ROBERT GORDON UNIVERSITY ABERDEEN TEF Gold

INFORMATICS INSTITUTE OF TECHNOLOGY

BSc (Hons) Artificial Intelligence and Data Science

Module: CM1603 Database Systems

Individual Coursework Report

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Section 4:

01) Extended Entity Relationship Diagram (EERD)

Assumptions

01). i). Each Project belongs to only one Customer.
   ii). Each Customer gives one or more Projects.

02). i). Each Payment makes by only one Customer.
   ii). Each Customer pays on zero or more Payments.

03). i). A Position is held by one or more Staff members.
   ii). A Staff member can work on one or two Positions.

04). i). A Payment belongs to only one Project.
   ii). A Project has one or more Payments

05). Position Entity owns a sub class Supervisor.

06). A Staff member may or may not have an assigned as Supervisor.

07). Customer Entity owns two sub classes as Company and Individual.

08). In ternary relationship each Entity has to participate one or more. Staff can be on zero or more Projects. Project has one or more Assignments. And Staff may be assigned to zero to more Assignments.

09). Start date of the week and no of workings hours taken as relationship attributes.
   (Date_of _the_week) (No_of_working_hours)

02). Relational Schema Diagram
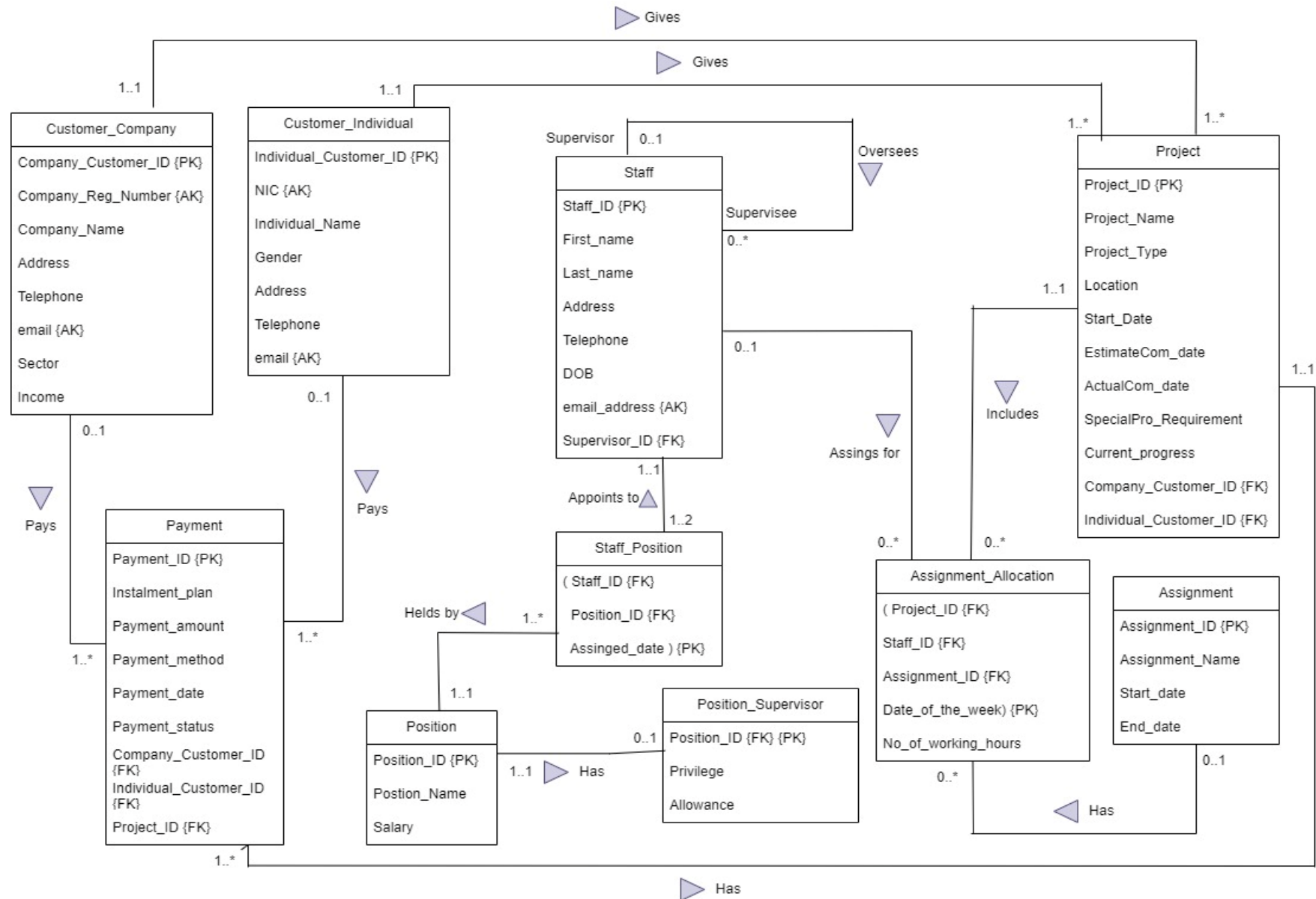
<u>Assumptions</u>

01). Customer_ID changed as Company_Customer_ID and Individual_Customer_ID in
Customer_Company and Customer_Individual tables respectively. And assigned as Primary keys of
each table.

02). Staff table, Supervisor_ID added as a foreign key which is refer to the Primary key of Saff table
(Staff_ID).

03). Payment table has Compay_Customer_ID, Individual_Customer_ID and Project_ID as primary
keys.

04). Staff_Position table has Staff_ID, Position_ID and Assigned_date as foreign keys and
combination of these three keys makes the primary key.

05). Position_Supervisor table includes Position_ID as foreign key and assigned it to the Primary key
of the table.

06). Project Table includes Company_Customer_ID and Individual_Customer_ID as foreign keys.

07). Assignment_Allocation table includes Project_ID, Staff_ID and Assignment_ID as foreign keys
and combination of these three keys and Date_of _the_week makes the primary key.

Creation of the database

Run SQL query/queries on server "127.0.0.1":

```
1 CREATE DATABASE Builders_Citadel;
```

Database ▲	Collation	Action
builders_citadel	utf8mb4_general_ci	Check privileges
information_schema	utf8_general_ci	Check privileges
megafirm	utf8mb4_general_ci	Check privileges
mysql	utf8mb4_general_ci	Check privileges
performance_schema	utf8_general_ci	Check privileges
phpmyadmin	utf8_bin	Check privileges
test	latin1_swedish_ci	Check privileges

Total: 7

Creation of tables

i). Customer_Company Table

Run SQL query/queries on database builders_citadel:

```
 1 CREATE TABLE Customer_Company
 2 (Company_Customer_ID char(4),
 3  Company_Reg_number char(10) UNIQUE NOT NULL,
 4  Company_name varchar (100) NOT NULL,
 5  Address varchar (100) NOT NULL,
 6  Telephone varchar (15) NOT NULL,
 7  email varchar (100) UNIQUE NOT NULL,
 8  Sector varchar (50),
 9  Income decimal (12,2),
10  CONSTRAINT CC_ID_PK PRIMARY KEY (Company_customer_ID)
11 );
```

