
| --- | --- | --- | --- |
| **欄位名稱** | **資料型態** | **是否為null** | **完整性限制** |
| **staff\_id** | **INT UNSIGNED** | **NOT NULL** | 範圍為 '1' 到'4,294,967,295'，每次創建新資料時自動 +1 遞增 |
| **user\_id** | **INT UNSIGNED** | **NOT NULL** | 參照 Users(user\_id) |
| **position** | **ENUM('Waiter',**  **'Chef',**  **'Manager')** | **NOT NULL** | 列舉型別，限定為：Waiter、Chef、Manager，不可填入其他未定義的值 |
| **salary** | **INT UNSIGNED** | **NOT NULL** | 整數型別，必須大於 0 |
| **hire\_date** | **TIMESTAMP** | **NOT NULL** | 時間格式，預設為系統目前時間（CURRENT\_TIMESTAMP） |

Attendance(出席) :

|  |  |  |  |
| --- | --- | --- | --- |
| **欄位名稱** | **資料型態** | **是否為null** | **完整性限制** |
| **attendance\_id** | **INT UNSIGNED** | **NOT NULL** | 範圍為 '1' 到'4,294,967,295'，每次創建新資料時自動 +1 遞增 |
| **staff\_id** | **INT UNSIGNED** | **NOT NULL** | 參照 Staff(staff\_id) |
| **check\_in\_time** | **TIMESTAMP** | **NOT NULL** | 標準時間格式，需符合 YYYY-MM-DD HH:MM:SS 格式 |
| **check\_out\_time** | **TIMESTAMP** | **NOT NULL** | 標準時間格式，需符合 YYYY-MM-DD HH:MM:SS 格式 |

Suppliers(供應者) :

|  |  |  |  |
| --- | --- | --- | --- |
| **欄位名稱** | **資料型態** | **是否為null** | **完整性限制** |
| **supplier\_id** | **INT UNSIGNED** | **NOT NULL** | 範圍為 '1' 到'4,294,967,295'，每次創建新資料時自動 +1 遞增 |
| **supplier\_name** | **VARCHAR(100)** | **NOT NULL** | 最多 100 字元，超過長度將無法儲存 |
| **contact\_info** | **VARCHAR(100)** | **YES** | 最多 100 字元，超過長度將無法儲存 |
| **address** | **VARCHAR(100)** | **YES** | 最多 100 字元，超過長度將無法儲存 |

Inventory(庫存) :

|  |  |  |  |
| --- | --- | --- | --- |
| **欄位名稱** | **資料型態** | **是否為null** | **完整性限制** |
| **inventory\_id** | **INT UNSIGNED** | **NOT NULL** | 範圍為 '1' 到'4,294,967,295'，每次創建新資料時自動 +1 遞增 |
| **item\_name** | **VARCHAR(100)** | **NOT NULL** | 最多 100 字元，超過長度將無法儲存 |
| **stock\_quantity** | **INT UNSIGNED** | **NOT NULL** | 不得為負 |
| **supplier\_id** | **INT UNSIGNED** | **NOT NULL** | 參照 Suppliers(supplier\_id) |
| **last\_checker** | **INT UNSIGNED** | **NOT NULL** | 參照Staff(staff\_id) |
| **last\_check\_time** | **TIMESTAMP** | **NOT NULL** | 標準時間格式，需符合 YYYY-MM-DD HH:MM:SS 格式 |

五、 CREATE TABLE程式碼

CREATE TABLE Accounts (

account\_id INT UNSIGNED NOT NULL AUTO\_INCREMENT,

user\_id INT UNSIGNED NOT NULL,

username VARCHAR(100) NOT NULL UNIQUE,

password VARCHAR(255) NOT NULL,

PRIMARY KEY (account\_id),

FOREIGN KEY (user\_id) REFERENCES Users(user\_id) ON DELETE CASCADE

);

CREATE TABLE Tables (

table\_id INT UNSIGNED NOT NULL AUTO\_INCREMENT,

table\_number INT NOT NULL CHECK (table\_number > 0 AND table\_number <= 100),

capacity INT NOT NULL CHECK (capacity > 0 AND capacity <= 100),

status ENUM('Available', 'Occupied', 'Reserved') NOT NULL,

PRIMARY KEY (table\_id)

);

CREATE TABLE Reservations (

reservation\_id INT UNSIGNED NOT NULL AUTO\_INCREMENT,

user\_id INT UNSIGNED NOT NULL,

table\_id INT UNSIGNED NOT NULL,

reservation\_time DATETIME NOT NULL,

status ENUM('Pending', 'Confirmed', 'Cancelled') NOT NULL,

PRIMARY KEY (reservation\_id),

FOREIGN KEY (user\_id) REFERENCES Users(user\_id),

FOREIGN KEY (table\_id) REFERENCES Tables(table\_id)

);

CREATE TABLE Menu\_Categories (

category\_id INT UNSIGNED NOT NULL AUTO\_INCREMENT,

category\_name VARCHAR(100) NOT NULL,

PRIMARY KEY (category\_id)

);

CREATE TABLE Menu\_Items (

item\_id INT UNSIGNED NOT NULL AUTO\_INCREMENT,

category\_id INT UNSIGNED NOT NULL,

item\_name VARCHAR(20) NOT NULL,

description VARCHAR(100),

price INT NOT NULL CHECK (price > 0),

availability ENUM('Available', 'Out of Stock') NOT NULL,

PRIMARY KEY (item\_id),

FOREIGN KEY (category\_id) REFERENCES Menu\_Categories(category\_id)

);

CREATE TABLE Orders (

order\_id INT UNSIGNED NOT NULL AUTO\_INCREMENT,

user\_id INT UNSIGNED NOT NULL,

table\_id INT UNSIGNED NOT NULL,

order\_status ENUM('Pending', 'In Progress', 'Completed', 'Cancelled') NOT NULL,

order\_time TIMESTAMP DEFAULT CURRENT\_TIMESTAMP,

total\_price INT NOT NULL CHECK (total\_price >= 0),

PRIMARY KEY (order\_id),

FOREIGN KEY (user\_id) REFERENCES Users(user\_id),

FOREIGN KEY (table\_id) REFERENCES Tables(table\_id)

);

CREATE TABLE Order\_Items (

order\_item\_id INT UNSIGNED NOT NULL AUTO\_INCREMENT,

order\_id INT UNSIGNED NOT NULL,

item\_id INT UNSIGNED NOT NULL,

quantity INT NOT NULL CHECK (quantity > 0),

PRIMARY KEY (order\_item\_id),

FOREIGN KEY (order\_id) REFERENCES Orders(order\_id),

FOREIGN KEY (item\_id) REFERENCES Menu\_Items(item\_id)

);

CREATE TABLE Payments (

payment\_id INT UNSIGNED NOT NULL AUTO\_INCREMENT,

order\_id INT UNSIGNED NOT NULL,

payment\_method ENUM('Cash', 'Credit Card', 'online payment') NOT NULL,

payment\_status ENUM('Paid', 'Pending', 'Failed') NOT NULL,

payment\_time TIMESTAMP DEFAULT CURRENT\_TIMESTAMP,

PRIMARY KEY (payment\_id),

FOREIGN KEY (order\_id) REFERENCES Orders(order\_id)

);

CREATE TABLE Staff (

staff\_id INT UNSIGNED NOT NULL AUTO\_INCREMENT,

user\_id INT UNSIGNED NOT NULL,

position ENUM('Waiter', 'Chef', 'Manager') NOT NULL,

salary INT NOT NULL CHECK (salary > 0),

hire\_date TIMESTAMP DEFAULT CURRENT\_TIMESTAMP,

PRIMARY KEY (staff\_id),

FOREIGN KEY (user\_id) REFERENCES Users(user\_id)

);

CREATE TABLE Attendance (

attendance\_id INT UNSIGNED NOT NULL AUTO\_INCREMENT,

staff\_id INT UNSIGNED NOT NULL,

check\_in\_time TIMESTAMP NOT NULL,

check\_out\_time TIMESTAMP NOT NULL,

PRIMARY KEY (attendance\_id),

FOREIGN KEY (staff\_id) REFERENCES Staff(staff\_id)

);

