Languages and frameworks you used

For the front end of the project I use HTML, and I use Flask, MySql as the backend of the project.

Any changes you made to the schema, and their purpose

I didn't make any changes to the schema.

Any additional constraints, triggers, stored procedures, etc;

I set an additional constraint that a user can only have one role, for example a donor can't be a staff at the same time. I also set the supervisor of the order is also the person who delivers the order.

The main queries for each of the features you implemented. Show these as plain SQL, either with place-holders or dummy values for values that are being filled in based on users' choices (similar to the argument you would pass to execute a prepared statement).

Query for register/login

*SELECT * FROM Person WHERE username = %s # check if user exist*
INSERT INTO person VALUES(%s, %s, %s, %s, %s)
 # insert new value into act and person table
INSERT INTO Act VALUES(%s,%s)

Query for find single item

SELECT p.shelfNum, p.roomNum
FROM Piece as p
Where p.ItemID = %s
This query find all piece locations of the item with itemID from user

Query for find order items

SELECT i.ItemID, p.roomNum, p.shelfNum
FROM Piece as p Natural Join ItemIn as i
WHERE i.orderID = %s
Natural join these two tables let me know which items belong to the current order and Which pieces belong to these items. Then I select the piece locations with the item ID.

Query for accept donation

```
SELECT roleID from Act as a
WHERE a.userName = %s
```

This query gets the role of the current user, if the user is not staff, the user will be redirected to the home page by flask code.

```
SELECT userName
FROM Act
WHERE userName = %s and roleID = 'donor'
```

At this stage, the user has provided a donor id, this query will check if the donor is a valid donor.

```
SELECT mainCategory, subCategory
FROM Category
WHERE mainCategory = %s AND subCategory = %s
```

This query check if the category of the new donation exist

```
INSERT INTO Category (mainCategory, subCategory, catNotes)
VALUES (%s, %s, %s)
```

If the category doesn’t exist, the flask code will insert the new category into the database.

```
INSERT INTO Item (iDescription, photo, color, isNew, hasPieces, material,
mainCategory, subCategory)
VALUES (%s, %s, %s, %s, %s, %s, %s, %s)
INSERT INTO DonatedBy (ItemID, userName, donateDate)
VALUES (%s, %s, CURDATE())
```

Update the new donated item into an item table, also update the donated table by the donor’s id.

Query for update orders (task 10)

In the post mode

```
SELECT status
FROM Delivered
WHERE orderID = %s AND userName = %s
```

Select the status of the order supervised by the current user

If the current status is shipped, the user could update the status to not yet shipped. Vice versa.

```
UPDATE Delivered
SET status = %s
WHERE orderID = %s AND userName = %s
```

After the user clicks on the update status button, the query will update the delivered table with the new status.

```
SELECT o.orderID, o.orderDate, o.orderNotes, d.status
FROM Ordered AS o
NATURAL JOIN Delivered AS d
WHERE o.supervisor = %s
```

This query is for get mode, find the detail of orders supervised by the current user.

Query for year-end report

```
SELECT COUNT(Distinct userName) as co
FROM Person as p
NATURAL JOIN ACT as c
WHERE roleID = %s
```

Find the number of distinct users of this website.

```
SELECT LOWER(mainCategory) AS mc,
COUNT(*) AS donation_count
FROM Item
GROUP BY LOWER(mainCategory)
```

Find the donated items belong to each category

```
SELECT COUNT(*) AS small_count
FROM Piece
WHERE length < 50 AND width < 50;
```

Find the number of small pieces (piece with length and width both smaller than 50)

```
WITH r_count AS (
SELECT roleID, COUNT(*) AS c
FROM Act
GROUP BY roleID)
SELECT roleID, c
FROM r_count
WHERE c = (SELECT MAX(c) FROM r_count)
```

The r_count counts the number of people belonging to each role. Then I find the roles with the maximum number of people.

Any difficulties you encountered, lessons learned, etc

The biggest difficulty I met is during the setup stage, I tried to connect to my mySql however an error occurred. Then I realized I changed my password for mysql to something else other than root a couple months ago. I spent an hour trying to solve this issue.

The lesson I learned is I need to manage my passwords carefully, or maybe don't change the default password.

Which team members did what.

I work alone, so I finish all the parts by myself