

User Guide

---Banquet Management System (BMS)

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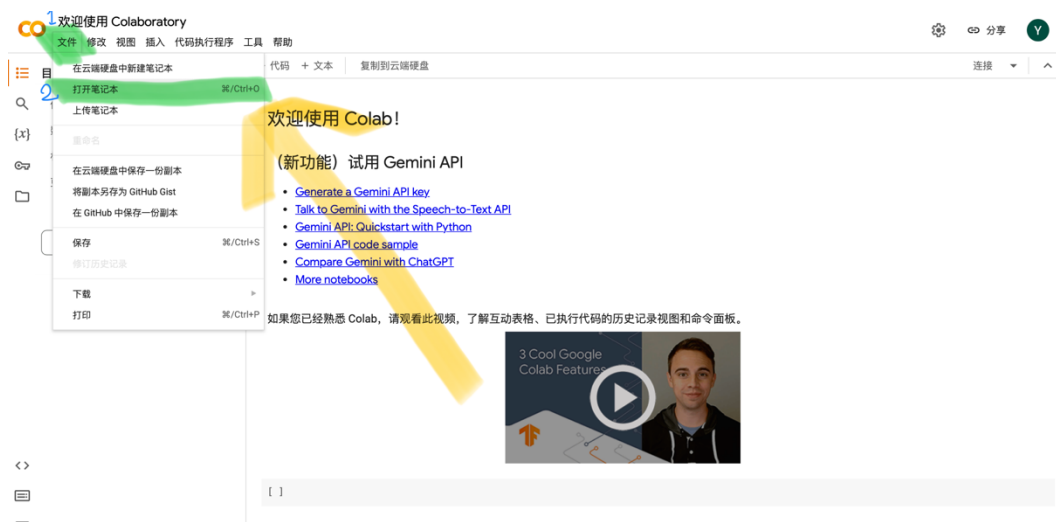
1. Setup of System

1.1 Using Google Colab as Platform

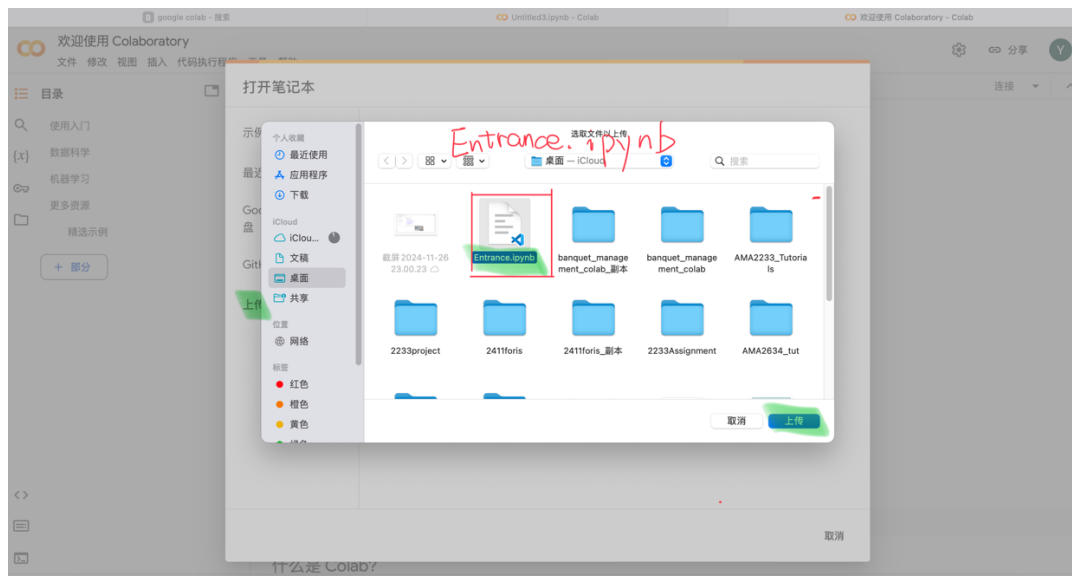
Our system is based on Google Colab. So before using the system, you are required to open Google Colab and log in Google account. Here is the link: <https://colab.research.google.com> .

1.2 Uploading Files

After opening the website of Google Colab, you need to open a notebook first, as the figure below shows:



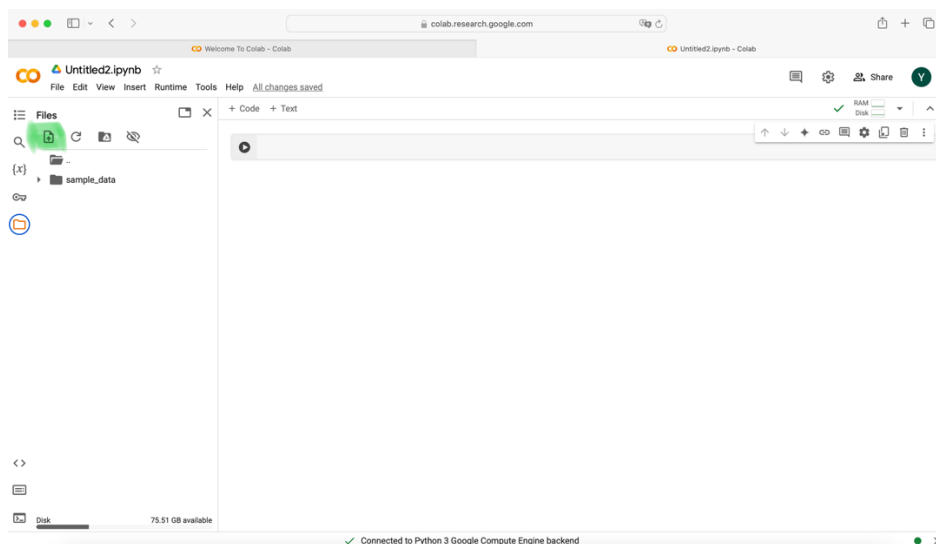
You need to click “File” and then open a notebook. After that, you need to upload the file, and upload the file named ‘Entrance.ipynb’ first:



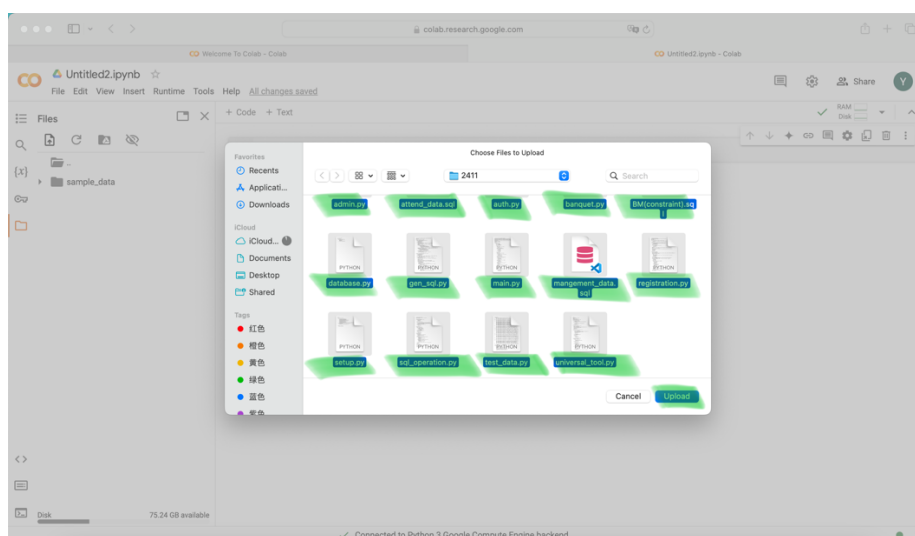
Then you need to click on the button on the left side, as below:



Then click on the button to upload files, as below:



Next, select all our 14 files (More detailed information will be in Appendix (a)), and upload them:



Finishing these will ensure all files are uploaded.