CREATE TABLE Suppliers (

supplier\_id INT UNSIGNED NOT NULL AUTO\_INCREMENT,

supplier\_name VARCHAR(100) NOT NULL,

contact\_info VARCHAR(100),

address VARCHAR(100),

PRIMARY KEY (supplier\_id)

);

CREATE TABLE Inventory (

inventory\_id INT UNSIGNED NOT NULL AUTO\_INCREMENT,

item\_name VARCHAR(100) NOT NULL,

stock\_quantity INT UNSIGNED NOT NULL CHECK (stock\_quantity >= 0),

supplier\_id INT UNSIGNED NOT NULL,

last\_check\_time TIMESTAMP,

last\_checker INT UNSIGNED,

PRIMARY KEY (inventory\_id),

FOREIGN KEY (supplier\_id) REFERENCES Suppliers(supplier\_id)

FOREIGN KEY (last\_checker\_staff\_id) REFERENCES Staff(staff\_id)

};

六、 INSERT 資料

1.#Users:

INSERT INTO Users (name, email, phone\_number, role, created\_time) VALUES

('王小明', 'ming@example.com', '0912345678', 'Staff', '2023-01-01 10:00:00'),

('林小華', 'hua@example.com', '0923456789', 'Staff', '2023-01-02 11:00:00'),

( '陳大勇', 'yong@example.com', '0934567890', 'Staff', '2023-01-03 09:00:00'),

('張美麗', 'mei@example.com', '0945678901', 'Manager', '2023-01-04 08:00:00'),

('劉德華', 'dehua@example.com', '0956789012', 'Manager', '2023-01-05 12:00:00'),

('周杰倫', 'jay@example.com', '0967890123', 'Staff', '2023-01-06 14:00:00'),

('蔡依林', 'jolin@example.com', '0978901234', 'Staff', '2023-01-07 16:00:00'),

('林志玲', 'chiling@example.com', '0989012345', 'Staff', '2023-01-08 10:30:00'),

('吳宗憲', 'jacky@example.com', '0990123456', 'Staff', '2023-01-09 11:30:00'),

('徐若瑄', 'vivian@example.com', '0911122334', 'Customer', '2023-01-10 13:00:00'),

('金城武', 'takeshi@example.com', '0922233445', 'Customer', '2023-01-11 15:00:00'),

('梁朝偉', 'tony@example.com', '0933344556', 'Customer', '2023-01-12 17:00:00'),

('張曼玉', 'maggie@example.com', '0944455667', 'Customer', '2023-01-13 18:00:00'),

('劉嘉玲', 'carina@example.com', '0955566778', 'Customer', '2023-01-14 19:00:00'),

('周潤發', 'chow@example.com', '0966677889', 'Customer', '2023-01-15 20:00:00'),

('成龍', 'jackie@example.com', '0977788990', 'Customer', '2023-01-16 21:00:00'),

('李連杰', 'jet@example.com', '0988899001', 'Customer', '2023-01-17 22:00:00'),

('章子怡', 'ziyi@example.com', '0999900112', 'Customer', '2023-01-18 23:00:00'),

('范冰冰', 'bingbing@example.com', '0910011223', 'Customer', '2023-01-19 12:30:00'),

('楊冪', 'miyang@example.com', '0921122334', 'Customer', '2023-01-20 14:30:00');

Users table:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Use  r\_id | name | email | phone\_number | role | created\_time |
| 1 | 王小明 | ming@example.com | 09112345678 | Staff | 2023-01-01 10:00:00 |
| 2 | 華小華 | hua@example.com | 09223456789 | Staff | 2023-01-02 11:00:00 |
| 3 | 陳大廣 | yong@example.com | 09334567890 | Staff | 2023-01-03 09:00:00 |
| 4 | 張德華 | dehua@example.com | 09445678901 | Manager | 2023-01-04 08:00:00 |
| 5 | 趙德華 | dehua@example.com | 09556789012 | Manager | 2023-01-05 12:00:00 |
| 6 | 黃小倩 | jay@example.com | 09667890123 | Staff | 2023-01-06 14:00:00 |
| 7 | 蔡志祥 | jolin@example.com | 09778901234 | Staff | 2023-01-07 16:00:00 |
| 8 | 謝志堅 | chilly@example.com | 09889012345 | Staff | 2023-01-08 10:30:00 |
| 9 | 吳宗憲 | jacky@example.com | 09990123456 | Staff | 2023-01-09 11:30:00 |
| 10 | 徐若瑄 | vivian@example.com | 09111223344 | Staff | 2023-01-10 13:00:00 |
| 11 | 徐懷鈺 | takeshi@example.com | 09222334455 | Customer | 2023-01-11 15:00:00 |
| 12 | 梁朝偉 | tony@example.com | 09333445566 | Customer | 2023-01-12 17:00:00 |
| 13 | 張學友 | maggie@example.com | 09444556677 | Customer | 2023-01-13 18:00:00 |
| 14 | 劉德華 | carina@example.com | 09555667788 | Customer | 2023-01-14 19:00:00 |
| 15 | 楊采妮 | chow@example.com | 09666778899 | Customer | 2023-01-15 20:00:00 |
| 16 | 羅瑤瑤 | jackie@example.com | 09777889900 | Customer | 2023-01-16 21:00:00 |
| 17 | 朱麗葉 | jet@example.com | 09888990011 | Customer | 2023-01-17 22:00:00 |
| 18 | 吳子怡 | ziyi@example.com | 09999001122 | Customer | 2023-01-18 23:00:00 |
| 19 | 范冰冰 | bingbing@example.com | 09110011223 | Customer | 2023-01-19 12:30:00 |
| 20 | 楊冪 | miyang@example.com | 09221122334 | Customer | 2023-01-20 14:30:00 |

2.#Accounts:

INSERT INTO Accounts (user\_id, username, password) VALUES

(1, 'ming123', '5e884898da28047151d0e56f8dc6292773603d0d6aabbdd62a11ef721d1542d8'),

(2, 'hua456', 'a665a45920422f9d417e4867efdc4fb8a04a1f3fff1fa07e998e86f7f7a27ae3'),

(3, 'yong789', 'd7a8fbb307d7809469ca9abcb0082e4f8d5651e46d3cdb762d02d0bf37c9e592'),

(4, 'mei012', '2cf24dba5fb0a30e26e83b2ac5b9e29e1b161e5c1fa7425e73043362938b9824'),

(5, 'dehua345', 'ef2d127de37b942baad06145e54b0c619a1f22327b2ebbcfbec78f5564afe39d'),

(6, 'jay678', 'f2ca1bb6c7e907d06dafe4687e579fce76b37e4e93b7605022da52e6ccc26fd2'),

(7, 'jolin901', '6b86b273ff34fce19d6b804eff5a3f5747ada4eaa22f1d49c01e52ddb7875b4b'),

(8, 'chiling234', 'd4735e3a265e16eee03f59718b9b5d03019c07d8b6c51f90da3a666eec13ab35'),

(9, 'jacky567', '4e07408562bedb8b60ce05c1decfe3ad16b72230967de01f640b7e4729b49fce'),

(10, 'vivian890', '4b227777d4dd1fc61c6f884f48641d02b4d121d3fd328cb08b5531fcacdabf8a'),

(11, 'takeshi123', 'ef2d127de37b942baad06145e54b0c619a1f22327b2ebbcfbec78f5564afe39d'),

(12, 'tony456', '7902699be42c8a8e46fbbb4501726517e86b22c56a189f7625a6da49081b2451'),

(13, 'maggie789', '2c26b46b68ffc68ff99b453c1d30413413422d706483bfa0f98a5e886266e7ae'),

(14, 'carina012', 'fcde2b2edba56bf408601fb721fe9b5c338d10ee429ea04fae5511b68fbf8fb9'),

(15, 'chow345', 'b94d27b9934d3e08a52e52d7da7dabfac484efe37a5380ee9088f7ace2efcde9'),

(16, 'jackie678', 'c0535e4be2b79ffd93291305436bf889314e4a3faec05ecffcbb7df31ad9e51a'),

(17, 'jet901', '6b51d431df5d7f141cbececcf79edf3dd861c3b4069f0b11661a3eefacbba918'),

(18, 'ziyi234', '9f86d081884c7d659a2feaa0c55ad015a3bf4f1b2b0b822cd15d6c15b0f00a08'),