Company_Customer_ID	Company_Reg_number	Company_name	Address	Telephone	email	Sector	Income

ii). Customer_Individual Table

```sql
Run SQL query/queries on database builders_citadel:

 1  CREATE TABLE Customer_Individual
 2  (Individual_Customer_ID char (4),
 3   NIC varchar (12) UNIQUE NOT NULL,
 4   Individual_Name varchar(200) NOT NULL,
 5   Gender char(1) NOT NULL,
 6   Address varchar(100) NOT NULL,
 7   Telephone varchar(15) NOT NULL,
 8   email varchar(100) UNIQUE NOT NULL,
 9   CONSTRAINT IC_ID_PK PRIMARY KEY (Individual_Customer_ID)
10  );
```

Individual_Customer_ID	NIC	Individual_Name	Gender	Address	Telephone	email

iii). Project Table

```sql
Run SQL query/queries on database builders_citadel:

 1  CREATE TABLE Project
 2  (Project_ID char (3),
 3   Project_Name varchar(100) NOT NULL,
 4   Project_Type varchar(20) NOT NULL,
 5   Location varchar(20) NOT NULL,
 6   Start_Date date NOT NULL,
 7   EstimateCom_Date date NOT NULL,
 8   ActualCom_Date date,
 9   SpecialPro_Requirement varchar(100),
10   Current_progress varchar(20) NOT NULL,
11   Company_Customer_ID char(4),
12   Individual_Customer_ID char(4),
13   CONSTRAINT pro_ID_PK PRIMARY KEY (Project_ID),
14   CONSTRAINT pro_CC_FK FOREIGN KEY (Company_Customer_ID) REFERENCES Customer_Company(Company_Customer_ID),
15   CONSTRAINT pro_IC_FK FOREIGN KEY (Individual_Customer_ID) REFERENCES Customer_Individual(Individual_Customer_ID)
16  );
```

Project_ID	Project_Name	Project_Type	Location	Start_Date	EstimateCom_Date	ActualCom_Date	SpecialPro_Requirement	Current_progress	Company_Customer_ID	Individual_Customer_ID

iv). Payment Table

```
Run SQL query/queries on database builders_citadel:

1  CREATE TABLE Payment
2  (Payment_ID char(5),
3   Instalment_plan varchar (20) NOT NULL,
4   Payment_amount decimal (9,2) NOT NULL,
5   Payment_method varchar (20) NOT NULL,
6   Payment_date date NOT NULL,
7   Payment_status varchar (20) NOT NULL,
8   Company_Customer_ID char(4),
9   Individual_Customer_ID char(4),
10  Project_ID char(3),
11  CONSTRAINT pay_ID_PK PRIMARY KEY (Payment_ID),
12  CONSTRAINT p_company_FK FOREIGN KEY (Company_Customer_ID) REFERENCES Customer_Company(Company_Customer_ID),
13  CONSTRAINT p_individual_FK FOREIGN KEY (Individual_Customer_ID) REFERENCES Customer_Individual(Individual_Customer_ID),
14  CONSTRAINT p_pro_FK FOREIGN KEY (Project_ID) REFERENCES Project (Project_ID)
15 );
```

Payment_ID	Instalment_plan	Payment_amount	Payment_method	Payment_date	Payment_status	Company_Customer_ID	Individual_Customer_ID	Project_ID

v). Assignment Table

```
Run SQL query/queries on database builders_citadel:

1  CREATE TABLE Assignment
2  (Assignment_ID char (3),
3   Assignment_Name varchar(100) NOT NULL,
4   Start_date date NOT NULL,
5   End_date date,
6   CONSTRAINT As_ID_PK PRIMARY KEY (Assignment_ID)
7  );
8
```

Assignment_ID	Assignment_Name	Start_date	End_date

vi). Staff Table

```
 1  CREATE TABLE Staff
 2  (Staff_ID char (4),
 3   First_name varchar (20) NOT NULL,
 4   Last_name varchar (20) NOT NULL,
 5   Address varchar (100) NOT NULL,
 6   Telephone varchar (15),
 7   DOB date NOT NULL,
 8   email_address varchar (100) UNIQUE NOT NULL,
 9   Supervisor_ID char(4),
10   CONSTRAINT s_ID_PK PRIMARY KEY (Staff_ID),
11   CONSTRAINT sup_ID_FK FOREIGN KEY (Supervisor_ID) REFERENCES Staff (Staff_ID)
12  );
```

Run SQL query/queries on database builders_citadel:

Staff_ID	First_name	Last_name	Address	Telephone	DOB	email_address	Supervisor_ID

vii). Position Table

```
 1  CREATE TABLE Position
 2  (Position_ID char (3),
 3   Position_Name varchar(20) NOT NULL,
 4   Salary decimal (8,2) NOT NULL,
 5   CONSTRAINT po_ID_PK PRIMARY KEY (Position_ID)
 6  );
 7
 8
```

Run SQL query/queries on database builders_citadel:

Position_ID	Position_Name	Salary

viii). Position_Supervisor Table

```
1  CREATE TABLE Position_Supervisor
2  (Position_ID char (3),
3   Privilege varchar (100),
4   Allowance decimal (7,2),
5   CONSTRAINT PS_ID_FK FOREIGN KEY (Position_ID) REFERENCES Position (Position_ID),
6   CONSTRAINT PS_ID_PK PRIMARY KEY (Position_ID)
7  );
8
```

Position_ID	Privilege	Allowance

ix). Staff_Position Table

```
1  CREATE TABLE Staff_Position
2  (Staff_ID char (4),
3   Position_ID char (3),
4   Assigned_date date,
5   CONSTRAINT SPS_ID_FK FOREIGN KEY (Staff_ID) REFERENCES Staff (Staff_ID),
6   CONSTRAINT SPP_ID_FK FOREIGN KEY (Position_ID) REFERENCES Position (Position_ID),
7   CONSTRAINT SPO_ID_PK PRIMARY KEY (Staff_ID,Position_ID,Assigned_date)
8  );
9
10
```

Staff_ID	Position_ID	Assigned_date

x). Assignment_Allocation Table

Run SQL query/queries on database builders_citadel:

```
1  CREATE TABLE Assignment_Allocation
2  (Project_ID char (3),
3   Staff_ID char (4),
4   Assignment_ID char (3),
5   Date_of_the_week date NOT NULL,
6   No_of_working_hours varchar (4),
7   CONSTRAINT DAS_pro_FK FOREIGN KEY (Project_ID) REFERENCES Project (Project_ID),
8   CONSTRAINT DAS_sta_FK FOREIGN KEY (Staff_ID) REFERENCES Staff (Staff_ID),
9   CONSTRAINT DAS_AS_FK FOREIGN KEY (Assignment_ID) REFERENCES Assignment (Assignment_ID),
10  CONSTRAINT DAS_PK PRIMARY KEY (Project_ID,Staff_ID,Assignment_ID,Date_of_the_week)
11 );
```