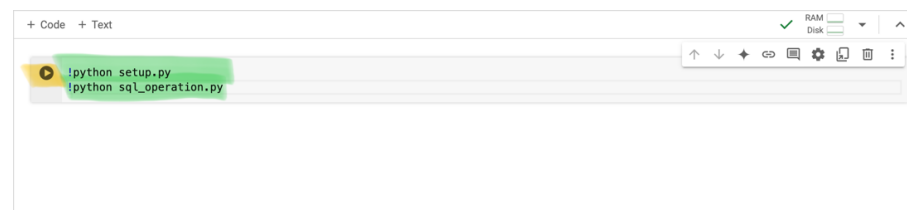
1.3 Run Commands

(Please read the words in our first line of 'entrance.ipynb'. Many thanks~)

In this part, you need to run some commands. Firstly, run these two lines:

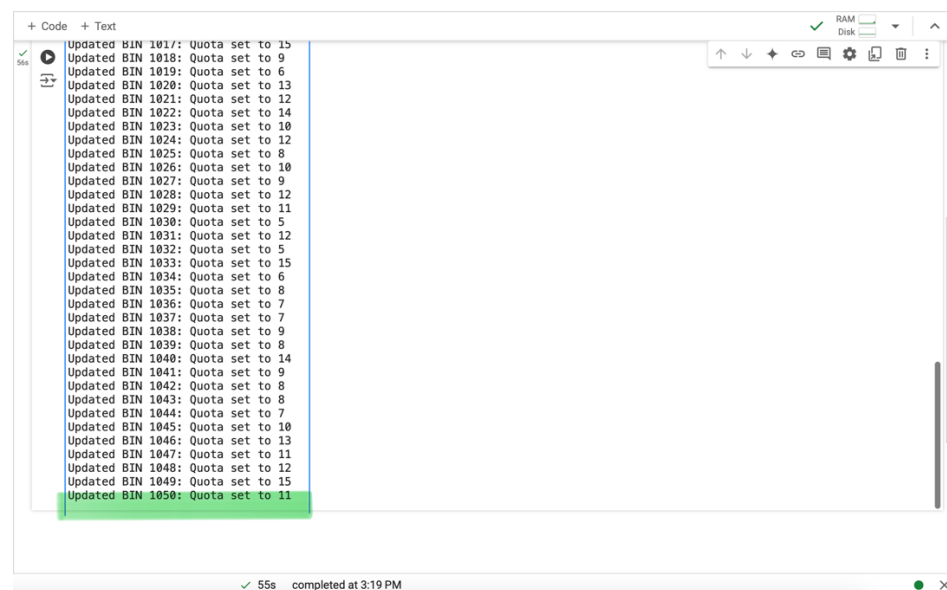
!python setup.py

!python sql_opreation.py



```
+ Code + Text
!python setup.py
!python sql_opreation.py
```

If you see this as below, it means that this step is successful:



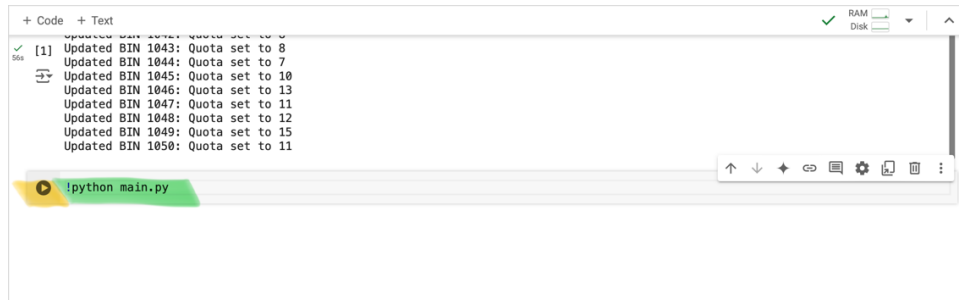
```
+ Code + Text
55s
Updated BIN 1017: Quota set to 15
Updated BIN 1018: Quota set to 9
Updated BIN 1019: Quota set to 6
Updated BIN 1020: Quota set to 13
Updated BIN 1021: Quota set to 12
Updated BIN 1022: Quota set to 14
Updated BIN 1023: Quota set to 10
Updated BIN 1024: Quota set to 12
Updated BIN 1025: Quota set to 8
Updated BIN 1026: Quota set to 10
Updated BIN 1027: Quota set to 9
Updated BIN 1028: Quota set to 12
Updated BIN 1029: Quota set to 11
Updated BIN 1030: Quota set to 5
Updated BIN 1031: Quota set to 12
Updated BIN 1032: Quota set to 5
Updated BIN 1033: Quota set to 15
Updated BIN 1034: Quota set to 6
Updated BIN 1035: Quota set to 8
Updated BIN 1036: Quota set to 7
Updated BIN 1037: Quota set to 7
Updated BIN 1038: Quota set to 9
Updated BIN 1039: Quota set to 8
Updated BIN 1040: Quota set to 14
Updated BIN 1041: Quota set to 9
Updated BIN 1042: Quota set to 8
Updated BIN 1043: Quota set to 8
Updated BIN 1044: Quota set to 7
Updated BIN 1045: Quota set to 10
Updated BIN 1046: Quota set to 13
Updated BIN 1047: Quota set to 11
Updated BIN 1048: Quota set to 12
Updated BIN 1049: Quota set to 15
Updated BIN 1050: Quota set to 11
```

55s completed at 3:19 PM

If an error occurs here, it may be because Google Colab is unstable, and the solution is to restart from the very first step.

After this, you need to run another line:

!python main.py



```
+ Code + Text
[1] Updated BIN 1043: Quota set to 8
Updated BIN 1044: Quota set to 7
Updated BIN 1045: Quota set to 10
Updated BIN 1046: Quota set to 13
Updated BIN 1047: Quota set to 11
Updated BIN 1048: Quota set to 12
Updated BIN 1049: Quota set to 15
Updated BIN 1050: Quota set to 11
!python main.py
```

Then, if you see the prompt below, that is our home page, you have finished the system setup and entered our system successfully:



```
python main.py
...
1. Attendee Account Login
2. Attendee Account Registration
3. Administrator Login
Please select (1/2/3):
```

And then you can start using our BMS.

2. Instructions for Banquet Attendees

2.1 Account Registration

On the homepage, you can select “2” to start a new registration, as below:

```
!python main.py
... 1. Attendee Account Login
     2. Attendee Account Registration
     3. Administrator Login
     Please select (1/2/3): 2
```

Then you follow the instructions step by step to enter your information:

```
1. Attendee Account Login
2. Attendee Account Registration
3. Administrator Login
Please select (1/2/3): 2
Email: 1@1.com
Password:
```

Please be careful that in this step, a “@” and “.” must be included in the email, the first name and last name must consist only of characters, the phone number must be 8-digit, and the address, type and organization cannot only consist of numbers.