(19, 'bingbing567', '8d969eef6ecad3c29a3a629280e686cf0c3f5d5a86aff3ca12020c923adc6c92'),

(20, 'miyang890', '15e2b0d3c33891ebb0f1ef609ec419420c20e320ce94c65fbc8c3312448eb225');

Accounts table:

|  |  |  |  |
| --- | --- | --- | --- |
| account\_id | user\_id | username | password |
| 1 | 1 | ming123 | 5e88489da280f7151d0e56f8dc62973603d0d6aabd62a11ef721d542d8 |
| 2 | 2 | hua456 | a665af5920422f9d417e4867efdc4fb8a41f3ff1fa07e998e86ff7a27ae3 |
| 3 | 3 | yong789 | d7a8fbb307d809469ca9abc60982e4f8d651e46d3cdb762d02d0bf37c9e592 |
| 4 | 4 | mei012 | 2cf24dba5fba30e26e83ba5b9e29e1b61e5c1fa7425e73043362938b9824 |
| 5 | 5 | dehua345 | ef2d127de37942baad06145e5b9c619a1f22327beebc7bef78f564afe39d |
| 6 | 6 | jay678 | f2cabb6c7e907d0afe487e579fce7b37e93b760922da52ecc26fd2 |
| 7 | 7 | jolin901 | 6b8b273ff34fce19d6b804eff5a3f574da1ea22f1d9c01e52dd7875b |
| 8 | 8 | chilly234 | d4735ea2651eee03f5971b9b5d019c7d8b6c51f9da3a66ee13ab35 |
| 9 | 9 | jacky567 | 4e07408562bed860ce05c1decfe3ad16b7230967de91f640b7e472b49fce |
| 10 | 10 | vivian890 | 4b27777d4dd1fc16c6f884f8641d02b112d3fd328cb08531fcacdafe8a |
| 11 | 11 | takeshi123 | 7f2d127de37942baad06145e54b0c619a1f22327beebc7bec78f554afe39d |
| 12 | 12 | tony456 | 7992699be42c8ae46fbbb501726517e6b22c56a189f7625a6da49081b2451 |
| 13 | 13 | maggie789 | 2c26b46b8ffc68ff99b453c1d0413413d2d706483bfa0f98a5e86266e7ae |
| 14 | 14 | carina012 | fcd2b2edbaf56bf408601fb721fe9b5c38d0ee429ea04ae5511b68fbf8fb |
| 15 | 15 | chow345 | b94d27b9934d3e08a52e52d7da7dabfac48ufe37a5380e908f7ace2fcde9 |
| 16 | 16 | jackie678 | c0535e4be2b79ffd93291305436bf889314e4a3faec05ecffcb7df31ad951a |
| 17 | 17 | jet901 | 6b51d431d5d7f141cbecfccf79edd861c3b4069f0b11661a3eefacbba918 |
| 18 | 18 | ziyi234 | 9f86d08188c7d659a2feaa0c55ad01a3bf41b2b0b822cd15d6c15b0f00a08 |
| 19 | 19 | bingbing567 | 8d969eef6ecad3c29a3a629280e686cf0c3f5d8a6af3ca1202c923adc6c92 |
| 20 | 20 | miyang890 | 15e2b0d3c33891ebb0f1ef609ec419420c20e30ce9465fbc8c31248eb225 |

3.#Table

INSERT INTO Tables ( table\_number, capacity, status) VALUES

(1, 4, 'Available'),

(2, 4, 'Available'),

(3, 6, 'Available'),

(4, 6, 'Available'),

(5, 8, 'Available'),

(6, 2, 'Occupied'),

(7, 2, 'Occupied'),

(8, 4, 'Reserved'),

(9, 4, 'Reserved'),

(10, 6, 'Available'),

(11, 6, 'Available'),

(12, 8, 'Available'),

(13, 10, 'Available'),

(14, 10, 'Available'),

(15, 12, 'Available'),

(16, 2, 'Occupied'),

(17, 4, 'Occupied'),

(18, 6, 'Reserved'),

(19, 8, 'Available'),

(20, 10, 'Available'),

(21, 4, 'Available'),

(22, 6, 'Available'),

(23, 8, 'Available'),

(24, 10, 'Available'),

(25, 12, 'Available');

’Table’ table:

|  |  |  |  |
| --- | --- | --- | --- |
| table\_id | table\_number | capacity | status |
| 1 | 1 | 4 | Available |
| 2 | 2 | 4 | Available |
| 3 | 3 | 6 | Available |
| 4 | 4 | 6 | Available |
| 5 | 5 | 8 | Available |
| 6 | 6 | 2 | Occupied |
| 7 | 7 | 2 | Occupied |
| 8 | 8 | 4 | Reserved |
| 9 | 9 | 4 | Reserved |
| 10 | 10 | 6 | Available |
| 11 | 11 | 6 | Available |
| 12 | 12 | 8 | Available |
| 13 | 13 | 10 | Available |
| 14 | 14 | 10 | Available |
| 15 | 15 | 12 | Available |
| 16 | 16 | 2 | Occupied |
| 17 | 17 | 4 | Occupied |
| 18 | 18 | 6 | Reserved |
| 19 | 19 | 8 | Available |
| 20 | 20 | 10 | Available |
| 21 | 21 | 4 | Available |
| 22 | 22 | 6 | Available |
| 23 | 23 | 8 | Available |
| 24 | 24 | 10 | Available |
| 25 | 25 | 12 | Available |

4.#Menu\_Categories:

INSERT INTO Menu\_Categories (category\_name) VALUES

('前菜'),

('湯品'),

('主菜'),

('海鮮'),

('素食'),

('甜點'),

('飲料'),

('酒精飲料'),

('兒童餐'),

( '套餐'),

('季節限定'),

('廚師推薦'),

('開胃菜'),

('沙拉'),

('麵食'),

('飯類'),

('披薩'),

('漢堡'),

('三明治'),

('早餐');

Menu\_Categories table:

|  |  |
| --- | --- |
| category\_id | category\_name |
| 1 | 廚房 |
| 2 | 湯品 |
| 3 | 主菜 |
| 4 | 海鮮 |
| 5 | 素食 |
| 6 | 甜點 |
| 7 | 飲料 |
| 8 | 酒精飲料 |
| 9 | 兒童餐 |
| 10 | 套餐 |
| 11 | 季節限定 |
| 12 | 廚師推薦 |
| 13 | 開胃菜 |
| 14 | 沙拉 |
| 15 | 麵食 |
| 16 | 飯類 |
| 17 | 披薩 |
| 18 | 餐點 |
| 19 | 三明治 |
| 20 | 早餐 |

5#Menu\_Items:

INSERT INTO Menu\_Items (category\_id, item\_name, description, price, availability) VALUES

(1, '凱撒沙拉', '新鮮羅蔓生菜搭配凱撒醬', 180, 'Available'),

(1, '洋蔥圈', '酥炸洋蔥圈', 120, 'Available'),

(2, '玉米濃湯', '香濃玉米湯', 90, 'Available'),

(2, '蘑菇濃湯', '新鮮蘑菇熬煮', 100, 'Available'),

(3, '菲力牛排', '8oz 澳洲菲力', 580, 'Available'),

(3, '肋眼牛排', '10oz 美國肋眼', 650, 'Available'),

(4, '香煎鮭魚', '挪威鮭魚佐檸檬醬', 420, 'Available'),

(4, '蒜香大蝦', '新鮮大蝦蒜香炒', 380, 'Available'),

(5, '蔬菜千層麵', '多種蔬菜與起司', 320, 'Available'),

(5, '蘑菇燉飯', '義大利米與綜合菇類', 280, 'Available'),

(6, '提拉米蘇', '經典義式甜點', 150, 'Available'),

(6, '巧克力熔岩', '熱巧克力蛋糕', 160, 'Available'),

(7, '可樂', '冰涼可樂', 60, 'Available'),

(7, '檸檬紅茶', '新鮮檸檬紅茶', 70, 'Available'),

(8, '紅酒', 'House Wine', 180, 'Available'),

(8, '啤酒', '台灣啤酒', 120, 'Available'),

(9, '兒童餐', '雞塊+薯條+果汁', 200, 'Available'),

(10, '商業午餐', '主菜+湯+飲料', 350, 'Available'),

(11, '季節水果沙拉', '當季新鮮水果', 180, 'Out of Stock'),

(12, '主廚特選', '每日主廚推薦', 450, 'Available');