Project_ID	Staff_ID	Assignment_ID	Date_of_the_week	No_of_working_hours

Whole Database Tables Structure

Table △	Action						Rows ℹ	Type	Collation	Size	Overhead
☐ **assignment**	⭐	🔲 Browse	📋 Structure	🔍 Search	➡️ Insert	🗑 Empty	⊖ Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
☐ **assignment_allocation**	⭐	🔲 Browse	📋 Structure	🔍 Search	➡️ Insert	🗑 Empty	⊖ Drop	0	InnoDB	utf8mb4_general_ci	48.0 KiB	-
☐ **customer_company**	⭐	🔲 Browse	📋 Structure	🔍 Search	➡️ Insert	🗑 Empty	⊖ Drop	0	InnoDB	utf8mb4_general_ci	48.0 KiB	-
☐ **customer_individual**	⭐	🔲 Browse	📋 Structure	🔍 Search	➡️ Insert	🗑 Empty	⊖ Drop	0	InnoDB	utf8mb4_general_ci	48.0 KiB	-
☐ **payment**	⭐	🔲 Browse	📋 Structure	🔍 Search	➡️ Insert	🗑 Empty	⊖ Drop	0	InnoDB	utf8mb4_general_ci	64.0 KiB	-
☐ **position**	⭐	🔲 Browse	📋 Structure	🔍 Search	➡️ Insert	🗑 Empty	⊖ Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
☐ **position_supervisor**	⭐	🔲 Browse	📋 Structure	🔍 Search	➡️ Insert	🗑 Empty	⊖ Drop	0	InnoDB	utf8mb4_general_ci	16.0 KiB	-
☐ **project**	⭐	🔲 Browse	📋 Structure	🔍 Search	➡️ Insert	🗑 Empty	⊖ Drop	0	InnoDB	utf8mb4_general_ci	48.0 KiB	-
☐ **staff**	⭐	🔲 Browse	📋 Structure	🔍 Search	➡️ Insert	🗑 Empty	⊖ Drop	0	InnoDB	utf8mb4_general_ci	48.0 KiB	-
☐ **staff_position**	⭐	🔲 Browse	📋 Structure	🔍 Search	➡️ Insert	🗑 Empty	⊖ Drop	0	InnoDB	utf8mb4_general_ci	32.0 KiB	-
10 tables	**Sum**						**0**	**InnoDB**	**utf8mb4_general_ci**	**384.0 KiB**	**0 B**

Logical Schema Diagram Example from System
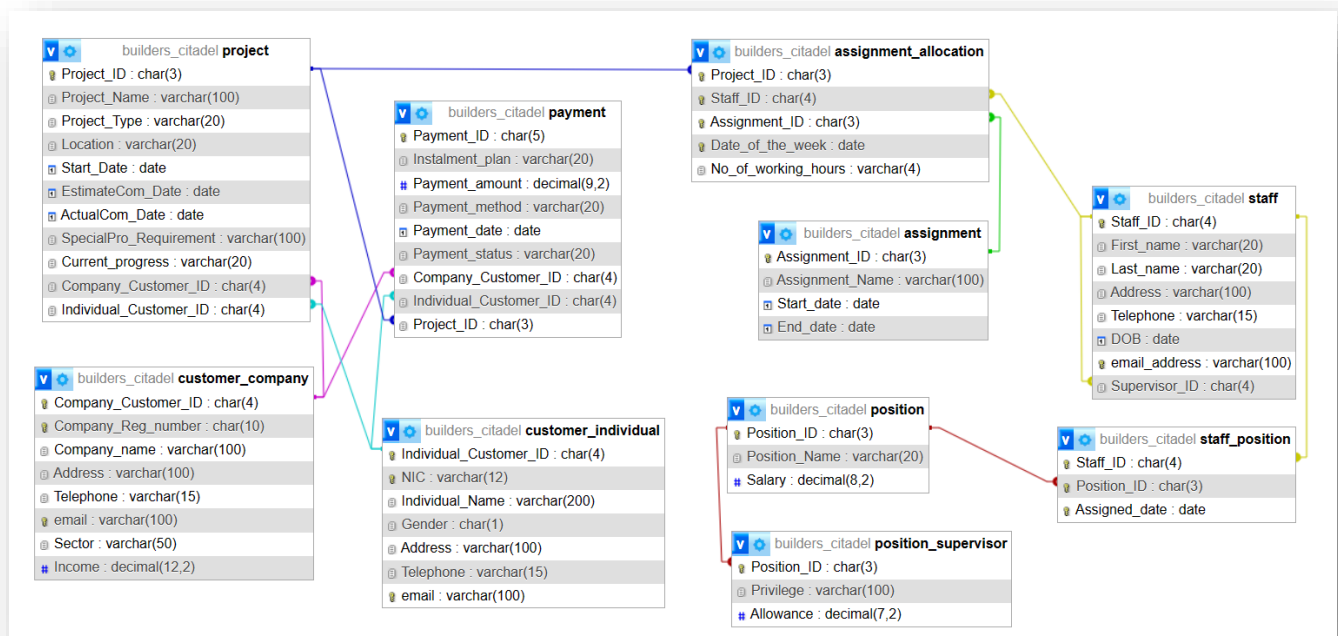
Population of data

i). Customer_Company Table

```
Run SQL query/queries on database builders_citadel:

 1  INSERT INTO Customer_Company (Company_Customer_ID,Company_Reg_number,Company_name,Address,Telephone,email,Sector,Income)
 2  VALUES
 3  ('CC01',20231001,'David Motors','No. 64, Peterson Road, Colombo','0113456788','dm@gmail.com','Motor',4500000000.00),
 4  ('CC02',20231002,'Saman Creators','No. 88, Lake Side, Kandy','0812345675','sc@gmail.com','Technology',850000000.00),
 5  ('CC03',20231003,'Nihal Fashions','No. 56, Temple Lane, Matara','0414567896','nf@gmail.com','Fashion',3200000000.00),
 6  ('CC04',20231004,'Pet Home','No. 45/B, Station Road, Galle','0913457865','ph@gmail.com','Market',1200000000.00),
 7  ('CC05',20231005,'Raj Hospitals','No.5/C/L, Hamilton Road, Colombo','0112567896','rh@gmail.com','Health',890000000.00),
 8  ('CC06',20231006,'Flower Decorators','No.36, Colombo Road, Kandy','0814563478','fd@gmail.com','Design',3600000000.00),
 9  ('CC07',20231007,'S&S Technologies','No.56, Siva Road, Miriswatta, Gampaha','0334245786','sst@gmail.com','Technology',8700000000.00),
10  ('CC08',20231008,'Grapes Hotel','No.67, 2nd Lane, Kaluthara','0346712312','gh@gmail.com','Hotel',9000000000.00);
```