Then if you see “Registration Success.”, the registration is done:

```
... 1. Attendee Account Login
     2. Attendee Account Registration
     3. Administrator Login
     Please select (1/2/3): 2
     Email: eg@eg.com
     Password:
     First name: Xu
     Last name: Xu
     Phone number: 88888888
     Home address: 1, xx Rd
     Type: student
     Organization: polyu
     Registration success.
```

If Invalid Input

If your name does not only consist of characters, then it will notice you and the registration fails, as below:

```
• 1. Attendee Account Login
  2. Attendee Account Registration
  3. Administrator Login
  Please select (1/2/3): 2
  Email: eg@eg.com
  Password:
  First name: xu123
  Name format invalid, it should consist of characters.
```

2.2 Login

On the homepage, you can select “1” for login, as below:

```
.....
1. Attendee Account Login
2. Attendee Account Registration
3. Administrator Login
Please select (1/2/3): 1
```

Then you need to input your email and password, the email must be a registered one and the password must be correct:

```
Email: eg@eg.com
Password: 
```

After this, if you see “Login success” and the Attend Main Menu, your login is successful:

```
Email: eg@eg.com
Password:
Login successes

Attend Main Menu
1. Viewing All Banquets
2. Filtering Banquets
3. Registering Banquets
4. Viewing Registered Banquets
5. Updating Account Information
6. Logout
Please select (1/2/3/4/5/6): 
```

If Invalid Input

If your input email does not include ‘@’, it will show you ‘Email format invalid’, as below:

```
1. Attendee Account Login
2. Attendee Account Registration
3. Administrator Login
Please select (1/2/3): 1
Email: 123
Email format invalid.
```

If your input password is wrong or your account does not exist, the login fails, as below:

```
1. Attendee Account Login
2. Attendee Account Registration
3. Administrator Login
Please select (1/2/3): 1
Email: eg@eg.com
Password:
Login Fails
```

2.3 Main Operations for Attendees

2.3 a) Viewing All Banquets

In the Attend Main Menu, you can select “1” to view all coming banquets:

- Attend Main Menu
1. Viewing All Banquets
 2. Filtering Banquets
 3. Registering Banquets
 4. Viewing Registered Banquets
 5. Updating Account Information
 6. Logout

Please select (1/2/3/4/5/6):

Then you can see all banquet information (The picture below is example part of all banquets):

Name	Time	Contact	Location	Address	Allow Register	Rema
Gala Dinner	2025-01-10 18:00:00	John, Doe	Grand Hall	123 Main St	YES	6
Business Conference	2025-01-12 19:30:00	Jane, Smith	Conference Room 1	456 Oak Ave	YES	15
Wedding Reception	2025-02-05 12:00:00	Michael, Johnson	Beachside Pavilion	789 Pine Rd	YES	15
Networking Event	2025-02-20 15:00:00	Emily, Brown	Sky Lounge	101 Birch Blvd	YES	5
Charity Auction	2025-03-05 17:30:00	Chris, Williams	Crystal Ballroom	202 Maple St	YES	14
Team Building	2025-03-15 10:00:00	Sarah, Davis	Training Room A	303 Elm St	YES	11
Annual Party	2025-04-01 20:00:00	James, Miller	Ocean View	404 Cedar Ave	YES	5

2.3 b) Filtering Banquets

In the Attend Main Menu, you can select “2” to filter banquets:

- Attend Main Menu
1. Viewing All Banquets
 2. Filtering Banquets
 3. Registering Banquets
 4. Viewing Registered Banquets
 5. Updating Account Information
 6. Logout

Please select (1/2/3/4/5/6):

There are four filtering standards: “1” will allow you to search by key words, “2” will allow you to search by banquet ID, “3” will allow you to filter by date and time, “4” will allow you to sort all banquets by remaining quota in descending order:

Filtering Standard:

1. By Key Words
2. By Banquet ID
3. By Date and Time
4. By Remaining Quota

Please select filter standard (1/2/3/4):

If you select “1”, you need to enter the key word, and it will give you the matching result:

Filtering Standard:

1. By Key Words
2. By Banquet ID
3. By Date and Time
4. By Remaining Quota

Please select filter standard (1/2/3/4): 1

Please enter the key word: business

BIN	Name	Time	Contact	Address	Room	Allow Register	Quota
1002	Business Conference	2025-01-12 19:30:00	Jane, Smith	Conference Room 1	456 Oak Ave	YES	15
1047	Business Lunch	2025-12-05 13:30:00	Zoe, Brown	Restaurant Hall	4335 Elm St	YES	11

If you select “2”, you need to enter the banquet ID you want:

Filtering Standard:

1. By Key Words
2. By Banquet ID
3. By Date and Time
4. By Remaining Quota

Please select filter standard (1/2/3/4): 2

Please enter the banquet ID: 1050

BIN	Name	Time	Contact	Address	Room	Allow Register	Quota
1050	New Year Countdown	2025-12-31 22:00:00	Liam, Rodriguez	Main Arena	4638 Birch Blvd	YES	11

If you select “3”, you need to enter the date and time, it can be correct to minutes, hours, days, months, or even years. However, the input must follow the instructions in prompts:

Filtering Standard:

1. By Key Words
2. By Banquet ID
3. By Date and Time
4. By Remaining Quota

Please select filter standard (1/2/3/4): 3

Please enter the date (In format of 'YYYY-MM-DD HH:MM' or 'YYYY-MM-DD HH' or 'YYYY-MM-DD' or 'YYYY-MM' or 'YYYY'): 2025-12-31

BIN	Name	Time	Contact	Address	Room	Allow Register	Quota
1050	New Year Countdown	2025-12-31 22:00:00	Liam, Rodriguez	Main Arena	4638 Birch Blvd	YES	11

If you select “4”, the system will give you all banquets with the remaining quota descending:

Name	Time	Contact	Address	Room	Allow Register	Quota
Business Conference	2025-01-12 19:30:00	Jane, Smith	Conference Room 1	456 Oak Ave	YES	15
VIP Gala	2025-05-01 20:00:00	Isaiah, Morris	Luxury Hotel	2921 Maple Ave	YES	15
Morning Seminar	2025-09-02 11:00:00	Isabella, Young	Lecture Hall	1405 Oak Blvd	YES	15
Leadership Summit	2025-08-10 14:00:00	Lucas, Lopez	Conference Center	1304 Elm St	YES	15
VIP Dinner	2025-07-05 19:00:00	Ella, Harris	Sky Lounge	1001 Birch Blvd	YES	15
Year-End Review	2025-12-20 18:00:00	Isabella, Garcia	Meeting Room 4	4537 Pine Rd	YES	15
Wedding Reception	2025-02-05 12:00:00	Michael, Johnson	Beachside Pavilion	789 Pine Rd	YES	15
Corporate Team Event	2025-08-25 18:00:00	Amos, Lee	Workshop Room	3628 Cedar Ave	YES	14
Charity Auction	2025-03-05 17:30:00	Chris, Williams	Crystal Ballroom	202 Maple St	YES	14

And we believe you can find the banquet you want using these filters.

If Invalid Input

If your input of date or date and time is not valid (e.g. 20251224), it will give you the 'Invalid input' result as below and remind you the correct format of input:

1049	Year-End Review	2025-12-20 18:00:00	Isabella, Garcia	Meeting Room 4			
1050	New Year Countdown	2025-12-31 22:00:00	Liam, Rodriguez	Main Arena	4638 Birch Blvd	YES	

Filtering Standard:

1. By Key Words
2. By Banquet ID
3. By Date and Time
4. By Remaining Quota

Please select filter standard (1/2/3/4): 3

Please enter the date (In format of 'YYYY-MM-DD HH:MM' or 'YYYY-MM-DD HH' or 'YYYY-MM-DD' or 'YYYY-MM' or 'YYYY'): 222222

Invalid input.