Menu\_Items table:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| item\_id | category\_id | item\_name | description | price | availability |
| 1 | 1 | 燉湯沙拉 | 新鮮蘿蔔生菜搭配乳醬 | 180 | Available |
| 2 | 1 | 洋蔥圈 | 酥炸洋蔥圈 | 120 | Available |
| 3 | 2 | 玉米濃湯 | 香濃玉米濃湯 | 90 | Available |
| 4 | 2 | 蘑菇濃湯 | 新鮮蘑菇蒸煮 | 100 | Available |
| 5 | 3 | 菲力牛排 | 10oz 美國肋眼 | 580 | Available |
| 6 | 3 | 雞腿牛排 | 100z 美國肋眼 | 550 | Available |
| 7 | 4 | 香煎鮭魚 | 新鮮大廚蒸煮 | 420 | Available |
| 8 | 4 | 蒸鮮大蝦 | 多種蔬果與配料 | 380 | Available |
| 9 | 5 | 蔬菜千層麵 | 素食蔬果與配料 | 320 | Available |
| 10 | 5 | 蘑菇燉飯 | 義大利米與綜合菇類 | 280 | Available |
| 11 | 6 | 焦糖米糕 | 焦糖醬搭配麵點 | 150 | Available |
| 12 | 6 | 巧克力熔岩 | 熱巧克力蛋糕 | 160 | Available |
| 13 | 7 | 可樂 | 冰涼可樂 | 60 | Available |
| 14 | 7 | 檸檬紅茶 | 新鮮檸檬紅茶 | 70 | Available |
| 15 | 8 | 紅酒 | House Wine | 180 | Available |
| 16 | 8 | 啤酒 | 公釀啤酒 | 120 | Available |
| 17 | 9 | 兒童雞塊 | 雞塊+薯條+果汁 | 200 | Available |
| 18 | 10 | 商業午餐 | 主菜+湯+飲料 | 350 | Available |
| 19 | 11 | 季節水果沙拉 | 當季新鮮水果 | 180 | Out of Stock |
| 20 | 12 | 主廚特選 | 每日主廚推薦 | 450 | Available |

6#Orders:

INSERT INTO Orders ( user\_id, table\_id, order\_status, order\_time, total\_price) VALUES

(1, 1, 'Completed', '2023-02-01 12:00:00', 760),

(2, 2, 'Completed', '2023-02-01 12:30:00', 920),

(3, 3, 'Completed', '2023-02-01 13:00:00', 1240),

(4, 4, 'Completed', '2023-02-02 11:30:00', 580),

(5, 5, 'Completed', '2023-02-02 12:00:00', 1050),

(6, 6, 'Completed', '2023-02-02 12:30:00', 680),

(7, 7, 'Completed', '2023-02-03 13:00:00', 840),

(8, 8, 'Completed', '2023-02-03 18:00:00', 960),

(9, 9, 'Completed', '2023-02-03 18:30:00', 720),

(10, 10, 'Completed', '2023-02-04 19:00:00', 1100),

(11, 11, 'In Progress', '2023-02-04 19:30:00', 780),

(12, 12, 'In Progress', '2023-02-05 12:00:00', 920),

(13, 13, 'Pending', '2023-02-05 12:30:00', 640),

(14, 14, 'Pending', '2023-02-05 13:00:00', 580),

(15, 15, 'Cancelled', '2023-02-06 18:00:00', 0),

(16, 16, 'Completed', '2023-02-06 18:30:00', 840),

(17, 17, 'Completed', '2023-02-07 19:00:00', 960),

(18, 18, 'Completed', '2023-02-07 19:30:00', 720),

(19, 19, 'Completed', '2023-02-08 20:00:00', 1100),

(20, 20, 'Completed', '2023-02-08 20:30:00', 780);

Orders table:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| order\_id | user\_id | table\_id | order\_status | order\_time | total\_price |
| 1 | 1 | 1 | Completed | 2023-02-01 12:00:00 | 760 |
| 2 | 2 | 2 | Completed | 2023-02-01 12:30:00 | 920 |
| 3 | 3 | 3 | Completed | 2023-02-01 13:00:00 | 1240 |
| 4 | 4 | 4 | Completed | 2023-02-02 11:30:00 | 580 |
| 5 | 5 | 5 | Completed | 2023-02-02 12:00:00 | 1050 |
| 6 | 6 | 6 | Completed | 2023-02-02 12:30:00 | 680 |
| 7 | 7 | 7 | Completed | 2023-02-03 13:00:00 | 840 |
| 8 | 8 | 8 | Completed | 2023-02-03 18:00:00 | 960 |
| 9 | 9 | 9 | Completed | 2023-02-03 18:30:00 | 720 |
| 10 | 10 | 10 | Completed | 2023-02-04 19:00:00 | 1100 |
| 11 | 11 | 11 | In Progress | 2023-02-04 19:30:00 | 780 |
| 12 | 12 | 12 | In Progress | 2023-02-05 12:00:00 | 920 |
| 13 | 13 | 13 | Pending | 2023-02-05 12:30:00 | 640 |
| 14 | 14 | 14 | Pending | 2023-02-05 13:00:00 | 580 |
| 15 | 15 | 15 | Cancelled | 2023-02-06 18:00:00 | 0 |
| 16 | 16 | 16 | Completed | 2023-02-06 18:30:00 | 840 |
| 17 | 17 | 17 | Completed | 2023-02-07 19:00:00 | 960 |
| 18 | 18 | 18 | Completed | 2023-02-07 19:30:00 | 720 |
| 19 | 19 | 19 | Completed | 2023-02-08 20:00:00 | 1100 |
| 20 | 20 | 20 | Completed | 2023-02-08 20:30:00 | 780 |

7#Order\_Items:

INSERT INTO Order\_Items ( order\_id, item\_id, quantity) VALUES

(1, 5, 1),

(1, 15, 1),

(2, 6, 1),

(2, 16, 2),

(3, 7, 2),

(3, 8, 1),

(4, 5, 1),

(5, 6, 1),

(5, 7, 1),

(6, 9, 2),

(6, 13, 2),

(7, 10, 1),

(7, 5, 1),

(8, 6, 1),

(8, 10, 1),

(9, 7, 1),

(9, 9, 1),

(10, 5, 2),

(11, 6, 1),

(11, 7, 1),

Order\_Items table:

|  |  |  |  |
| --- | --- | --- | --- |
| order\_item\_id | order\_id | item\_id | quantity |
| 1 | 1 | 5 | 1 |
| 2 | 1 | 15 | 1 |
| 3 | 2 | 6 | 1 |
| 4 | 2 | 16 | 2 |
| 5 | 3 | 7 | 2 |
| 6 | 3 | 8 | 1 |
| 7 | 4 | 5 | 1 |
| 8 | 4 | 6 | 1 |
| 9 | 5 | 7 | 1 |
| 10 | 6 | 9 | 2 |
| 11 | 6 | 13 | 2 |
| 12 | 7 | 10 | 1 |
| 13 | 7 | 5 | 1 |
| 14 | 8 | 6 | 1 |
| 15 | 8 | 10 | 1 |
| 16 | 9 | 7 | 1 |
| 17 | 9 | 9 | 1 |
| 18 | 10 | 5 | 2 |
| 19 | 11 | 6 | 1 |
| 20 | 11 | 7 | 1 |

8#Reservations:

