D & A Project: Report

🥳 **Team 32**

Aditi Singh - 2022101075
Aryan Chandramania - 2021114004
Navdha Bansal - 2022101055
Srija Mukhopadyay - 2021114002
Harinie Sivaramasethu - 2021114008

Python Script Commands

To run the application, type `python 2.py` in the terminal.

To import the SQL dumpfile:

```
mysql -u your_username -p your_database_name < path/to/database_dump.sql
```

Retrievals

Selection

- **Command 1**
  - Select all menu items at a given price.

```
select ItemName as Item, Quantity, Price, UnitsSold as 'Units Sold', CanteenID as Canteen
from MENU_ITEMS
where Price = {};
```

- **Command 2**
  - Select all the canteens which open before a particular time on a particular day of the week.

```
select CanteenID as Canteen, OpeningYear as 'Opening Year', Location, {}
from CANTEEN
where '{}' < {};
```

Projection

- **Command 1**
  - Return the names of all the menu items that have a price more than Rs ‘X’.

```
select ItemName, Price as Item
from MENU_ITEMS
where Price > {};
```

- **Command 2**
  - Return the names of customers who are older than ‘Y’ years of age.

```
select Cname as Name, TIMESTAMPDIFF(YEAR, CDOB, CURDATE()) as Age
from CUSTOMER
where TIMESTAMPDIFF(YEAR, CDOB, CURDATE()) > {};
```

Aggregate

- **Command 1**
  - The **MIN** salary paid to the staff in a particular canteen.

```
SELECT MIN(Salary) AS 'Minimum Salary' FROM STAFF where CanID = {};
```

- **Command 2**
  - The **AVG** cost of all menu items in a particular canteen.

```
  SELECT AVG(Price) AS 'Average Cost' FROM MENU_ITEMS where CanteenID = {} ;
```

Searching

- **Command 1**

- Searches for staff with names beginning with a particular prefix.

```
SELECT Name FROM STAFF_DETAILS WHERE Name LIKE '{}%';
```

- **Command 2**
  - Searches for Menu Items with names beginning with a particular prefix.

```
SELECT ItemName as Name FROM MENU_ITEMS WHERE ItemName LIKE '{}%';
```

Analysis

- **Command 1**
  - Find the top 5 selling items.

```
SELECT ItemName, Quantity, CanteenID, SUM(UnitsSold) AS TotalUnitsSold
                    FROM MENU_ITEMS
                    GROUP BY ItemName, Quantity, CanteenID
                    ORDER BY TotalUnitsSold DESC LIMIT 5;
```

- **Command 2**
  - Get customer spending analysis (total spend).

```
SELECT c.CustomerID, c.Cname, SUM(o.TotalPrice) AS TotalSpent \
                    FROM CUSTOMER AS c \
                    LEFT JOIN ORDER_TABLE AS o \
                    ON c.CustomerID = o.CustomerID \
                    GROUP BY c.CustomerID, c.Cname \
                    ORDER BY TotalSpent DESC;
```

- **Command 3**
  - Get the total revenue for each canteen.

```
SELECT C.CanteenID, SUM(O.TotalPrice) AS TotalRevenue
                    FROM CANTEEN C
```

```
                    JOIN ORDER_TABLE O ON C.CanteenID = O.CanteenPlaced
                    GROUP BY C.CanteenID;
```

Modifications

Insertion

- **Command 1**
  - Insert a new customer.

```
INSERT INTO CUSTOMER (CustomerID, Cname, CDOB, CustomerRole) VALUES (%s, %s, %s, %s);
```

- **Command 2**
  - Insert a new canteen.

```
INSERT INTO CANTEEN (CanteenID, OpeningYear, Location) VALUES (%s, %s, %s);
```

Delete

- **Command 1**
  - Delete a Staff Member.

```
DELETE STAFF, STAFF_DETAILS
            FROM STAFF
            LEFT JOIN STAFF_DETAILS ON STAFF.Aadhar = STAFF_DETAILS.Aadhar
            WHERE STAFF.StaffID = {staff_id};
```

- **Command 2**
  - Delete a Customer.

```
DELETE FROM CUSTOMER WHERE CustomerID = {customer_id};
```

Update

- **Command 1**

- Update the price of a menu item.

```
UPDATE MENU_ITEMS SET Price = %s WHERE ItemName = %s;
```

- **Command 2**
  - Update the dependent of a staff member.

```
UPDATE STAFF SET CanID = %s WHERE StaffID = %s;
```

Find the demo here