2.3 c) Registering Banquets

In the Attend Main Menu, you can select “3” to register banquets:

Attend Main Menu
 1. Viewing All Banquets
 2. Filtering Banquets
 3. Registering Banquets
 4. Viewing Registered Banquets
 5. Updating Account Information
 6. Logout

Please select (1/2/3/4/5/6):

You will see all available banquets, and you need input the banquet ID you want to register, and then you are required to enter your preferred seat number:

1049	Year-End Review	2025-12-20 18:00:00	Isabella, Garcia	Meeting Room 4	4537 Pine Rd	YES
1050	New Year Countdown	2025-12-31 22:00:00	Liam, Rodriguez	Main Arena	4638 Birch Blvd	YES

Banquet ID: 1050
 Preferred seat number: 10
 The seat is already registered.
 Do you need allocate seat automatically for you? (Yes/No)

If your preferred seat is still empty, then the system will allocate this seat to you. However, if your preferred seat is already occupied, then it will ask you whether you need seat allocation and whether you accept the allocated seat:

Banquet ID: 1050
 Preferred seat number: 10
 The seat is already registered.
 Do you need allocate seat automatically for you? (Yes/No)yes
 The new seat number is 45, do you accept it? (Yes/No):

If you do not accept the seat here, the registration fails since you have no satisfied seat:

Banquet ID: 1050
 Preferred seat number: 10
 The seat is already registered.
 Do you need allocate seat automatically for you? (Yes/No)yes
 The new seat number is 45, do you accept it? (Yes/No): no
 Registration fails.

If you accept this seat, you will go to the next step of selecting dishes and entering your preferred drinking:

Banquet ID: 1050

Preferred seat number: 10

The seat is already registered.

Do you need allocate seat automatically for you? (Yes/No)yes

The new seat number is 44, do you accept it? (Yes/No): yes

Dish Name	Type	Price	Special Cuisine
Almond Cake	Dessert	8.00	Middle Eastern
Beef Broth	Soup	7.75	American
Gelato	Dessert	6.50	Italian
Pâté	Appetizer	16.00	French

Meal type:

Then you need to enter your preferred meal type (Upper letters or lower letters are both OK) and your desired drinking, and the registration is successful:

```

Banquet ID: 1050
Preferred seat number: 10
The seat is already registered.
Do you need allocate seat automatically for you? (Yes/No):yes
The new seat number is 44, do you accept it? (Yes/No): yes

```

Dish Name	Type	Price	Special Cuisine
Almond Cake	Dessert	8.00	Middle Eastern
Beef Broth	Soup	7.75	American
Gelato	Dessert	6.50	Italian
Pâté	Appetizer	16.00	French

```

Meal type: gelato
Preferred drinking: cola
Registering success: Banquet ID 1050, Seat number: 44

```

You can see your registration information including banquet ID and seat number after a successful registration.

If Invalid Input

If you are not entering 'yes' or 'no' when asked whether to allow allocated seats automatically and whether to accept the allocated seat, then it will be regarded as invalid input and the registration fails, as below:

```

BanquetID: 1020
Preferred seat number: 23
The seat is already registered.
Do you need allocate seat automatically for you? (Yes/No)true
Registration fails.

```

And if your input seat number is greater than total quota, it will not make registration fail, but the system will only ask you whether to allocate seats and accept it:

1050	New Year Countdown	2025-12-31 22:00:00	Liam, Rodriguez	Main Arena
------	--------------------	---------------------	-----------------	------------

```

BanquetID: 1030
Preferred seat number: 56
Seat number should be smaller than quota
Do you need allocate seat automatically for you? (Yes/No): yes
The new seat number is 48, do you accept it? (Yes/No): 

```

2.3 d) Viewing Registered Banquets

In the Attend Main Menu, you can select "4" to view registered banquets. If you haven't registered any banquets successfully, it will show "No registered banquet".

```

Attend Main Menu
1. Viewing All Banquets
2. Filtering Banquets
3. Registering Banquets
4. Viewing Registered Banquets
5. Updating Account Information
6. Logout
Please select (1/2/3/4/5/6): 4
No registered banquet

```

If you have registered some banquets, it will show banquet details, seat number, meal type choice, and desired drinking:

Attend Main Menu
 1. Viewing All Banquets
 2. Filtering Banquets
 3. Registering Banquets
 4. Viewing Registered Banquets
 5. Updating Account Information
 6. Logout
 Please select (1/2/3/4/5/6): 4

Then you can filter your registered banquets, if you select “1”, you can search by keywords:

Filtering Standard:
 1. By Key Words
 2. By Date and Time
 3. View all
 Please select filter standard (1/2/3): 1
 Please enter the key word: annual

Filtering Standard:
 1. By Key Words
 2. By Date and Time
 3. View all
 Please select filter standard (1/2/3): 1
 Please enter the key word: annual

Banquet ID	Name	Date and Time	Loaction	Seat	Meal type	Drinking
1034	Annual General Meeting	2025-05-12 12:30:00	Main Auditorium	33	mochi	coffee

If you select “2”, you can search by date and time, as below:

Filtering Standard:
 1. By Key Words
 2. By Date and Time
 3. View all
 Please select filter standard (1/2/3): 2
 Please enter the date (In format of 'YYYY-MM-DD HH:MM' or 'YYYY-MM-DD HH' or 'YYYY-MM-DD' or 'YYYY-MM' or 'YYYY'): 2025-01

Filtering Standard:
 1. By Key Words
 2. By Date and Time
 3. View all
 Please select filter standard (1/2/3): 2
 Please enter the date (In format of 'YYYY-MM-DD HH:MM' or 'YYYY-MM-DD HH' or 'YYYY-MM-DD' or 'YYYY-MM' or 'YYYY'): 2025-01

Banquet ID	Name	Date and Time	Loaction	Seat	Meal type	Drinking
1001	Gala Dinner	2025-01-10 18:00:00	Grand Hall	31	tom yum	tea
1002	Business Conference	2025-01-12 19:30:00	Conference Room 1	41	baked brie	cola

If you select “3”, it will directly show all banquets you registered and corresponding details:

Filtering Standard:
 1. By Key Words
 2. By Date and Time
 3. View all
 Please select filter standard (1/2/3): 3

Filtering Standard:
 1. By Key Words
 2. By Date and Time
 3. View all
 Please select filter standard (1/2/3): 3

Banquet ID	Name	Date and Time	Loaction	Seat	Meal type	Drinking
1001	Gala Dinner	2025-01-10 18:00:00	Grand Hall	31	tom yum	tea
1002	Business Conference	2025-01-12 19:30:00	Conference Room 1	41	baked brie	cola
1010	Corporate Gala	2025-05-10 16:00:00	Banquet Hall 3	44	souvlaki	water
1030	Spring Festival	2025-03-20 19:00:00	Central Park	48	gelato	orange juice
1034	Annual General Meeting	2025-05-12 12:30:00	Main Auditorium	33	mochi	coffee

2.3 e) Updating Account Information

In the Attend Main Menu, you can select “5” to update account information:

```
Attend Main Menu
1. Viewing All Banquets
2. Filtering Banquets
3. Registering Banquets
4. Viewing Registered Banquets
5. Updating Account Information
6. Logout
Please select (1/2/3/4/5/6): 5
```

The current information will be displayed to you at first and then you are required to enter the item you want to update:

```
Current account info:
+-----+-----+-----+-----+-----+-----+-----+
| First_name | Last_name | Password | Phone | Address | Type | Organization |
+-----+-----+-----+-----+-----+-----+-----+
| Xu | Xu | 1 | 88888888 | 1, xx Rd | student | polyu |
+-----+-----+-----+-----+-----+-----+-----+
Please enter the item you want to update (First_name, Last_name, Password, Phone, Address, Type, Organization):
phone
```

Then you can input the new value. Please be careful that the new first name and new last name must consist only of characters, the new phone number must be still 8-digit, and the new address, type and organization cannot only consist of numbers:

```
Current account info:
+-----+-----+-----+-----+-----+-----+-----+
| First_name | Last_name | Password | Phone | Address | Type | Organization |
+-----+-----+-----+-----+-----+-----+-----+
| Xu | Xu | 1 | 88888888 | 1, xx Rd | student | polyu |
+-----+-----+-----+-----+-----+-----+-----+
Please enter the item you want to update (First_name, Last_name, Password, Phone, Address, Type, Organization): phone
New value.: 99999999
Account info update success.
```

You can see “Account info update success” if you update it successfully, and the new account information will be displayed.

