COM1025 Web and Database Systems

Coursework Assignment

University Accommodation Office

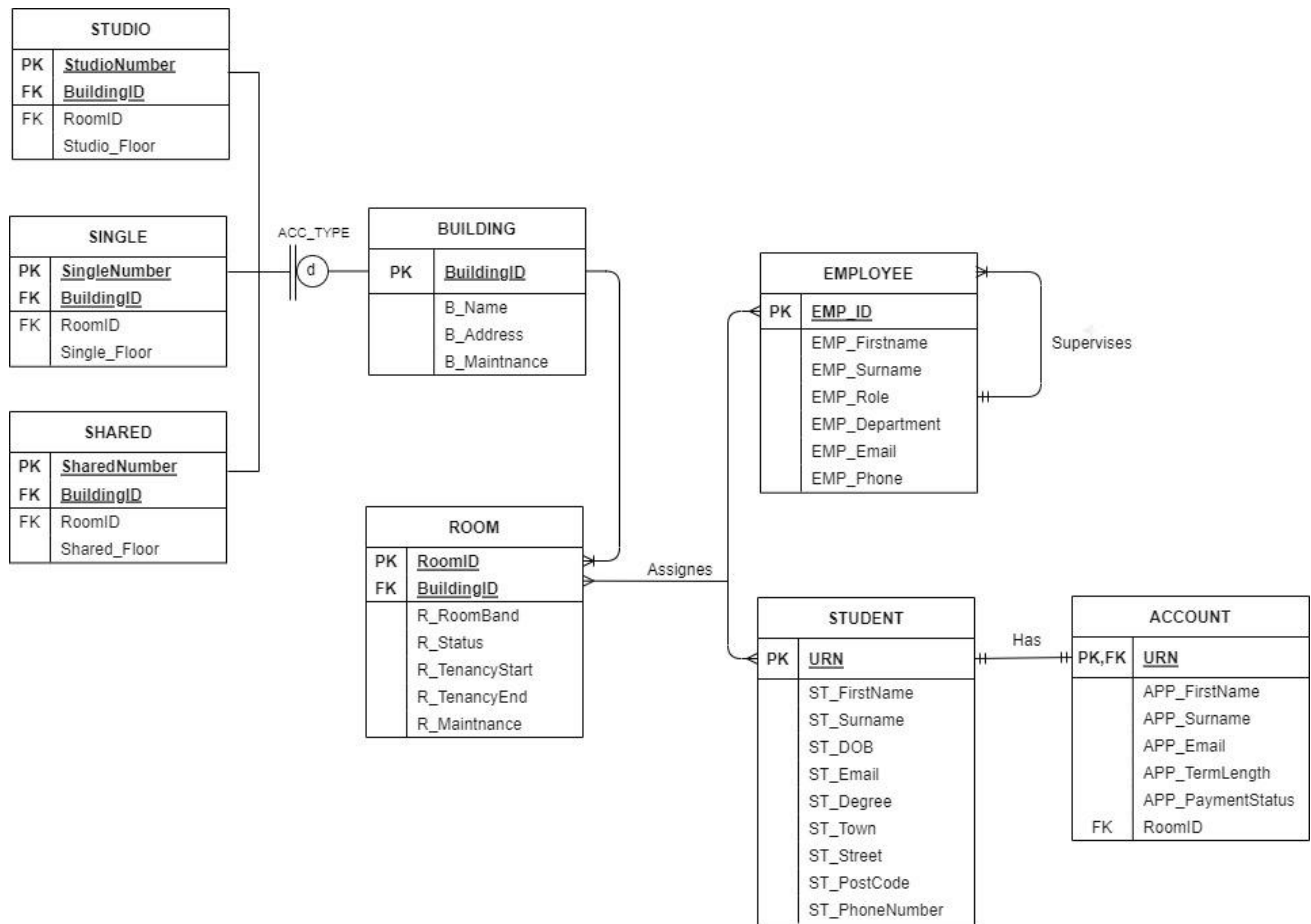| URN	6720789
Username	SHADEN ELKHAMIS
Date	December 1st 2023

1   Business Rules

1. Building - Studio/Single/Shared
   1.1. There are three types of accommodations: Studios, Single private rooms, and Shared rooms.
   1.2. A building cant be allocated for more than one accommodation type.
   1.3. A building must either be allocated for Studios, Single rooms, or shared rooms living.
2. Building - Room
   2.1. There are multiple rooms in each building.
   2.2. Each room has to be in at least one building.
3. Student - Account
   3.1. A student can only have one account.
   3.2. Only one account can belong to a student.
4. Account
   4.1. Each account contains the number of weeks (term) the room is rented for.
   4.2. Each account contains the payment status of the accommodation rented.
5. Employee - Student - Room
   5.1. Employees assign multiple or one student to a Room.
   5.2. Many students can be assigned into the same room (shared accommodation).
   5.3. A room can be assigned to multiple or one student.
6. Employee - Employee
   6.1. An employee (Manager or Supervisor positions) must oversee at least one or many other employees.
   6.2. An employee (Assistant or Junior positions) must be overseen by one and only one other employee.
7. Room
   7.1. A room can either be a studio, single, or shared living accommodation.
   7.2. Each room's status is either occupied or available.
   7.3. Each occupied room needs scheduled maintenance.