|		Company_Customer_ID	Company_Reg_number	Company_name	Address	Telephone	email	Sector	Income
☐	Edit Copy Delete	CC01	20231001	David Motors	No. 64, Peterson Road, Colombo	0113456788	dm@gmail.com	Motor	4500000000.00
☐	Edit Copy Delete	CC02	20231002	Saman Creators	No. 88, Lake Side, Kandy	0812345675	sc@gmail.com	Technology	850000000.00
☐	Edit Copy Delete	CC03	20231003	Nihal Fashions	No. 56, Temple Lane, Matara	0414567896	nf@gmail.com	Fashion	3200000000.00
☐	Edit Copy Delete	CC04	20231004	Pet Home	No. 45/B, Station Road, Galle	0913457865	ph@gmail.com	Market	1200000000.00
☐	Edit Copy Delete	CC05	20231005	Raj Hospitals	No.5/C/L, Hamilton Road, Colombo	0112567896	rh@gmail.com	Health	890000000.00
☐	Edit Copy Delete	CC06	20231006	Flower Decorators	No.36, Colombo Road, Kandy	0814563478	fd@gmail.com	Design	3600000000.00
☐	Edit Copy Delete	CC07	20231007	S&S Technologies	No.56, Siva Road, Miriswatta, Gampaha	0334245786	sst@gmail.com	Technology	8700000000.00
☐	Edit Copy Delete	CC08	20231008	Grapes Hotel	No.67, 2nd Lane, Kaluthara	0346712312	gh@gmail.com	Hotel	9000000000.00

ii). Customer_Individual Table

```
Run SQL query/queries on database builders_citadel:

 1  INSERT INTO customer_individual(Individual_Customer_ID,NIC,Individual_Name,Gender,Address,Telephone,email)
 2  VALUES
 3  ('CI01',199012347896,'Paul Martin','M','No. 45. High Level Road, Colombo','0113456548','pm1@gmail.com'),
 4  ('CI02',198978654589,'Nancy Drew','F','No. 88. Madduma Bandra Lane, Kandy','0812345675','nd1@gmail.com'),
 5  ('CI03',199710231003,'Nilu Mendis','F','No. 4/K, City Lane, Colombo','0114564596','nm1@gmail.com'),
 6  ('CI04',195856784534,'Simon Cowell','M','No. 59, Perera Road, Galle','0917867865','sc1@gmail.com'),
 7  ('CI05',196727531005,'Taylor Anderson','M','No. 77, Aaru Road, Jaffna','0212564626','ta1@gmail.com'),
 8  ('CI06',197823261006,'Lilly Collins','F','No. 27, Queen Road, Kandy','0814563478','lc1@gmail.com'),
 9  ('CI07',198940255307,'Andy Murry','M','No. 37/E, Dehiowita Main Street, Kegalle','0364244486','am1@gmail.com'),
10  ('CI08',198720456708,'Gaz Peterson','M','No.331/N, Main Street, Dambulla','0666719812','gp1@gmail.com');
```

		Individual_Customer_ID	NIC	Individual_Name	Gender	Address	Telephone	email
☐	Edit Copy Delete	CI01	199012347896	Paul Martin	M	No. 45. High Level Road, Colombo	0113456548	pm1@gmail.com
☐	Edit Copy Delete	CI02	198978654589	Nancy Drew	F	No. 88. Madduma Bandra Lane, Kandy	0812345675	nd1@gmail.com
☐	Edit Copy Delete	CI03	199710231003	Nilu Mendis	F	No. 4/K, City Lane, Colombo	0114564596	nm1@gmail.com
☐	Edit Copy Delete	CI04	195856784534	Simon Cowell	M	No. 59, Perera Road, Galle	0917867865	sc1@gmail.com
☐	Edit Copy Delete	CI05	196727531005	Taylor Anderson	M	No. 77, Aaru Road, Jaffna	0212564626	ta1@gmail.com
☐	Edit Copy Delete	CI06	197823261006	Lilly Collins	F	No. 27, Queen Road, Kandy	0814563478	lc1@gmail.com
☐	Edit Copy Delete	CI07	198940255307	Andy Murry	M	No. 37/E, Dehiowita Main Street, Kegalle	0364244486	am1@gmail.com
☐	Edit Copy Delete	CI08	198720456708	Gaz Peterson	M	No.331/N, Main Street, Dambulla	0666719812	gp1@gmail.com

iii). Assignment Table

```
Run SQL query/queries on database builders_citadel:

 1  INSERT INTO Assignment (Assignment_ID,Assignment_name,Start_date,End_date)
 2  VALUES
 3  ('A01','Floor Design','2023-11-09',NULL),
 4  ('A02','Wall Painting','2023-12-19',NULL),
 5  ('A03','Cleaning Process','2023-01-09','2023-11-12'),
 6  ('A04','Roof Design','2023-01-31','2024-02-27'),
 7  ('A05','Electricity Circuit Design','2023-06-03','2023-09-13'),
 8  ('A06','Finance Budget','2023-06-09','2023-07-15'),
 9  ('A07','Gather Customer Requirements','2023-08-23',NULL),
10  ('A08','Marketing Process','2023-04-18',NULL),
11  ('A09','Connecting Constructors','2022-11-12',NULL),
12  ('A10','Managing Budget','2023-03-09',NULL),
13  ('A11','Planning Architecter','2023-02-18',NULL),
14  ('A12','Creating Solutions','2022-10-19',NULL),
15  ('A13','Transport Managing','2023-01-15',NULL),
16  ('A14','Utility Process','2023-04-05',NULL),
17  ('A15','Interior Design','2023-05-13',NULL);
18
```

	Assignment_ID	Assignment_Name	Start_date	End_date
Edit Copy Delete	A01	Floor Design	2023-11-09	NULL
Edit Copy Delete	A02	Wall Painting	2023-12-19	NULL
Edit Copy Delete	A03	Cleaning Process	2023-01-09	2023-11-12
Edit Copy Delete	A04	Roof Design	2023-01-31	2024-02-27
Edit Copy Delete	A05	Electricity Circuit Design	2023-06-03	2023-09-13
Edit Copy Delete	A06	Finance Budget	2023-06-09	2023-07-15
Edit Copy Delete	A07	Gather Customer Requirements	2023-08-23	NULL
Edit Copy Delete	A08	Marketing Process	2023-04-18	NULL
Edit Copy Delete	A09	Connecting Constructors	2022-11-12	NULL
Edit Copy Delete	A10	Managing Budget	2023-03-09	NULL
Edit Copy Delete	A11	Planning Architecter	2023-02-18	NULL
Edit Copy Delete	A12	Creating Solutions	2022-10-19	NULL
Edit Copy Delete	A13	Transport Managing	2023-01-15	NULL
Edit Copy Delete	A14	Utility Process	2023-04-05	NULL
Edit Copy Delete	A15	Interior Design	2023-05-13	NULL