If Invalid Input

If you enter a new phone that is not 8-digits, as below:

```
Current account info:
+-----+-----+-----+-----+-----+-----+-----+
| First_name | Last_name | Password | Phone | Address | Type | Organization |
+-----+-----+-----+-----+-----+-----+-----+
| xu | xu | 1 | 98765432 | wuhu | student | polyu |
+-----+-----+-----+-----+-----+-----+-----+
Please enter the item you want to update (First_name, Last_name, Password, Phone, Address, Type, Organization): phone
New value.: 1234
```

It will tell you that it should be 8-digits and the update fails, the value won't be changed:

```
Current account info:
+-----+-----+-----+-----+-----+-----+-----+
| First_name | Last_name | Password | Phone | Address | Type | Organization |
+-----+-----+-----+-----+-----+-----+-----+
| xu | xu | 1 | 98765432 | wuhu | student | polyu |
+-----+-----+-----+-----+-----+-----+-----+
Please enter the item you want to update (First_name, Last_name, Password, Phone, Address, Type, Organization): phone
New value.: 1234
The phone number should be 8-digits.
```

2.4 Logout

In the Attend Main Menu, you can select “6” to logout:

```
Attend Main Menu
1. Viewing All Banquets
2. Filtering Banquets
3. Registering Banquets
4. Viewing Registered Banquets
5. Updating Account Information
6. Logout
Please select (1/2/3/4/5/6): 6
```

You will see “User xxx has logged out.” if your logout is successful and you will be moved to the home page again:

```
Please select (1/2/3/4/5/6): 6
User eg@eg.com has logged out.
Logout success.
1. Attendee Account Login
2. Attendee Account Registration
3. Administrator Login
Please select (1/2/3):
```

3. Instructions for Administrator

3.1 Login

On the homepage, you can select “3” to log in as administrator, as below:

```
1. Attendee Account Login
2. Attendee Account Registration
3. Administrator Login
Please select (1/2/3): 3
```

Then it will require you to enter the administrator ID and password, please be aware that in our system the administrator ID is ‘1’ and the password is ‘admin123’:

```
1. Attendee Account Login
2. Attendee Account Registration
3. Administrator Login
Please select (1/2/3): 3
Administrator ID: 1
Password: .....
```

Administrator Account
ID: 1
Password: admin123

If you see “Admin login success” and the Administrator Main Menu, your login as administrator is successful, as below:

```
Admin login successes

Administrator Main Menu
1. Viewing All Banquets
2. Creating New Banquets
3. Updating Banquet Status
4. Updating Dishes' Information
5. Updating Attendees Registration Records
6. Generating Analysis Reports
7. Logout
Please select (1/2/3/4/5/6/7):
```

If Invalid Input

If your input ID or password is not correct, then the login fails, as below:

```
1. Attendee Account Login
2. Attendee Account Registration
3. Administrator Login
Please select (1/2/3): 3
Administrator ID: 12
Password:
Admin login fails
```

3.2 Main Operations for Administrator

3.2 a) Viewing All Banquets

In the Administrator Main Menu, you can select “1” to view all banquets, as below:

Administrator Main Menu
 1. Viewing All Banquets
 2. Creating New Banquets
 3. Updating Banquet Status
 4. Updating Dishes' Information
 5. Updating Attendees Registration Records
 6. Generating Analysis Reports
 7. Logout
 Please select (1/2/3/4/5/6/7):

It will give you information about all banquets (The picture below is example part of all banquets):

Please select (1/2/3/4/5/6/7): 1

BIN	Name	Time	Contact	Location	Address	Allow Register
1001	Gala Dinner	2025-01-10 18:00:00	John, Doe	Grand Hall	123 Main St	YES
1002	Business Conference	2025-01-12 19:30:00	Jane, Smith	Conference Room 1	456 Oak Ave	YES
1003	Wedding Reception	2025-02-05 12:00:00	Michael, Johnson	Beachside Pavilion	789 Pine Rd	YES
1004	Networking Event	2025-02-20 15:00:00	Emily, Brown	Sky Lounge	101 Birch Blvd	YES
1005	Charity Auction	2025-03-05 17:30:00	Chris, Williams	Crystal Ballroom	202 Maple St	YES
1006	Team Building	2025-03-15 10:00:00	Sarah, Davis	Training Room A	303 Elm St	YES
1007	Annual Party	2025-04-01 20:00:00	James, Miller	Ocean View	404 Cedar Ave	YES

3.2 b) Creating New Banquets

In the Administrator Main Menu, you can select “2” to create new banquets, as below:

Administrator Main Menu
 1. Viewing All Banquets
 2. Creating New Banquets
 3. Updating Banquet Status
 4. Updating Dishes' Information
 5. Updating Attendees Registration Records
 6. Generating Analysis Reports
 7. Logout
 Please select (1/2/3/4/5/6/7):

Then you are required to input all information related to the banquet, including banquet ID, banquet name, date and time, first and last name of contact person, address, location, quota, whether allowing registering, four dish names, price of each dish, type of each dish, and the type of special cuisine of each dish.

Please note that in this part of input: The banquet ID must be an integer greater than 0, at most 7 digits and distinct from other existing banquets. The banquet name, address, location, dish name, dish type and special cuisine type cannot only consist of numbers, they must include characters. The date and time must be in the format of 'YYYY-MM-DD HH:MM:SS'. The quota must be an integer greater than 0. The contact person's first and last name must only consist of characters. And the price of each dish should not be too big or too small, it should be in a normal range that makes sense (e.g. $0.01 \leq \text{price} \leq 99999$):

```

* Please select (1/2/3/4/5/6/7): 2
Banquet ID: 1051
Banquet Name: Eg Party
Date and Time (YYYY-MM-DD HH:MM:SS): 2026-01-01 11:11:11
Contact Person's First Name: Fang
Contact Person's Last Name: Shao
Address: Polyu
Location: M
Quota: 44
Allowing for registering? (Yes/No): yes
First dish: egdish1
Second dish: egdish2
Third dish: egdish3
Fourth dish: egdish4
Type of first dish: egtype1
Type of second dish: egtype2
Type of third dish: egtype3
Type of fourth dish: egtype4
Price of first dish: 1
Price of second dish: 2.2
Price of third dish: 3.33
Price of fourth dish: 14.0
Special cuisine of first dish: NA
Special cuisine of second dish: NA
Special cuisine of thrid dish: NA
Special cuisine of fourth dish: NA
Creating success.

```

If all inputs are valid, you can see “Creating success” indicating your successful creation of a new banquet.