2   Assumptions

1. A Student could have multiple Emails
2. Each room has a unique RoomID
3. Builings each have one accommodation type

3 Extended Entity Relationship Diagram (EERD)

This diagram was created using Draw.io

4 Logical Relational Database Schema

BUILDING (BuildingID, B_Name, B_Address, B_Maintnance)

PRIMARY KEY: BuildingID

STUDIO (BuildingID, StudioNumber, RoomID, Studio_Floor)

PRIMARY KEY: StudioNumber
FOREIGN KEY: BuildingID REFERENCES ACCOMMODATION(BuildingID), RoomID
REFERENCES ROOM(RoomID)

SINGLE (BuildingID, SingleNumber, RoomID, Single_Floor)

PRIMARY KEY: SingleNumber
FOREIGN KEY: BuildingID REFERENCES ACCOMMODATION(BuildingID), RoomID
REFERENCES ROOM(RoomID)

SHARED (BuildingID, SharedNumber, RoomID, Shared_Floor)

PRIMARY KEY: SharedNumber
FOREIGN KEY: BuildingID REFERENCES ACCOMMODATION(BuildingID), RoomID
REFERENCES ROOM(RoomID)

ROOM (RoomID, BuildingID, R_RoomBAnd, R_Status, R_Occupants, R_TenancyStart,
R_TenancyEnd, R_Maintance)

PRIMARY KEY: RoomID
FOREIGN KEY: BuildingID REFERENCES ACCOMMODATION(BuildingID)

EMPLOYEE (EMP_ID, EMP_FirstName, EMP_Surname, EMP_Riole, EMP_Depanrment,
EMP_Phone)

PRIMARY KEY: EMP_ID

STUDENT (URN, ST_FirstName, ST_Surname, ST_DOB, ST_Email, ST_Degree, ST_Town,
ST_Street, ST_Postcode, ST_PhoneNumber)

PRIMARY KEY: URN

ACCOUNT (URN, APP_FirstName, APP_Surname, APP_Email, APP_TermLength,
APP_PaymentStatus, RoomID)

PRIMARY KEY: URN
FOREIGN KEY: URN REFERENCES STUDENT(URN), RoomID REFERENCES ROOM(RoomID)

5   Website Working with MySQL Database

The website is used by accommodation department employees to navigate through maintenance requests submitted by students and check pending rent payments on accommodations.
The user is prompted to login using their Email and ID, after successful form submission the user is then presented with maintenance requests and pending payments tables.

Files:

a. db_connect.php
> Connects to database.

b. index.php
> Login page formatting.

c. login.php
> Php code that runs SQL query to check if login credentials match database records, if credentials match redirect user to welcome page.

d. style.css
> Css file for index.php.

e. welcome.php
> Html code for Welcome page formatting, contains SQL query that displays table results after button click.

f. welcomestyle.css
> Css file for welcome.php.

g. maintenance.png/pendingpayments.png
> Pngs used for welcome page.

6 Advanced Tasks

Task 1 advanced work
Task 5 advanced work

7   References

University of Surrey. (no date) Overview of accommodation. Available at:
https://www.surrey.ac.uk/accommodation/our-accommodation [Accessed: 1 December 2023].

javatpoint. (no date) HTML login form. Available at: https://www.javatpoint.com/html-login-form
[Accessed: 15 December 2023].

Freepik. (2021) Easy Maintenance Free Icons designed by Freepik. Flaticon. Available at:
https://www.flaticon.com/free-icon/easy-maintenance_4497559 [Accessed: 22 December 2023].

Cleanpng.com. (no date) Invoice icon - unlimited download. Available at:
https://www.cleanpng.com/png-computer-icons-invoice-pound-sign-pound-sterling-f-2455307/download-png.html [Accessed: 22 December 2023].

code referenced is added into code files as comments

8   Appendix: Screenshots of Website

Accommodation Services Staff Login

Input Login credentials

Email :

Enter Email

EmployeeID :

Enter Employee ID

Login

Accommodation Services

Welcome

Maintenance	RoomID	BuildingID
Y	40123	5
Y	50202	3
Y	60110	1
Y	70415	7

Maintenance Requests

Payment Status	URN	Email
Pending	213456	sophie.brown@surrey.ac.uk
Pending	557890	jane.smith@surrey.ac.uk
Pending	685764	bob.johnson@surrey.ac.uk
Pending	754321	grace.anderson@surrey.ac.uk

Pending Payments