iv). Project Table

```sql
1  INSERT INTO Project
   (Project_ID,Project_Name,Project_Type,Location,Start_Date,EstimateCom_Date,ActualCom_Date,SpecialPro_Requirement,Current_progress,Company_Customer_ID,Individual_
   Customer_ID)
2  VALUES
3  ('P01','Secret Achivements','Construction','Colombo','2023-12-15','2024-10-15',NULL,'Frist Aid','Ongoing','CC02',NULL),
4  ('P02','Project Rock','Construction','Gampha','2023-11-25','2024-03-23','2024-03-20',NULL,'Done','CC07',NULL),
5  ('P03','Motivated','Renovation','Kandy','2024-01-23','2024-06-23',NULL,'Risk Assesments','Need approval',NULL,'CI05'),
6  ('P04','Far Away','Construction','Jaffna','2023-10-02','2024-05-07',NULL,'Proper Equipments','Ongoing',NULL,'CI02'),
7  ('P05','C&S','Renovation','Kaluthara','2023-12-04','2024-02-19','2024-02-24','NULL','Done','CC04',NULL),
8  ('P06','Cartoon','Construction','Colombo','2023-11-09','2024-03-30','2024-03-28','Trainied Staff','Done',NULL,'CI03'),
9  ('P07','D&V','Construction','Matara','2023-12-30','2024-01-31','2024-02-05','Safety Equipments','Done',NULL,'CI07'),
10 ('P08','Diverse','Renovation','Ragama','2023-09-04','2024-05-30',NULL,'Measuring Equipments','Ongoing','CC06',NULL),
11 ('P09','Colors','Renovation','Galle','2023-12-30','2024-02-29','2024-02-26',NULL,'Done','CC08',NULL),
12 ('P10','Modern Structure','Construction','Kandy','2023-12-15','2024-08-15',NULL,NULL,'Need approval',NULL,'CI01'),
13 ('P11','Actural Result','Construction','Colombo','2023-09-20','2024-02-13','2024-02-09',NULL,'Done','CC05',NULL),
14 ('P12','S&S','Construction','Nuwara Eliya','2023-08-12','2024-04-07','2024-03-25','First Aid','Done',NULL,'CI04'),
15 ('P13','Creation','Renovation','Jaffna','2024-01-10','2024-02-29','2024-03-02','NULL','Done',NULL,'CI06'),
16 ('P14','New','Renovation','Colombo','2023-11-05','2024-04-10',NULL,'Trained Staff','Ongoing','CC08',NULL),
17 ('P15','Wasted','Construction','Kandy','2023-12-09','2024-02-10',NULL,NULL,'Canceled','CC03',NULL),
18 ('P16','Wonder','Construction','Colombo','2024-01-10','2024-05-30',NULL,'Fire Plan','Ongoing',NULL,'CI07'),
19 ('P17','Pure Talent','Renovation','Matara','2023-10-09','2024-12-09',NULL,'Trained Staff','Need approval','CC01',NULL),
20 ('P18','Wonder World','Renovation','Colombo','2023-08-11','2023-12-28','2023-12-30',NULL,'Done',NULL,'CI08'),
21 ('P19','Hello World','Renovation','Galle','2024-01-25','2025-01-09',NULL,'First Aid','Ongoing',NULL,'CI06'),
22 ('P20','Heaven','Construction','Kandy','2024-03-20','2026-06-20',NULL,'Safety Equipments','Need approval','CC05',NULL);
23
```

Project_ID	Project_Name	Project_Type	Location	Start_Date	EstimateCom_Date	ActualCom_Date	SpecialPro_Requirement	Current_progress	Company_Customer_ID	Individual_Customer_ID
P01	Secret Achivements	Construction	Colombo	2023-12-15	2024-10-15	NULL	Frist Aid	Ongoing	CC02	NULL
P02	Project Rock	Construction	Gampha	2023-11-25	2024-03-23	2024-03-20	NULL	Done	CC07	NULL
P03	Motivated	Renovation	Kandy	2024-01-23	2024-06-23	NULL	Risk Assesments	Need approval	NULL	CI05
P04	Far Away	Construction	Jaffna	2023-10-02	2024-05-07	NULL	Proper Equipments	Ongoing	NULL	CI02
P05	C&S	Renovation	Kaluthara	2023-12-04	2024-02-19	2024-02-24	NULL	Done	CC04	NULL
P06	Cartoon	Construction	Colombo	2023-11-09	2024-03-30	2024-03-28	Trainied Staff	Done	NULL	CI03
P07	D&V	Construction	Matara	2023-12-30	2024-01-31	2024-02-06	Safety Equipments	Done	NULL	CI07
P08	Diverse	Renovation	Ragama	2023-09-04	2024-05-30	NULL	Measuring Equipments	Ongoing	CC06	NULL
P09	Colors	Renovation	Galle	2023-12-30	2024-02-29	2024-02-26	NULL	Done	CC08	NULL
P10	Modern Structure	Construction	Kandy	2023-12-15	2024-08-15	NULL	NULL	Need approval	NULL	CI01
P11	Actural Result	Construction	Colombo	2023-09-20	2024-02-13	2024-02-09	NULL	Done	CC05	NULL
P12	S&S	Construction	Nuwara Eliya	2023-08-12	2024-04-07	2024-03-25	First Aid	Done	NULL	CI04
P13	Creation	Renovation	Jaffna	2024-01-10	2024-02-29	2024-03-02	NULL	Done	NULL	CI06
P14	New	Renovation	Colombo	2023-11-05	2024-04-10	NULL	Trained Staff	Ongoing	CC08	NULL
P15	Wasted	Construction	Kandy	2023-12-09	2024-02-10	NULL	NULL	Canceled	CC03	NULL
P16	Wonder	Construction	Colombo	2024-01-10	2024-05-30	NULL	Fire Plan	Ongoing	NULL	CI07
P17	Pure Talent	Renovation	Matara	2023-10-09	2024-12-09	NULL	Trained Staff	Need approval	CC01	NULL
P18	Wonder World	Renovation	Colombo	2023-08-11	2023-12-28	2023-12-30	NULL	Done	NULL	CI08
P19	Hello World	Renovation	Galle	2024-01-25	2025-01-09	NULL	First Aid	Ongoing	NULL	CI06
P20	Heaven	Construction	Kandy	2024-03-20	2026-06-20	NULL	Safety Equipments	Need approval	CC05	NULL

v). Position Table

Run SQL query/queries on database builders_citadel:

```
 1  INSERT INTO Position (Position_ID,Position_Name,Salary)
 2  VALUES
 3  ('S01','Field Engineer',250000.00),
 4  ('S02','Architect',300000.00),
 5  ('S03','Design Manager',350000.00),
 6  ('S04','Interior Designer',300000.00),
 7  ('S05','Finance Manager',250000.00),
 8  ('S06','Estimator',250000.00),
 9  ('S07','Project Manager',300000.00),
10  ('S08','Director',400000.00),
11  ('S09','Civil Engineer',250000.00),
12  ('S10','Database Manager',250000.00),
13  ('S11','Cashier',250000.00),
14  ('S12','Laborer',90000.00),
15  ('S13','Duty Manager',200000.00);
16
```