If Invalid Input

If your input Banquet ID is not an integer, then the creation fails, and it will remind you of this:

```

Please select (1/2/3/4/5/6/7): 2
Banquet ID: abcd
The input should be integer.

```

If your input date and time format is wrong, the creation still fails and you will be reminded of the correct format:

```

Please select (1/2/3/4/5/6/7): 2
Banquet ID: 1055
Banquet Name: partyeg
Date and Time (YYYY-MM-DD HH:MM:SS): 2026-12-23
Time format invalid,it should be 'YYYY-MM-DD HH:MM:SS'

```

If your input contact person’s name does not only consist of characters, the creation also fails and you will be reminded of the correct format:

```

Please select (1/2/3/4/5/6/7): 2
Banquet ID: 1055
Banquet Name: egparty
Date and Time (YYYY-MM-DD HH:MM:SS): 2025-12-12 12:12:12
Contact Person's First Name: xu
Contact Person's Last Name: 123
Name format invalid, it should consist of characters.

```

If your quota is not an integer or it is less than or equal to zero, the creation fails, and it is reminded that the quota should be in an integer within the normal range:

Please select (1/2/3/4/5/6/7): 2
 Banquet ID: 1055
 Banquet Name: egparty
 Date and Time (YYYY-MM-DD HH:MM:SS): 2025-12-12 12:12:12
 Contact Person's First Name: xu
 Contact Person's Last Name: xu
 Address: aaa
 Location: aa
 Quota: -20
 The entered value must be within the normal range.

3.2 c) Updating Banquet Status

In the Administrator Main Menu, you can select “3” to update banquet status, as below:

Administrator Main Menu
 1. Viewing All Banquets
 2. Creating New Banquets
 3. Updating Banquet Status
 4. Updating Dishes' Information
 5. Updating Attendees Registration Records
 6. Generating Analysis Reports
 7. Logout
 Please select (1/2/3/4/5/6/7): 3

Then, you will see the full list of all banquets, and you need to enter the ID of the banquet you want to make update(s):

1044	Holiday Kickoff	2025-10-25 16:00:00	Nolan, Walker	Park Hotel	4032 Birch Blvd	YES
1045	Charity Gala	2025-11-05 20:00:00	Amira, Young	Exhibition Hall	4133 Maple Rd	YES
1046	Award Gala	2025-11-20 19:00:00	Samuel, Scott	City Hall	4234 Cedar Ave	YES
1047	Business Lunch	2025-12-05 13:30:00	Zoe, Brown	Restaurant Hall	4335 Elm St	YES
1048	Holiday Gala	2025-12-15 19:00:00	Leo, Martinez	Ballroom 2	4436 Oak Blvd	YES
1049	Year-End Review	2025-12-20 18:00:00	Isabella, Garcia	Meeting Room 4	4537 Pine Rd	YES
1050	New Year Countdown	2025-12-31 22:00:00	Liam, Rodriguez	Main Arena	4638 Birch Blvd	YES
1051	Eg Party	2026-01-01 11:11:11	Fang, Shao	M	Polyu	YES

Banquet ID: 1051

Next, you will be asked to enter the item you want to update, select one from 1-8:

Enter the item you want to update:
 1. Date_and_time
 2. Name
 3. Quota(Remaining Quota here)
 4. Location
 5. Contact_staff_first_name
 6. Contact_staff_last_name
 7. Address
 8. allow_registration
 Select (1/2/3/4/5/6/7/8): 4

Then enter the new value you want it to be. But please note that in this step, the inputs must follow the same constraints as the one when creating banquets, which include: The banquet name, address and location cannot only consist of numbers, they must include characters. The date and time must still be in the format of 'YYYY-MM-DD HH:MM:SS'. The quota must be an integer greater than 0. The contact person's first and last name must only consist of characters. The allowance of registration must be 'yes' or 'no':

Enter the item you want to update:

1. Date_and_time
2. Name
3. Quota(Remaining Quota here)
4. Location
5. Contact_staff_first_name
6. Contact_staff_last_name
7. Address
8. allow_registration

Select (1/2/3/4/5/6/7/8): 4

Enter new value: N001

1051	Eg Party	2026-01-01 11:11:11	Fang, Shao	N001	Polyu	YES
------	----------	---------------------	------------	------	-------	-----

Administrator Main Menu
1. Viewing All Banquets
2. Creating New Banquets
3. Updating Banquet Status
4. Updating Dishes' Information
5. Updating Attendees Registration Records
6. Generating Analysis Reports
7. Logout
Please select (1/2/3/4/5/6/7):

Then if you update it successfully, you can see the updated information of banquet and you will be sent back to the Administrator Main Menu.

If Invalid Input

If you change the allow_registration to a value which is not 'yes' or 'no', then the value is invalid and the update fails:

1048	Holiday Gala	2025-12-15 19:00:00	Leo, Martinez
1049	Year-End Review	2025-12-20 18:00:00	Isabella, Gar
1050	New Year Countdown	2025-12-31 22:00:00	Liam, Rodrigu

Enter the item you want to update:

1. Date_and_time
2. Name
3. Quota(Remaining Quota here)
4. Location
5. Contact_staff_first_name
6. Contact_staff_last_name
7. Address
8. allow_registration

Select (1/2/3/4/5/6/7/8): 8

Allowing registering? (Yes/No): nil

Invalid input.

3.2 d) Updating Dishes' Information

In the Administrator Main Menu, you can select "4" to update dishes' information:

Administrator Main Menu
1. Viewing All Banquets
2. Creating New Banquets
3. Updating Banquet Status
4. Updating Dishes' Information
5. Updating Attendees Registration Records
6. Generating Analysis Reports
7. Logout
Please select (1/2/3/4/5/6/7): 4

After selecting this, you will see the full list of all dishes and detailed information, and you will be asked to enter the dish name that you want to make updates on:

Tempura Shrimp	Appetizer	14.00	Japanese
Tiramisu	Dessert	7.00	Italian
Tom Yum	Soup	9.25	Thai
Tomato Soup	Soup	7.50	American
Tuna Tartare	Appetizer	15.00	French
Vegetable Stir-fry	Main Course	13.50	Asian
Vegetarian Lasagna	Main Course	12.75	Italian
Waffles	Dessert	6.00	Belgian
Zabaglione	Dessert	7.50	Italian

Enter the dish name you want to update: waffles

Next, the details of your selected dish will be displayed, and you need to enter the item you want to update:

```

Enter the dish name you want to update: waffles
Meal info:
+-----+-----+-----+-----+
| Dish_name | Type | Price | Special_cuisine |
+-----+-----+-----+-----+
| Waffles | Dessert | 6.00 | Belgian |
+-----+-----+-----+-----+

Please enter the item you want to update:
1. Type
2. Price
3. Type of Special Cuisine)
4. Not to Update
Please enter your choice (1-4): 2

```

Then you need to enter the new value. Please be careful here that the new dish name, type, and special cuisine type should not consist only of numbers but must include characters. And the price still needs to be in a normal range that makes sense (e.g. $0.01 \leq \text{price} \leq 99999$):

```

Please enter your choice (1-4): 2
Current price: 6.00. Update to: 6.88

Current price: 6.00. Update to: 6.88
Update success.

Administrator Main Menu
1. Viewing All Banquets
2. Creating New Banquets
3. Updating Banquet Status
4. Updating Dishes' Information
5. Updating Attendees Registration Records
6. Generating Analysis Reports
7. Logout
Please select (1/2/3/4/5/6/7):

```

Then, if you see “Update success”, your update is successful.