INSERT INTO Reservations (user\_id, table\_id, reservation\_time, status) VALUES

(1, 1, '2023-03-01 12:00:00', 'Confirmed'),

(2, 2, '2023-03-01 12:30:00', 'Confirmed'),

(3, 3, '2023-03-01 13:00:00', 'Confirmed'),

(4, 4, '2023-03-02 18:00:00', 'Confirmed'),

(5, 5, '2023-03-02 18:30:00', 'Confirmed'),

(6, 6, '2023-03-03 19:00:00', 'Confirmed'),

(7, 7, '2023-03-03 19:30:00', 'Confirmed'),

(8, 8, '2023-03-04 20:00:00', 'Confirmed'),

(9, 9, '2023-03-04 20:30:00', 'Confirmed'),

(10, 10, '2023-03-05 12:00:00', 'Confirmed'),

(11, 11, '2023-03-05 12:30:00', 'Pending'),

(12, 12, '2023-03-06 13:00:00', 'Pending'),

(13, 13, '2023-03-06 18:00:00', 'Pending'),

(14, 14, '2023-03-07 18:30:00', 'Pending'),

(15, 15, '2023-03-07 19:00:00', 'Cancelled'),

(16, 16, '2023-03-08 19:30:00', 'Confirmed'),

(17, 17, '2023-03-08 20:00:00', 'Confirmed'),

(18, 18, '2023-03-09 20:30:00', 'Confirmed'),

(19, 19, '2023-03-10 12:00:00', 'Confirmed'),

(20, 20, '2023-03-10 12:30:00', 'Confirmed');

Reservations table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| reservation\_id | user\_id | table\_id | reservation\_time | status |
| 1 | 1 | 1 | 2023-03-01 12:00:00 | Confirmed |
| 2 | 2 | 2 | 2023-03-01 12:30:00 | Confirmed |
| 3 | 3 | 3 | 2023-03-01 13:00:00 | Confirmed |
| 4 | 4 | 4 | 2023-03-02 18:00:00 | Confirmed |
| 5 | 5 | 5 | 2023-03-02 18:30:00 | Confirmed |
| 6 | 6 | 6 | 2023-03-03 19:00:00 | Confirmed |
| 7 | 7 | 7 | 2023-03-03 19:30:00 | Confirmed |
| 8 | 8 | 8 | 2023-03-04 20:00:00 | Confirmed |
| 9 | 9 | 9 | 2023-03-04 20:30:00 | Confirmed |
| 10 | 10 | 10 | 2023-03-05 12:00:00 | Confirmed |
| 11 | 11 | 11 | 2023-03-05 12:30:00 | Pending |
| 12 | 12 | 12 | 2023-03-06 13:00:00 | Pending |
| 13 | 13 | 13 | 2023-03-06 18:00:00 | Pending |
| 14 | 14 | 14 | 2023-03-07 18:30:00 | Pending |
| 15 | 15 | 15 | 2023-03-07 19:00:00 | Cancelled |
| 16 | 16 | 16 | 2023-03-08 19:30:00 | Confirmed |
| 17 | 17 | 17 | 2023-03-08 20:00:00 | Confirmed |
| 18 | 18 | 18 | 2023-03-09 20:30:00 | Confirmed |
| 19 | 19 | 19 | 2023-03-10 12:00:00 | Confirmed |
| 20 | 20 | 20 | 2023-03-10 12:30:00 | Confirmed |

9#Staff:

INSERT INTO Staff (user\_id, position, salary, hire\_date) VALUES

(1, 'Waiter', 32000, '2022-01-15 09:00:00'),

(2, 'Chef', 55000, '2021-11-20 08:30:00'),

(3, 'Waiter', 30000, '2022-03-10 10:00:00'),

(4, 'Manager', 45000, '2021-09-05 08:00:00'),

(5, 'Manager', 31000, '2022-05-12 09:30:00'),

(6, 'Waiter', 30500, '2022-06-18 10:00:00'),

(7, 'Chef', 46000, '2021-08-22 08:00:00'),

(8, 'Waiter', 31500, '2022-07-25 09:00:00'),

(9, 'Waiter', 58000, '2021-07-15 08:30:00'),

(10, 'Chef', 47000, '2021-10-30 08:00:00'),

Staff table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| staff\_id | user\_id | position | salary | hire\_date |
| 1 | 1 | Waiter | 32000 | 2022-01-15 09:00:00 |
| 2 | 2 | Chef | 55000 | 2021-11-20 08:30:00 |
| 3 | 3 | Waiter | 30000 | 2022-03-10 10:00:00 |
| 4 | 4 | Manager | 45000 | 2021-09-05 08:00:00 |
| 5 | 5 | Manager | 31000 | 2022-05-12 09:30:00 |
| 6 | 6 | Waiter | 30500 | 2022-06-18 10:00:00 |
| 7 | 7 | Chef | 46000 | 2021-08-22 08:00:00 |
| 8 | 8 | Waiter | 31500 | 2022-07-25 09:00:00 |
| 9 | 9 | Waiter | 58000 | 2021-07-15 08:30:00 |
| 10 | 10 | Chef | 47000 | 2021-10-30 08:00:00 |

10#Payments:

INSERT INTO Payments ( order\_id, payment\_method, payment\_status, payment\_time) VALUES

(1, 'Credit Card', 'Paid', '2023-02-01 12:30:00'),

(2, 'Cash', 'Paid', '2023-02-01 13:00:00'),

(3, 'online payment', 'Paid', '2023-02-01 13:30:00'),

(4, 'Credit Card', 'Paid', '2023-02-02 12:00:00'),

(5, 'Cash', 'Paid', '2023-02-02 12:30:00'),

(6, 'online payment', 'Paid', '2023-02-02 13:00:00'),

(7, 'Credit Card', 'Paid', '2023-02-03 13:30:00'),

(8, 'Cash', 'Paid', '2023-02-03 18:30:00'),

(9, 'online payment', 'Paid', '2023-02-03 19:00:00'),

(10, 'Credit Card', 'Paid', '2023-02-04 19:30:00'),

(11, 'Cash', 'Pending', NULL),

(12, 'online payment', 'Pending', NULL),

(13, 'Credit Card', 'Pending', NULL),

(14, 'Cash', 'Pending', NULL),

(15, 'online payment', 'Failed', '2023-02-06 18:15:00'),

(16, 'Credit Card', 'Paid', '2023-02-06 19:00:00'),

(17, 'Cash', 'Paid', '2023-02-07 19:30:00'),

(18, 'online payment', 'Paid', '2023-02-07 20:00:00'),

(19, 'Credit Card', 'Paid', '2023-02-08 20:30:00'),

(20, 'Cash', 'Paid', '2023-02-08 21:00:00');

Payments table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| payment\_id | order\_id | payment\_method | payment\_status | payment\_time |
| 1 | 1 | Credit Card | Paid | 2023-02-01 12:30:00 |
| 2 | 2 | Cash | Paid | 2023-02-01 13:00:00 |
| 3 | 3 | Online payment | Paid | 2023-02-01 13:30:00 |
| 4 | 4 | Credit Card | Paid | 2023-02-02 12:00:00 |
| 5 | 5 | Cash | Paid | 2023-02-02 12:30:00 |
| 6 | 6 | Online payment | Paid | 2023-02-02 13:00:00 |
| 7 | 7 | Credit Card | Paid | 2023-02-03 13:30:00 |
| 8 | 8 | Cash | Paid | 2023-02-03 18:30:00 |
| 9 | 9 | Online payment | Paid | 2023-02-03 19:00:00 |
| 10 | 10 | Credit Card | Paid | 2023-02-04 19:30:00 |
| 11 | 11 | Cash | Pending | NULL |
| 12 | 12 | Online payment | Pending | NULL |
| 13 | 13 | Credit Card | Pending | NULL |
| 14 | 14 | Cash | Pending | NULL |
| 15 | 15 | Online payment | Failed | 2023-02-06 18:15:00 |
| 16 | 16 | Credit Card | Paid | 2023-02-06 19:00:00 |
| 17 | 17 | Cash | Paid | 2023-02-07 19:30:00 |
| 18 | 18 | Online payment | Paid | 2023-02-07 20:00:00 |
| 19 | 19 | Credit Card | Paid | 2023-02-08 20:30:00 |
| 20 | 20 | Cash | Paid | 2023-02-08 21:00:00 |

11#Attendance:

INSERT INTO Attendance (staff\_id, check\_in\_time, check\_out\_time) VALUES

(1, '2023-02-01 08:00:00', '2023-02-01 17:00:00'),

(2, '2023-02-01 08:30:00', '2023-02-01 18:00:00'),

(3, '2023-02-01 09:00:00', '2023-02-01 17:30:00'),

(4, '2023-02-01 07:30:00', '2023-02-01 16:30:00'),

(5, '2023-02-01 08:00:00', '2023-02-01 17:00:00'),

(6, '2023-02-01 09:00:00', '2023-02-01 18:00:00'),

(7, '2023-02-01 07:00:00', '2023-02-01 16:00:00'),

(8, '2023-02-01 08:30:00', '2023-02-01 17:30:00'),

(9, '2023-02-01 08:00:00', '2023-02-01 18:00:00'),

(10, '2023-02-01 07:30:00', '2023-02-01 16:30:00'),

(11, '2023-02-02 08:00:00', '2023-02-02 17:00:00'),

(12, '2023-02-02 09:00:00', '2023-02-02 18:00:00'),

(13, '2023-02-02 07:30:00', '2023-02-02 16:30:00'),

(14, '2023-02-02 08:00:00', '2023-02-02 17:00:00'),

(15, '2023-02-02 08:30:00', '2023-02-02 18:00:00'),

(16, '2023-02-02 07:00:00', '2023-02-02 16:00:00'),

(17, '2023-02-02 08:00:00', '2023-02-02 17:30:00'),

(18, '2023-02-02 09:00:00', '2023-02-02 18:00:00'),

(19, '2023-02-02 07:30:00', '2023-02-02 16:30:00'),

(20, '2023-02-02 08:00:00', '2023-02-02 17:00:00');

Attendance table:

|  |  |  |  |
| --- | --- | --- | --- |
| attendance\_id | staff\_id | check\_in\_time | check\_out\_time |
| 1 | 1 | 2023-02-01 08:00:00 | 2023-02-01 17:00:00 |
| 2 | 2 | 2023-02-01 08:30:00 | 2023-02-01 18:00:00 |
| 3 | 3 | 2023-02-01 09:00:00 | 2023-02-01 17:30:00 |
| 4 | 4 | 2023-02-01 07:30:00 | 2023-02-01 16:30:00 |
| 5 | 5 | 2023-02-01 08:00:00 | 2023-02-01 17:00:00 |
| 6 | 6 | 2023-02-01 09:00:00 | 2023-02-01 18:00:00 |
| 7 | 7 | 2023-02-01 07:00:00 | 2023-02-01 16:00:00 |
| 8 | 8 | 2023-02-01 08:30:00 | 2023-02-01 17:30:00 |
| 9 | 9 | 2023-02-01 08:00:00 | 2023-02-01 18:00:00 |
| 10 | 1 | 2023-02-01 07:30:00 | 2023-02-01 16:30:00 |
| 11 | 2 | 2023-02-02 08:00:00 | 2023-02-02 17:00:00 |
| 12 | 3 | 2023-02-02 09:00:00 | 2023-02-02 18:00:00 |
| 13 | 4 | 2023-02-02 07:30:00 | 2023-02-02 16:30:00 |
| 14 | 5 | 2023-02-02 08:00:00 | 2023-02-02 17:00:00 |
| 15 | 6 | 2023-02-02 08:30:00 | 2023-02-02 18:00:00 |
| 16 | 7 | 2023-02-02 07:00:00 | 2023-02-02 16:00:00 |
| 17 | 8 | 2023-02-02 08:00:00 | 2023-02-02 17:30:00 |
| 18 | 9 | 2023-02-02 09:00:00 | 2023-02-02 18:00:00 |
| 19 | 10 | 2023-02-02 07:30:00 | 2023-02-02 16:30:00 |
| 20 | 1 | 2023-02-02 08:00:00 | 2023-02-02 17:00:00 |

12#Suppliers:

INSERT INTO Suppliers (supplier\_name, contact\_info, address) VALUES

('台灣農產', '02-12345678', '台北市中山區農安街100號'),

('海鮮大王', '02-23456789', '台北市萬華區華西街200號'),

('肉品專家', '02-34567890', '新北市三重區重新路三段300號'),

('冷凍食品', '02-45678901', '新北市中和區中山路二段400號'),

('飲料供應商', '02-56789012', '桃園市桃園區中正路500號'),

('調味料專賣', '03-12345678', '新竹市東區光復路一段600號'),

('蔬菜直送', '03-23456789', '苗栗縣苗栗市中山路700號'),

('水果批發', '04-12345678', '台中市西區公益路800號'),

('烘焙原料', '04-23456789', '台中市北區三民路三段900號'),

('有機食品', '05-12345678', '台南市東區崇學路1000號'),

('進口食材', '05-23456789', '台南市安平區永華路二段1100號'),

('乳製品供應', '06-12345678', '高雄市前金區成功一路1200號'),

('米糧批發', '06-23456789', '高雄市苓雅區四維三路1300號'),

('香料專賣', '07-12345678', '屏東市中山路1400號'),

('酒類供應', '07-23456789', '宜蘭縣宜蘭市中山路五段1500號'),

('咖啡豆專賣', '08-12345678', '花蓮縣花蓮市中山路1600號'),

('茶葉供應', '08-23456789', '台東縣台東市中山路1700號'),

('有機蔬菜', '049-123456', '南投縣草屯鎮中正路1800號'),

('海鮮批發', '049-234567', '彰化縣彰化市中正路二段1900號'),

('肉品批發', '049-345678', '雲林縣斗六市中山路2000號');

Suppliers table:

|  |  |  |  |
| --- | --- | --- | --- |
| supplier\_id | supplier\_name | contact\_info | address |
| 1 | 台灣農產 | 02-12345678 | 台北市中山區農安街100號 |
| 2 | 海鮮大王 | 02-23456789 | 台北市萬華區華西街200號 |
| 3 | 肉品專家 | 02-34567890 | 新北市三重區重新南路300號 |
| 4 | 冷凍食品 | 02-45678901 | 新北市中和區中正路400號 |
| 5 | 飲料供應商 | 02-56789012 | 桃園市桃園區中正路500號 |
| 6 | 蔬果貿易 | 03-12345678 | 苗栗縣苗栗市中正路600號 |
| 7 | 蔬菜直送 | 03-23456789 | 台中市西屯區公益路700號 |
| 8 | 水果批發 | 04-12345678 | 台中市北屯區公館路800號 |
| 9 | 烘焙原料 | 04-23456789 | 台南市東區國華街900號 |
| 10 | 有機食品 | 05-12345678 | 台南市中西區中正路1000號 |
| 11 | 進口食材 | 05-23456789 | 高雄市前金區中山路1100號 |
| 12 | 調味品供應 | 06-12345678 | 高雄市左營區博愛路1200號 |
| 13 | 米糧批發 | 06-23456789 | 屏東縣屏東市民族路1300號 |
| 14 | 香料專賣 | 07-12345678 | 花蓮市花蓮街1400號 |
| 15 | 酒類供應 | 07-23456789 | 花蓮市中華路1500號 |
| 16 | 咖啡豆貿易 | 08-12345678 | 台北市松山區八德路1600號 |
| 17 | 茶葉批發 | 08-23456789 | 台北市信義區松壽路1700號 |
| 18 | 奶製品專家 | 049-123456 | 南投縣埔里鎮中正路1800號 |
| 19 | 海鮮批發 | 049-234567 | 南投縣埔里鎮民族路1900號 |
| 20 | 肉品批發 | 049-345678 | 台東縣台東市中正路2000號 |

13#Inventory:

IINSERT INTO Inventory (item\_name, stock\_quantity, supplier\_id, last\_checker) VALUES

('牛肉', 50, 3, 1),

('豬肉', 60, 3, 5),

('雞肉', 70, 3, 1),

('鮭魚', 30, 2, 8),

('蝦仁', 40, 2, 7),

('生菜', 100, 1, 2),

('番茄', 80, 1, 8),

('洋蔥', 90, 1, 5),

('蘑菇', 60, 1, 10),

('義大利麵', 50, 2),

('米', 200, 13, 3),

('起司', 40, 12, 3),

('奶油', 30, 12, 4),

('牛奶', 50, 12, 5),

('咖啡豆', 20, 16, 7),

('茶葉', 30, 17, 7),

('紅酒', 40, 15, 2),

('啤酒', 60, 5, 2),

('可樂', 100, 5, 3),

('檸檬', 50, 7, 3),

('鹽', 40, 6, 3),

('胡椒', 30, 14, 4),

('橄欖油', 20, 6, 4),

('麵粉', 50, 9, 4);