				Position_ID	Position_Name	Salary
☐	✎ Edit	⌗ Copy	⊖ Delete	S01	Field Engineer	250000.00
☐	✎ Edit	⌗ Copy	⊖ Delete	S02	Architect	300000.00
☐	✎ Edit	⌗ Copy	⊖ Delete	S03	Design Manager	350000.00
☐	✎ Edit	⌗ Copy	⊖ Delete	S04	Interior Designer	300000.00
☐	✎ Edit	⌗ Copy	⊖ Delete	S05	Finance Manager	250000.00
☐	✎ Edit	⌗ Copy	⊖ Delete	S06	Estimator	250000.00
☐	✎ Edit	⌗ Copy	⊖ Delete	S07	Project Manager	300000.00
☐	✎ Edit	⌗ Copy	⊖ Delete	S08	Director	400000.00
☐	✎ Edit	⌗ Copy	⊖ Delete	S09	Civil Engineer	250000.00
☐	✎ Edit	⌗ Copy	⊖ Delete	S10	Database Manager	250000.00
☐	✎ Edit	⌗ Copy	⊖ Delete	S11	Cashier	250000.00
☐	✎ Edit	⌗ Copy	⊖ Delete	S12	Laborer	90000.00
☐	✎ Edit	⌗ Copy	⊖ Delete	S13	Duty Manager	200000.00

vi). Position_Supervisor Table


```
1  INSERT INTO Position_Supervisor (Position_ID,Privilege,Allowance)
2  VALUES
3  ('S03','Flexible Schedule',2300.00),
4  ('S05','Work From Home',5200.00),
5  ('S07','Create Own Team For Work',8000.00),
6  ('S10','Work From Home',4500.00),
7  ('S13','Design Own Working Space',7600.00);
8
9
```

	Position_ID	Privilege	Allowance
Edit Copy Delete	S03	Flexible Schedule	2300.00
Edit Copy Delete	S05	Work From Home	5200.00
Edit Copy Delete	S07	Create Own Team For Work	8000.00
Edit Copy Delete	S10	Work From Home	4500.00
Edit Copy Delete	S13	Design Own Working Space	7600.00

vii). Payment Table

```
1  INSERT INTO Payment
   (Payment_ID,Instalment_plan,Payment_amount,Payment_method,Payment_date,Payment_status,Company_Customer_ID,Individual_Customer_ID,Project_ID)
2  VALUES
3  ('Pay01','One Time',3500000.00,'Cash','2024-02-15','Complete','CC02',NULL,'P01'),
4  ('Pay02','Monthly',2300000.00,'Cash','2024-01-15','Have a balance','CC07',NULL,'P02'),
5  ('Pay03','Monthly',1200000.00,'Cash','2024-02-15','Complete','CC07',NULL,'P02'),
6  ('Pay04','Monthly',1100000.00,'Online Transfer','2024-03-23','Have a balance',NULL,'CI05','P03'),
7  ('Pay05','Monthly',1300000.00,'Online Transfer','2024-01-30','Have a balance',NULL,'CI02','P04'),
8  ('Pay06','One Time',1500000.00,'Cash','2024-02-12','Complete','CC04',NULL,'P05'),
9  ('Pay07','Monthly',1800000.00,'Cash','2023-12-13','Have a balance',NULL,'CI03','P06'),
10 ('Pay08','Monthly',2000000.00,'Cash','2024-01-13','Have a balance',NULL,'CI03','P06'),
11 ('Pay09','Monthly',1500000.00,'Cash','2024-02-13','Complete',NULL,'CI03','P06'),
12 ('Pay10','One Time',1000000.00,'Online Transfer','2024-01-31','Complete',NULL,'CI07','P07'),
13 ('Pay11','Monthly',1300000.00,'Card Payment','2024-02-20','Have a balance','CC06',NULL,'P08'),
14 ('Pay12','One Time',1500000.00,'Cash','2024-01-16','Complete','CC08',NULL,'P09'),
15 ('Pay13','One Time',1000000.00,'Card Payment','2024-02-15','Complete','CC05',NULL,'P11'),
16 ('Pay14','One Time',1500000.00,'Card Payment','2024-02-29','Complete',NULL,'CI04','P12'),
17 ('Pay15','One Time',1200000.00,'Online Transfer','2024-01-12','Complete',NULL,'CI06','P13'),
18 ('Pay16','Monthly',1000000.00,'Cash','2024-03-15','Have a balance','CC08',NULL,'P14'),
19 ('Pay17','Monthly',1500000.00,'Cash','2024-02-22','Have a balance',NULL,'CI07','P16'),
20 ('Pay18','One Time',3500000.00,'Cash','2023-12-27','Complete',NULL,'CI08','P18'),
21 ('Pay19','Yearly',5000000.00,'Online Transfer','2024-02-25','Have a balance',NULL,'CI06','P19'),
22 ('Pay20','Yearly',4000000.00,'Card Payment','2024-03-21','Have a balance','CC05',NULL,'P20');
23
```

Payment_ID	Instalment_plan	Payment_amount	Payment_method	Payment_date	Payment_status	Company_Customer_ID	Individual_Customer_ID	Project_ID
Pay01	One Time	3500000.00	Cash	2024-02-15	Complete	CC02	NULL	P01
Pay02	Monthly	2300000.00	Cash	2024-01-15	Have a balance	CC07	NULL	P02
Pay03	Monthly	1200000.00	Cash	2024-02-15	Complete	CC07	NULL	P02
Pay04	Monthly	1100000.00	Online Transfer	2024-03-23	Have a balance	NULL	CI05	P03
Pay05	Monthly	1300000.00	Online Transfer	2024-01-30	Have a balance	NULL	CI02	P04
Pay06	One Time	1500000.00	Cash	2024-02-12	Complete	CC04	NULL	P05
Pay07	Monthly	1800000.00	Cash	2023-12-13	Have a balance	NULL	CI03	P06
Pay08	Monthly	2000000.00	Cash	2024-01-13	Have a balance	NULL	CI03	P06
Pay09	Monthly	1500000.00	Cash	2024-02-13	Complete	NULL	CI03	P06
Pay10	One Time	1000000.00	Online Transfer	2024-01-31	Complete	NULL	CI07	P07
Pay11	Monthly	1300000.00	Card Payment	2024-02-20	Have a balance	CC06	NULL	P08
Pay12	One Time	1500000.00	Cash	2024-01-16	Complete	CC08	NULL	P09
Pay13	One Time	1000000.00	Card Payment	2024-02-15	Complete	CC05	NULL	P11
Pay14	One Time	1500000.00	Card Payment	2024-02-29	Complete	NULL	CI04	P12
Pay15	One Time	1200000.00	Online Transfer	2024-01-12	Complete	NULL	CI06	P13
Pay16	Monthly	1000000.00	Cash	2024-03-15	Have a balance	CC08	NULL	P14
Pay17	Monthly	1500000.00	Cash	2024-02-22	Have a balance	NULL	CI07	P16
Pay18	One Time	3500000.00	Cash	2023-12-27	Complete	NULL	CI08	P18
Pay19	Yearly	5000000.00	Online Transfer	2024-02-25	Have a balance	NULL	CI06	P19
Pay20	Yearly	4000000.00	Card Payment	2024-03-21	Have a balance	CC05	NULL	P20