If Invalid Input

If the item you want to update is not in the list of all dishes, then the input is invalid and the update fails, as two figures below:

Waffles	Dessert	6.00	Belgian
Zabaglione	Dessert	7.50	Italian

Enter the dish name you want to update: waffle

Waffles	Dessert	6.00	Belgian
Zabaglione	Dessert	7.50	Italian

Enter the dish name you want to update: waffle
The dish not found.

If your input updated price is less or equal to 0, then it will remind you that it should be greater than 0 and the update fails:

```

) +-----+-----+-----+-----+
  | Dish_name | Type | Price | Special_cuisine |
  +-----+-----+-----+-----+
  | Waffles | Dessert | 6.00 | Belgian |
  +-----+-----+-----+-----+

Please enter the item you want to update:
1. Type
2. Price
3. Type of Special Cuisine
4. Not to Update
Please enter your choice (1-4): 2
Current price: 6.00. Update to: -10
The entered value must be within the normal range.
Invalid input, price should be greater than 0.

```

3.2 e) Updating Attendees' Registration Records

In the Administrator Main Menu, you can select "5" to update attendees' registration records:

```

Administrator Main Menu
1. Viewing All Banquets
2. Creating New Banquets
3. Updating Banquet Status
4. Updating Dishes' Information
5. Updating Attendees Registration Records
6. Generating Analysis Reports
7. Logout
Please select (1/2/3/4/5/6/7): 5

```

Then it will display the full list of all banquets and ask you to select the banquet ID of the registration records you want to update:

1043	Seasonal Celebration	2023-10-15 17:30:00	Sophia, Lewis	Beach Club		
1044	Holiday Kickoff	2025-10-25 16:00:00	Nolan, Walker	Park Hotel	4032 Birch Blvd	YES
1045	Charity Gala	2025-11-05 20:00:00	Amira, Young	Exhibition Hall	4133 Maple Rd	YES
1046	Award Gala	2025-11-20 19:00:00	Samuel, Scott	City Hall	4234 Cedar Ave	YES
1047	Business Lunch	2025-12-05 13:30:00	Zoe, Brown	Restaurant Hall	4335 Elm St	YES
1048	Holiday Gala	2025-12-15 19:00:00	Leo, Martinez	Ballroom 2	4436 Oak Blvd	YES
1049	Year-End Review	2025-12-20 18:00:00	Isabella, Garcia	Meeting Room 4	4537 Pine Rd	YES
1050	New Year Countdown	2025-12-31 22:00:00	Liam, Rodriguez	Main Arena	4638 Birch Blvd	YES
1051	Eg Party	2026-01-01 11:11:11	Fang, Shao	N001	Polyu	YES

Please enter the banquet ID: 1001

Next, it will show all registration records of this banquet and require you to enter the email of the registration record you want to make update(s) on:

1001	lucyroberts32@example.com	23	Chocolate Truffles	Lemonade
1001	madelineharris78@example.com	24	Chocolate Truffles	Rum
1001	maxwilliams789@example.com	25	Chocolate Truffles	Vodka
1001	michaelriley895@example.com	18	Chocolate Truffles	Lemonade
1001	nathanmiller684@example.com	3	Chocolate Truffles	Water
1001	noahjohnson34@example.com	2	Grilled Chicken	Mocktail
1001	olivialee755@example.com	9	Grilled Chicken	Mocktail
1001	oliviamartinez42@example.com	22	Tom Yum	Champagne
1001	oliviarodriguez644@example.com	21	Chocolate Truffles	Champagne
1001	peterharris1027@example.com	11	Grilled Chicken	Juice
1001	robertbrown05@example.com	13	Charcuterie Board	Whiskey
1001	samanthawilson934@example.com	8	Chocolate Truffles	Champagne
1001	zoelawson1070@example.com	7	Charcuterie Board	Beer
1001	zoeydaniels285@example.com	12	Grilled Chicken	Whiskey

Please enter the attendee email: eg@eg.com

Then you need to select the target item:

Banquet ID	Email	Seat	Meal Type	Drinking
1001	eg@eg.com	32	grilled chicken	cola

Enter the item you want to update (Seat, Meal_type, Drinking): seat

Then enter the new value. But please note that the seat number needs to be an integer greater than 0 and not greater than the quota, the meal type needs to be in the meal provided in this banquet, and the drinking cannot only consist of numbers, it must include characters:

Banquet ID	Email	Seat	Meal Type	Drinking
1001	eg@eg.com	32	grilled chicken	cola

Enter the item you want to update (Seat, Meal_type, Drinking): seat
New value:

However, when we are trying to update the seat number here, we may still meet the problem that the desired seat is already occupied. When such a situation happens, you will still be asked whether to allow the automatic seat allocation and whether to accept the allocated seat:

New value: 15
The seat is already registered.
Do you need allocate seat automatically for you? (Yes/No):yes
The new seat is 31, do you accept it? (Yes/No)yes

Banquet ID	Email	Seat	Meal Type	Drinking
1001	eg@eg.com	31	grilled chicken	cola

Update success.

If you choose both 'yes', you will change the seat number to the automatically allocated one and you will see "update success", indicating the successful update operation.

However, if you choose 'no' in one of these two questions, you will get an "Update fails" since the target update seat is already occupied, and you will be sent back to the Administrator Main Menu:

Banquet ID	Email	Seat	Meal Type	Drinking
1001	eg@eg.com	31	grilled chicken	cola

Enter the item you want to update (Seat, Meal_type, Drinking): seat
New value: 15
The seat is already registered.
Do you need allocate seat automatically for you? (Yes/No):yes
The new seat is 29, do you accept it? (Yes/No)no
Update fails.

If Invalid Input

If the email you want to updated is not registered, the it will show 'Attendee not found':

1001	olivialee55@example.com	9	Grilled Chicken	Mocktail
1001	oliviamartinez42@example.com	22	Tom Yum	Champagne
1001	oliviadrodriguez644@example.com	21	Chocolate Truffles	Champagne
1001	peterharris1027@example.com	11	Grilled Chicken	Juice
1001	robertbrown05@example.com	13	Charcuterie Board	Whiskey
1001	samanthawilson934@example.com	8	Chocolate Truffles	Champagne
1001	zoelawson1070@example.com	7	Charcuterie Board	Beer
1001	zoeydaniels285@example.com	12	Grilled Chicken	Whiskey

Please enter the attendee email: eg1@eg.com
The attendee not found.

And if the dish you update is not in the four choices of dishes of the corresponding banquet, the update is invalid and fails:

```

+-----+
| Please enter the attendee email: eg@eg.com |
+-----+
| Banquet ID | Email | Seat | Meal Type | Drinking |
+-----+
| 1001 | eg@eg.com | 31 | tom yum | tea |
+-----+
Enter the item you want to update (Seat, Meal_type, Drinking): meal_type
New value: dish_not_exist
+-----+
| Dish Name | Type | Price | Special Cuisine |
+-----+
| Charcuterie Board | Appetizer | 22.50 | French |
+-----+
| Chocolate Truffles | Dessert | 9.25 | Swiss |
+-----+
| Grilled Chicken | Main Course | 15.99 | Western |
+-----+
| Tom Yum | Soup | 9.25 | Thai |
+-----+
Input not in the valid choices

```

3.2 f) Generating Analysis Reports

In the Administrator Main Menu, you can select “6” to generate analysis reports, as below:

```

Administrator Main Menu
1. Viewing All Banquets
2. Creating New Banquets
3. Updating Banquet Status
4. Updating Dishes' Information
5. Updating Attendees Registration Records
6. Generating Analysis Reports
7. Logout
Please select (1/2/3/4/5/6/7): 6