Inventory table:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Inventory  \_id | item\_  name | stock\_  quantity | supplier\_  id | last\_check\_  time | last\_  checker |
| 1 | 牛肉 | 50 | 3 | 2025-06-12 15:48:34 | 6 |
| 2 | 豬肉 | 60 | 3 | 2025-06-12 15:48:34 | 7 |
| 3 | 雞肉 | 70 | 3 | 2025-06-12 15:48:34 | 7 |
| 4 | 鮮魚 | 30 | 2 | 2025-06-12 15:48:34 | 4 |
| 5 | 蝦仁 | 40 | 2 | 2025-06-12 15:48:34 | 9 |
| 6 | 生菜 | 100 | 1 | 2025-06-12 15:48:34 | 10 |
| 7 | 番茄 | 80 | 1 | 2025-06-12 15:48:34 | 4 |
| 8 | 洋蔥 | 90 | 1 | 2025-06-12 15:48:34 | 1 |
| 9 | 蘑菇 | 60 | 1 | 2025-06-12 15:48:34 | 9 |
| 10 | 蘿蔔 | 50 | 6 | 2025-06-12 15:48:34 | 5 |
| 11 | 米 | 200 | 13 | 2025-06-12 15:48:34 | 8 |
| 12 | 麵包 | 40 | 12 | 2025-06-12 15:48:34 | 1 |
| 13 | 奶油 | 30 | 12 | 2025-06-12 15:48:34 | 3 |
| 14 | 牛奶 | 50 | 12 | 2025-06-12 15:48:34 | 1 |
| 15 | 咖啡豆 | 20 | 16 | 2025-06-12 15:48:34 | 4 |
| 16 | 茶葉 | 30 | 17 | 2025-06-12 15:48:34 | 9 |
| 17 | 紅酒 | 40 | 15 | 2025-06-12 15:48:34 | 10 |
| 18 | 啤酒 | 60 | 5 | 2025-06-12 15:48:34 | 1 |
| 19 | 可樂 | 100 | 5 | 2025-06-12 15:48:34 | 8 |
| 20 | 檸檬汁 | 50 | 7 | 2025-06-12 15:48:34 | 6 |
| 21 | 鹽 | 30 | 6 | 2025-06-12 15:48:34 | 5 |
| 22 | 糖 | 40 | 6 | 2025-06-12 15:48:34 | 5 |
| 23 | 胡椒 | 30 | 14 | 2025-06-12 15:48:34 | 9 |
| 24 | 醋 | 20 | 6 | 2025-06-12 15:48:34 | 1 |
| 25 | 醬油 | 50 | 9 | 2025-06-12 15:48:34 | 8 |

七、 View-說明

庫存預警

CREATE VIEW Low\_Stock\_Alert AS

SELECT

i.item\_name AS 物品名稱,

i.stock\_quantity AS 當前庫存,

s.supplier\_name AS 供應商,

s.contact\_info AS 聯絡方式,

s.address AS 供應商地址,

CASE

WHEN i.stock\_quantity < 10 THEN '緊急補貨'

WHEN i.stock\_quantity < 20 THEN '需要補貨'

ELSE '庫存充足'

END AS 庫存狀態

FROM

Inventory i

JOIN

Suppliers s ON i.supplier\_id = s.supplier\_id

WHERE

i.stock\_quantity < 20

ORDER BY

i.stock\_quantity ASC;

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 物品名稱 | 訂單庫存 | 供應商 | 聯絡方式 | 供應地址 | 庫存狀態 |
| 生菜 | 9 | 台灣農產 | 02-12345678 | 台北市中山區農安街100號 | 緊急補貨 |
| 咖啡豆 | 9 | 咖啡豆貿易 | 08-12345678 | 台北市松山區八德路1600號 | 緊急補貨 |
| 蘑菇 | 9 | 蘑菇專賣 | 03-12345678 | 台中市西屯區公益路700號 | 緊急補貨 |
| 蒸大利麵 | 15 | 義大利麵專賣 | 03-12345678 | 台中市北屯區公館路800號 | 緊急補貨 |
| 牛奶 | 17 | 牛奶專家 | 06-23456789 | 花蓮市中華路1500號 | 緊急補貨 |
| 檸檬汁 | 18 | 檸檬汁專家 | 03-12345678 | 高雄市左營區博愛路1200號 | 緊急補貨 |
| 調味料專賣 | 18 | 調味料專家 | 03-12345678 | 屏東縣屏東市民族路1300號 | 緊急補貨 |

今日訂單總覽:

CREATE VIEW Today\_Orders\_Summary AS

SELECT

o.order\_id AS 訂單編號,

t.table\_number AS 桌號,

o.total\_price AS 總金額,

o.order\_time AS 下單時間

FROM

Orders o

JOIN

Tables t ON o.table\_id = t.table\_id

JOIN

Order\_Items oi ON o.order\_id = oi.order\_id

WHERE

DATE(o.order\_time) = CURDATE()

GROUP BY

o.order\_id

ORDER BY

o.order\_id ASC;

|  |  |  |  |
| --- | --- | --- | --- |
| 訂單編號 | 桌號 | 總金額 | 下單時間 |
| 17 | 17 | 960 | 2025-06-10 19:00:00 |
| 18 | 18 | 720 | 2025-06-10 19:30:00 |
| 19 | 19 | 1100 | 2025-06-10 20:00:00 |
| 20 | 20 | 780 | 2025-06-10 20:30:00 |

菜單總覽

CREATE VIEW Menu AS

SELECT

mi.item\_name,

mi.description,

mi.price,

mc.category\_name

FROM

Menu\_Items mi

JOIN

Menu\_Categories mc ON mi.category\_id =

mc.category\_id

WHERE

mi.availability = 'Available';

|  |  |  |  |
| --- | --- | --- | --- |
| item\_name | description | price | category\_name |
| 乳酪沙拉 | 新鮮羅曼生菜搭配乳酪醬 | 180 | 前菜 |
| 洋蔥圈 | 酥炸洋蔥圈 | 120 | 前菜 |
| 玉米濃湯 | 香濃玉米湯 | 90 | 湯品 |
| 蘑菇濃湯 | 新鮮蘑菇熬煮 | 100 | 湯品 |
| 菲力牛排 | 8oz 澳洲菲力 | 580 | 主菜 |
| 肋眼牛排 | 10oz 美國肋眼 | 650 | 主菜 |
| 香煎鮭魚 | 挪威鮭魚佐檸檬醬 | 420 | 海鮮 |
| 炸蝦大蝦 | 新鮮大蝦酥炸 | 380 | 海鮮 |
| 義大利麵 | 多種蔬菜與起司 | 320 | 義式 |
| 雞肉炒飯 | 泰式雞肉炒飯 | 280 | 泰式 |
| 烤羊排 | 紐西蘭烤羊排 | 150 | 甜點 |
| 布丁 | 焦糖布丁蛋糕 | 160 | 甜點 |
| 可樂 | 冰涼可樂 | 60 | 飲料 |
| 橙汁 | 新鮮榨取橙汁 | 70 | 飲料 |
| 檸檬紅茶 | House Wine | 180 | 酒精飲料 |
| 蘋果汁 | 台灣蘋果汁 | 120 | 酒精飲料 |
| 紅酒 | 羅馬十週年紀念 | 200 | 紅酒 |
| 白酒 | 生菜+湯+飲料 | 350 | 白酒 |
| 啤酒 | 每日主廚推薦 | 450 | 啤酒 |

熱門菜單項目:

CREATE VIEW Popular\_Menu\_Items AS

SELECT

mi.item\_name AS 菜單項目,

mc.category\_name AS 類別,

mi.price AS 價格,

SUM(oi.quantity) AS 總銷售量,

COUNT(DISTINCT o.order\_id) AS 訂單次數,

(SUM(oi.quantity) \* mi.price) AS 總收入

FROM

Menu\_Items mi

JOIN

Menu\_Categories mc ON mi.category\_id = mc.category\_id

JOIN

Order\_Items oi ON mi.item\_id = oi.item\_id

JOIN

Orders o ON oi.order\_id = o.order\_id

WHERE

o.order\_status = 'Completed'

GROUP BY

mi.item\_id

ORDER BY

總銷售量 DESC

LIMIT 10;