viii). Staff Table

```
Run SQL query/queries on database builders_citadel: 

1  INSERT INTO Staff (Staff_id,First_name,Last_name,Address,Telephone,DOB,email_address,Supervisor_id)
2  VALUES
3  (1001,'Sam','Anderson','No. 45, Fonseka Road, Colombo','0778965423','1990-10-23','sam@gmail.com',NULL),
4  (1002,'Cole','Sprouse','No. 03, Lake Round, Kandy','0776548244','1992-08-04','cs@gmail.com',NULL),
5  (1003,'Tom','Hans','No. 101/A, Aparekka, Matara','0784327851','1990-09-12','th@gmail.com',NULL),
6  (1004,'Joe','Root','No, 23, St. Andrew Drive, Nuwara Eliya','0741182320','1990-12-30','jr@gmail.com',1002),
7  (1005,'Jos','Buttler','No. 99, Godagama, Homagama, Colombo District, Colombo','0765678237','1990-09-06','jb@gmail.com',1003),
8  (1006,'Ben','Stokes','No. 34/09, 1st Lane, Perakumba Road, Kurunegala','0713326589','1989-03-19','bs@gmail.com',NULL),
9  (1007,'Lina','Del','No. 56/CD, Karaitivu, Jaffna','0753446781','1991-10-09','ld@gmail.com',1006),
10 (1008,'Steve','Smith','No. 89, Parrawa Street, Galle','0713278754','1993-12-09','ss@gmail.com',NULL),
11 (1009,'Kane','Williamson','No. 78, S. W. R. D. Bandaranayaka Mawatha, Kandy','0786433211','1993-06-19','ks@gmail.com',NULL),
12 (1010,'Sara','Anderson','No. 45, Station Road, Kalutara','0754238901','1995-08-05','sa@gmail.com',1002),
13 (1011,'Kara','Miller','No. 73, Deraniyagala Road, Kegalle','0786544312','1993-03-23','km@gmail.com',1003),
14 (1012,'Alex','Hales','No. 7/N/3, Gammana Road, Maharagama, Colombo District, Colombo','0745872139','1991-09-27','ah@gmail.com',NULL),
15 (1013,'Robert','Jackson','No. 48, Godage Mawatha, Anuradhapura','0754329771','1995-10-26','rj@gmail.com',1009),
16 (1014,'Mason','Miller','No. 88, Chruch Road, Polonnaruwa','0754766322','1996-06-05','m@gmail.com',1012),
17 (1015,'Sam','Rover','No. 44, Harbour Road, Matara','0723355679','1992-05-04','sr@gmail.com',NULL),
18 (1016,'Deen','Samson','No. 61, 6th Avenue, Ampara','0715674321','1994-09-23','ds@gmail.com',NULL),
19 (1017,'Jack','Dawson','No. 58, Hantana Pedesa Road, Kandy','0776548671','1996-09-03','jd@gmail.com',1006),
20 (1018,'Paul','Peterson','No. 66, Gangaaramaya Mawatha, Gampaha','0785549085','1993-08-06','pp@gmail.com',1009),
21 (1019,'Jason','Roy','No. 95, Udugama Road, Galle','0765477633','1989-07-07','jar@gmail.com',1012),
22 (1020,'Mark','Cooler','No. 73, Temple Road, Kaluthara','0765547601','1985-04-10','mc@gmail.com',NULL),
23 (1021,'Lisa','Holmes','No. 3123, 15th Floor, Havelock City, Colombo','0786754432','1995-06-04','lh@gmail.com',1012),
24 (1022,'Jane','Hamilton','No. 81, Kovil Road, Jaffna','0763321556','1990-08-27','jh@gmail.com',NULL),
25 (1023,'Cameron','Heather','No. 63, Flower Road, Dambulla','0776895432','1995-11-23','ch@gmail.com',NULL),
26 (1024,'Bob','Willy','No. 54, 3rd Lane, Badulla','0743365745','1994-09-02','bw@gmail.com',1020),
27 (1025,'Stuart','Broad','No. 85, Anderson Road, Nugegoda, Colombo District, Colombo','0776589768','1995-03-19','sb@gmail.com',NULL);
```

				Staff_ID	First_name	Last_name	Address	Telephone	DOB	email_address	Supervisor_ID
☐	Edit	Copy	Delete	1001	Sam	Anderson	No. 45, Fonseka Road, Colombo	0778965423	1990-10-23	sam@gmail.com	NULL
☐	Edit	Copy	Delete	1002	Cole	Sprouse	No. 03, Lake Round, Kandy	0776548244	1992-08-04	cs@gmail.com	NULL
☐	Edit	Copy	Delete	1003	Tom	Hans	No. 101/A, Aparekka, Matara	0784327851	1990-09-12	th@gmail.com	NULL
☐	Edit	Copy	Delete	1004	Joe	Root	No, 23, St. Andrew Drive, Nuwara Eliya	0741182320	1990-12-30	jr@gmail.com	1002
☐	Edit	Copy	Delete	1005	Jos	Buttler	No. 99, Godagama, Homagama, Colombo District, Colo...	0765678237	1990-09-06	jb@gmail.com	1003
☐	Edit	Copy	Delete	1006	Ben	Stokes	No. 34/09, 1st Lane, Perakumba Road, Kurunegala	0713326589	1989-03-19	bs@gmail.com	NULL
☐	Edit	Copy	Delete	1007	Lina	Del	No. 56/CD, Karaitivu, Jaffna	0753446781	1991-10-09	ld@gmail.com	1006
☐	Edit	Copy	Delete	1008	Steve	Smith	No. 89, Parrawa Street, Galle	0713278754	1993-12-09	ss@gmail.com	NULL
☐	Edit	Copy	Delete	1009	Kane	Williamson	No. 78, S. W. R. D. Bandaranayaka Mawatha, Kandy	0786433211	1993-06-19	ks@gmail.com	NULL
☐	Edit	Copy	Delete	1010	Sara	Anderson	No. 45, Station Road, Kalutara	0754238901	1995-08-05	sa@gmail.com	1002
☐	Edit	Copy	Delete	1011	Kara	Miller	No. 73, Deraniyagala Road, Kegalle	0786544312	1993-03-23	km@gmail.com	1003
☐	Edit	Copy	Delete	1012	Alex	Hales	No. 7/N/3, Gammana Road, Maharagama, Colombo Distr...	0745872139	1991-09-27	ah@gmail.com	NULL
☐	Edit	Copy	Delete	1013	Robert	Jackson	No. 48, Godage Mawatha, Anuradhapura	0754329771	1995-10-26	rj@gmail.com	1009
☐	Edit	Copy	Delete	1014	Mason	Miller	No. 88, Chruch Road, Polonnaruwa	0754766322	1996-06-05	m@gmail.com	1012
☐	Edit	Copy	Delete	1015	Sam	Rover	No. 44, Harbour Road, Matara	0723355679	1992-05-04	sr@gmail.com	NULL
☐	Edit	Copy	Delete	1016	Deen	Samson	No. 61, 6th Avenue, Ampara	0715674321	1994-09-23	ds@gmail.com	NULL
☐	Edit	Copy	Delete	1017	Jack	Dawson	No. 58, Hantana Pedesa Road, Kandy	0776548671	1996-09-03	jd@gmail.com	1006
☐	Edit	Copy	Delete	1018	Paul	Peterson	No. 66, Gangaaramaya Mawatha, Gampaha	0785549085	1993-08-06	pp@gmail.com	1009
☐	Edit	Copy	Delete	1019	Jason	Roy	No. 95, Udugama Road, Galle	0765477633	1989-07-07	jar@gmail.com	1012
☐	Edit	Copy	Delete	1020	Mark	Cooler	No. 73, Temple Road, Kaluthara	0765547601	1985-04-10	mc@gmail.com	NULL
☐	Edit	Copy	Delete	1021	Lisa	Holmes	No. 3123, 15th Floor, Havelock City, Colombo	0786754432	1995-06-04	lh@gmail.com	1012
☐	Edit	Copy	Delete	1022	Jane	Hamilton	No. 81, Kovil Road, Jaffna	0763321556	1990-08-27	jh@gmail.com	NULL
☐	Edit	Copy	Delete	1023	Cameron	Heather	No. 63, Flower Road, Dambulla	0776895432	1995-11-23	ch@gmail.com	NULL
☐	Edit	Copy	Delete	1024	Bob	Willy	No. 54, 3rd Lane, Badulla	0743365745	1994-09-02	bw@gmail.com	1020
☐	Edit	Copy	Delete	1025	Stuart	Broad	No. 85, Anderson Road, Nugegoda, Colombo District,...	0776589768	1995-03-19	sb@gmail.com	NULL