```

And then if you select “1” and the input the specific banquet ID, you can generate a report about the corresponding banquet with basic information, attend ratio and ranks of dishes and drinkings:

```

+-----+
| 1.Special banquet Report |
| 2.Account Report |
| 3.Total banquet Report |
| Please select (1/2/3): 1 |
| Please enter the banquet ID: 1001 |
+-----+

Please enter the banquet ID: 1001
Banquet basic information:
+-----+
| Field | Value |
+-----+
| BIN | 1001 |
| Date and Time | 2025-01-10 18:00:00 |
| Name | Gala Dinner |
| Quota | 32 |
| Location | Grand Hall |
| Contact Staff | John Doe |
| Address | 123 Main St |
| Allow Registration | YES |
+-----+

Attend ratio: 84.38% (27/32)

Rank of dishes and drinkings:
+-----+
| Rank | Meal Type | Meal Count | Drink Type | Drinking Count |
+-----+
| 1 | Chocolate Truffles | 12 | 1 | 12 |
+-----+

```

If you select “2”, you will get a report on the attendees including the rank of number of registered banquets in descending order:

Printed Banquet Report
Please select (1/2/3): 2

Email	Name	Number of Banquets
liamharris864@example.com	Liam Harris	50
isabeladavis225@example.com	Isabela Davis	50
noahjohnson340@example.com	Noah Johnson	50
nathanmiller684@example.com	Nathan Miller	50
lucydaniels202@example.com	Lucy Daniels	50
samanthawilson934@example.com	Samantha Wilson	41
liamfletcher686@example.com	Liam Fletcher	41
addisonroberts1050@example.com	Addison Roberts	41
zoelawson1070@example.com	Zoe Lawson	41
olivialeee755@example.com	Olivia Lee	41

If you select “3”, you can get a report of all banquets with some ranks and participation rates:

Please select (1/2/3): 3

Top 10 Banquets by Participants:

BIN	Name	Participants
1030	Spring Festival	46
1019	Wedding Anniversary	44
1035	Summer BBQ	42
1010	Corporate Gala	42
1007	Annual Party	41
1043	Seasonal Celebration	40
1050	New Year Countdown	39
1011	Summer Festival	39
1048	Holiday Gala	38
1015	Holiday Party	36

Bottom 10 Banquets by Participants:

BIN	Name	Participants
1006	Team Building	11
1022	Investor Meeting	11
1024	End of Year Celebration	13
1049	Year-End Review	13
1047	Business Lunch	14
1017	Morning Seminar	15
1029	Fashion Show	16
1012	Tech Conference	16
1013	VIP Dinner	17
1038	Staff Appreciation	19

Top 10 Banquets by Participation Rate:

BIN	Name	Participants	Remaining Quota	Participation Rate
-----	------	--------------	-----------------	--------------------

After that, you manage banquets better:

3.3 Logout

In the Administrator Main Menu, you can select “7” to log out:

Administrator Main Menu
 1. Viewing All Banquets
 2. Creating New Banquets
 3. Updating Banquet Status
 4. Updating Dishes' Information
 5. Updating Attendees Registration Records
 6. Generating Analysis Reports
 7. Logout
 Please select (1/2/3/4/5/6/7): 7

Then you will see “Logout success”, which indicates the successful logout, and you will be sent back to the homepage:

Please select (1/2/3/4/5/6/7): 7

Logout success.

1. Attendee Account Login

2. Attendee Account Registration

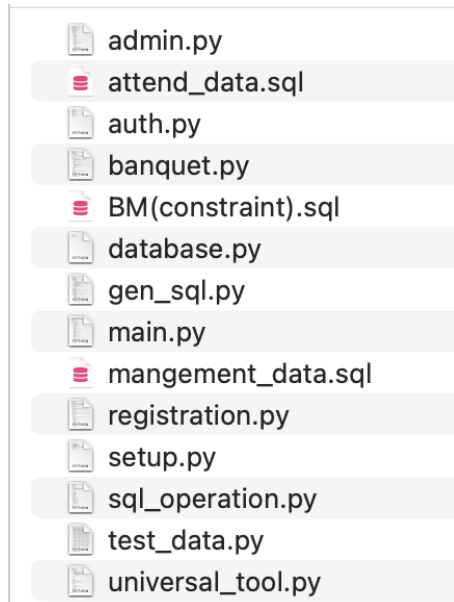
3. Administrator Login

Please select (1/2/3):

4. Appendix

A) More Details of Files Uploading

In our system, there are 14 files in total, and you are required to upload them all. Here are the list of all files:



The first two line of input commands:

!python setup.py

!python sql_opreation.py

The first line is used for the configuration of necessary libraries, the initialization of MySQL, and setting the default account and password as root.

The second line is used to create MySQL database, set necessary constraints, input testing data, and update the remaining quotas of banquets.

The second command:

!python main.py

This line is used to run the main program so that the BMS is started.

B) Methods of Returning the Previous Menu

In our BMS, you may want to return to the previous level when you enter some operations, but you don't want to finish the operation. Then you can enter some invalid inputs on purpose, and then you can get back to the previous menu.

For example, when registering, if you want to give up this registration, you can give some chaotic inputs that are invalid, and then you can be sent back to the homepage:

```
1. Attendee Account Login
2. Attendee Account Registration
3. Administrator Login
Please select (1/2/3): 2
Email: hscjdhkl,smnd
Email format invalid.
1. Attendee Account Login
2. Attendee Account Registration
3. Administrator Login
Please select (1/2/3): 
```

Another example, when you are registering a banquet but suddenly you don't want to register it, you can still give disordered inputs, and you can go back to the Attend Main Menu:

1048	Holiday Gala	2025-12-15 19:00:00	Leo, Martinez
1049	Year-End Review	2025-12-20 18:00:00	Isabella, Garci
1050	New Year Countdown	2025-12-31 22:00:00	Liam, Rodriguez
1051	Eg Party	2026-01-01 11:11:11	Fang, Shao

Banquet ID: 1032
Preferred seat number: uayhbcja,jf.lw0
The input should be integer.

```
Attend Main Menu
1. Viewing All Banquets
2. Filtering Banquets
3. Registering Banquets
4. Viewing Registered Banquets
5. Updating Account Information
6. Logout
Please select (1/2/3/4/5/6): 
```

A final example, when you are creating a banquet but you change your mind and don't want to create it anymore, such invalid inputs can still help you get back to the Administrator Main Menu:

```
3. Updating Banquet Status
4. Updating Dishes' Information
5. Updating Attendees Registration Records
6. Generating Analysis Reports
7. Logout
Please select (1/2/3/4/5/6/7): 2
Banquet ID: 1459
Banquet Name: eg_banquet
Date and Time (YYYY-MM-DD HH:MM:SS): vyjAJYSGhdnvcgaJM
Time format invaild,it should be 'YYYY-MM-DD HH:MM:SS'

Administrator Main Menu
1. Viewing All Banquets
2. Creating New Banquets
3. Updating Banquet Status
4. Updating Dishes' Information
5. Updating Attendees Registration Records
6. Generating Analysis Reports
7. Logout
Please select (1/2/3/4/5/6/7): 
```

C) Restart the system

Sometimes you may meet some problems that lead you to be kicked off from the system or you want to restart the system, then you can simply run this line of coding again if the first two lines

of setup and sql_operations are still functioning:

!python main.py

And please note that if the first two lines of setup and sql_operations are still functioning, you don't need to run them again.

---The End---