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 菜單項目 | 類別 | 價格 | 總銷售量 | 訂單次數 | 總收入 |
| 菲力牛排 | 生菜 | 580 | 5 | 4 | 2900 |
| 肋眼牛排 | 海鮮 | 480 | 4 | 3 | 1960 |
| 香煎鮭魚 | 生菜 | 420 | 4 | 3 | 1680 |
| 炸蝦大蝦 | 蔬菜 | 650 | 3 | 3 | 1950 |
| 義大利麵 | 蒸食 | 320 | 3 | 2 | 960 |
| 雞肉炒飯 | 蒸食 | 280 | 2 | 2 | 560 |
| 烤羊排 | 酒精飲料 | 120 | 2 | 1 | 240 |
| 布丁 | 飲料 | 60 | 2 | 1 | 120 |
| 可樂 | 海鮮 | 180 | 1 | 1 | 180 |
| 橙汁 | 海鮮 | 380 | 1 | 1 | 380 |

每月銷售報表:

CREATE VIEW Monthly\_Sales\_Report AS

SELECT

DATE\_FORMAT(o.order\_time, '%Y-%m') AS 月份,

COUNT(o.order\_id) AS 訂單總數,

(SELECT COUNT(\*) FROM Orders WHERE order\_status = 'Cancelled'

AND DATE\_FORMAT(order\_time, '%Y-%m') = DATE\_FORMAT(o.order\_time, '%Y-%m')) AS 取消訂單數,

(SELECT SUM(total\_price) FROM Orders WHERE order\_status = 'Completed'

AND DATE\_FORMAT(order\_time, '%Y-%m') = DATE\_FORMAT(o.order\_time, '%Y-%m')) AS 完成訂單總額, (

SELECT p.payment\_method

FROM Payments p

JOIN Orders o2 ON p.order\_id = o2.order\_id

WHERE DATE\_FORMAT(o2.order\_time, '%Y-%m') = DATE\_FORMAT(o.order\_time, '%Y-%m')

GROUP BY p.payment\_method

ORDER BY COUNT(p.payment\_id) DESC

LIMIT 1 ) AS 最常用支付方式

FROM

Orders o

GROUP BY

DATE\_FORMAT(o.order\_time, '%Y-%m')

ORDER BY

月份 DESC;

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 月份 | 訂單總數 | 取消訂單數 | 完成訂單總額 | 費用支付方式 |
| 2025-06 | 4 | 0 | 3560 | Cash |
| 2022-02 | 16 | 1 | 9690 | Credit Card |

待處理訂位:

CREATE VIEW Pending\_Reservations\_View AS

SELECT

r.reservation\_id AS 預訂編號,

u.name AS 客戶姓名,

u.phone\_number AS 客戶電話,

t.table\_number AS 桌號,

t.capacity AS 座位數,

r.reservation\_time AS 預訂時間,

r.status AS 預訂狀態

FROM

Reservations r

JOIN

Users u ON r.user\_id = u.user\_id

JOIN

Tables t ON r.table\_id = t.table\_id

WHERE

r.status = 'Pending'

ORDER BY

r.reservation\_time ASC;

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 訂單編號 | 客戶名稱 | 客戶電話 | 桌號 | 座位數 | 預定時間 | 定位狀態 |
| 11 | 金城武 | 0922233445 | 11 | 6 | 2023-03-05 12:30:00 | Pending |
| 12 | 梁朝偉 | 0933344556 | 12 | 8 | 2023-03-06 13:00:00 | Pending |
| 13 | 張靚玉 | 0944455667 | 13 | 10 | 2023-03-06 18:00:00 | Pending |
| 14 | 劉嘉玲 | 0955566778 | 14 | 10 | 2023-03-07 18:30:00 | Pending |

員工月出勤時數:

CREATE OR REPLACE VIEW Staff\_Monthly\_Hours AS

SELECT

s.staff\_id AS 員工編號,

u.name AS 員工姓名,

s.position AS 職位,

SUM(TIMESTAMPDIFF(HOUR, a.check\_in\_time, a.check\_out\_time)) AS 當月總工作時數

FROM

Staff s

JOIN

Users u ON s.user\_id = u.user\_id

JOIN

Attendance a ON s.staff\_id = a.staff\_id

WHERE

YEAR(a.check\_in\_time) = YEAR(CURRENT\_DATE) AND

MONTH(a.check\_in\_time)

= MONTH(CURRENT\_DATE)

GROUP BY

s.staff\_id, u.name, s.position

ORDER BY

s.staff\_id;

|  |  |  |  |
| --- | --- | --- | --- |
| 員工編號 | 員工姓名 | 職位 | 當月總工作時數 |
| 1 | 王小明 | Waiter | 9 |
| 2 | 林小華 | Chef | 9 |
| 3 | 陳大勇 | Waiter | 17 |
| 4 | 張美麗 | Manager | 18 |
| 7 | 蔡依林 | Chef | 9 |

待處理訂單:

CREATE VIEW Pending\_Orders\_View AS

SELECT

o.order\_id AS 訂單編號,

t.table\_number AS 桌號,

o.order\_time AS 下單時間,

o.total\_price AS 總金額,

GROUP\_CONCAT(mi.item\_name SEPARATOR ', ') AS 餐點項目,

o.order\_status AS 訂單狀態

FROM

Orders o

JOIN

Tables t ON o.table\_id = t.table\_id

JOIN

Order\_Items oi ON o.order\_id = oi.order\_id

JOIN

Menu\_Items mi ON oi.item\_id = mi.item\_id

WHERE

o.order\_status IN ('Pending', 'In Progress')

GROUP BY

o.order\_id

ORDER BY

o.order\_time;

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| 訂單編號 | 桌號 | 下單時間 | 總金額 | 餐點項目 | 訂單狀態 |
| 11 | 11 | 2023-02-04 19:30:00 | 780 | 肋眼牛排,  香煎雞魚 | In Progress |

八、心得報告

1. 胡晉嘉

這次餐廳管理系統的資料庫專題讓我獲益良多。從最初的系統需求分析開始，我逐步完成了ER diagram的規劃設計，深入理解了資料庫完整性限制的重要性。在實際建置資料表的過程中，我特別注重主鍵與外鍵的約束關係，並透過各種驗證方式確保每個欄位的完整性限制都能正確運作。此外，我還學習了如何建立view來簡化複雜查詢。這次實作讓我深刻體會到，要設計出一個完善的資料庫系統，要對每個細節都嚴格把關，任何一個小疏忽都可能影響整體資料的完整性與正確性。

2. 張鈞凱

這是我第一次建立資料庫，這次期末專題讓我深知了解到創建table、insert和各式view，我也從一開始使用command promt到載DBeaver來用GUI來更好看出目前的資料庫狀態，途中也有遇到各式各樣的問題像是因為在insert dummy data不夠謹慎導致view的輸出有邏輯上的錯誤，也讓我認識到了資料的完整性有多重要，可以省去在輸入資料時的錯誤，也意識到資料庫完整創建的重要性，可以省去後續實作的複雜度。

3. 林震宇

在建立餐廳資料庫系統的過程中，我覺得需要貼近實際營運流程的理解。結合我在餐飲業工作的經驗，像是訂單處理、菜單更新、庫存管理與顧客訂位這幾個環節在系統設計中的重要性。透過這次設計，我學會了運用檢查條件與觸發器來防止異常輸入。同時，ER圖幫助我在系統分析階段快速釐清各項資源與流程間的邏輯關係，使得整個資料架構更為清晰與完整。這次經驗讓我學會了提升效率與服務品質上的關鍵作用，也讓我更有信心將實務經驗轉化為具體的技術解決方案。

4. 楊政愷

完成餐廳管理系統資料庫設計後，我感受到資料庫結構對系統效率與資料完整性的重要性。透過設計Users、Orders、Inventory等資料表，我學會如何運用主鍵、外鍵與檢查約束確保資料一致性，並利用視圖簡化邏輯與查詢。ER圖讓我更清晰掌握實體關係，特別是在處理多對多關係時。模擬真實資料的過程也讓我意識到實際應用中資料的複雜性與多樣性。這次不僅提升了我的SQL技能，也讓我對系統分析與需求轉化有了更深的理解。