ix). Staff_Position Table

```
Run SQL query/queries on database builders_citadel:

 1  INSERT INTO staff_position (Staff_ID,Position_ID,Assigned_date) VALUES
 2  (1002,'S03','2021-07-23'),
 3  (1003,'S07','2021-08-04'),
 4  (1006,'S10','2021-08-07'),
 5  (1009,'S13','2021-08-31'),
 6  (1012,'S05','2021-09-09'),
 7  (1020,'S07','2021-09-15'),
 8  (1001,'S09','2021-09-20'),
 9  (1004,'S02','2021-10-11'),
10  (1005,'S09','2021-10-15'),
11  (1007,'S02','2021-10-20'),
12  (1008,'S08','2021-10-30'),
13  (1010,'S04','2021-11-09'),
14  (1011,'S01','2021-11-15'),
15  (1013,'S12','2021-11-25'),
16  (1014,'S11','2021-11-27'),
17  (1015,'S04','2021-11-28'),
18  (1016,'S01','2021-12-02'),
19  (1017,'S04','2021-12-02'),
20  (1018,'S12','2021-12-10'),
21  (1019,'S06','2021-12-12'),
22  (1021,'S11','2021-12-14'),
23  (1022,'S06','2021-12-15'),
24  (1023,'S08','2021-12-22'),
25  (1024,'S09','2021-12-28'),
26  (1025,'S08','2021-12-30'),
27  (1001,'S01','2022-12-01'),
28  (1008,'S02','2022-12-01'),
29  (1020,'S09','2022-12-01'),
30  (1023,'S04','2022-12-01'),
31  (1009,'S08','2022-12-01');
```

|				Staff_ID	Position_ID	Assigned_date
☐	Edit	Copy	Delete	1001	S01	2022-12-01
☐	Edit	Copy	Delete	1001	S09	2021-09-20
☐	Edit	Copy	Delete	1002	S03	2021-07-23
☐	Edit	Copy	Delete	1003	S07	2021-08-04
☐	Edit	Copy	Delete	1004	S02	2021-10-11
☐	Edit	Copy	Delete	1005	S09	2021-10-15
☐	Edit	Copy	Delete	1006	S10	2021-08-07
☐	Edit	Copy	Delete	1007	S02	2021-10-20
☐	Edit	Copy	Delete	1008	S02	2022-12-01
☐	Edit	Copy	Delete	1008	S08	2021-10-30
☐	Edit	Copy	Delete	1009	S08	2022-12-01
☐	Edit	Copy	Delete	1009	S13	2021-08-31
☐	Edit	Copy	Delete	1010	S04	2021-11-09
☐	Edit	Copy	Delete	1011	S01	2021-11-15
☐	Edit	Copy	Delete	1012	S05	2021-09-09
☐	Edit	Copy	Delete	1013	S12	2021-11-25
☐	Edit	Copy	Delete	1014	S11	2021-11-27
☐	Edit	Copy	Delete	1015	S04	2021-11-28
☐	Edit	Copy	Delete	1016	S01	2021-12-02
☐	Edit	Copy	Delete	1017	S04	2021-12-02
☐	Edit	Copy	Delete	1018	S12	2021-12-10
☐	Edit	Copy	Delete	1019	S06	2021-12-12
☐	Edit	Copy	Delete	1020	S07	2021-09-15
☐	Edit	Copy	Delete	1020	S09	2022-12-01
☐	Edit	Copy	Delete	1021	S11	2021-12-14
☐	Edit	Copy	Delete	1022	S06	2021-12-15
☐	Edit	Copy	Delete	1023	S04	2022-12-01
☐	Edit	Copy	Delete	1023	S08	2021-12-22
☐	Edit	Copy	Delete	1024	S09	2021-12-28
☐	Edit	Copy	Delete	1025	S08	2021-12-30

x). Assignment_Allocation Table

```
Run SQL query/queries on database builders_citadel:  ⓘ

 1  INSERT INTO Assignment_Allocation (Project_ID,Staff_ID,Assignment_ID,Date_of_the_week,No_of_working_hours)
 2  VALUES
 3  ('P01',1001,'A09','2023-12-29','4 H'),
 4  ('P02',1004,'A11','2023-11-28','3 H'),
 5  ('P03',1006,'A12','2024-01-25','8 H'),
 6  ('P04',1005,'A14','2023-10-30','6 H'),
 7  ('P05',1018,'A03','2023-12-06','5 H'),
 8  ('P06',1007,'A12','2023-11-12','8 H'),
 9  ('P07',1011,'A13','2024-01-06','4 H'),
10  ('P08',1022,'A06','2023-10-15','3 H'),
11  ('P09',1016,'A07','2024-01-10','7 H'),
12  ('P10',1012,'A06','2023-12-18','4 H'),
13  ('P11',1013,'A03','2023-10-28','8 H'),
14  ('P12',1002,'A04','2023-08-24','5 H'),
15  ('P13',1005,'A05','2024-01-19','2 H'),
16  ('P14',1010,'A02','2023-12-17','3 H'),
17  ('P15',1012,'A06','2023-12-20','4 H'),
18  ('P16',1023,'A15','2024-01-25','6 H'),
19  ('P17',1019,'A06','2023-10-30','1 H'),
20  ('P18',1003,'A08','2023-08-17','10 H'),
21  ('P19',1009,'A03','2024-03-12','2 H'),
22  ('P20',1015,'A15','2024-03-21','6 H'),
23  ('P02',1017,'A02','2023-11-28','4 H'),
24  ('P13',1019,'A09','2024-01-31','12 H'),
25  ('P08',1020,'A07','2023-12-06','6 H'),
26  ('P06',1024,'A01','2024-02-05','5 H'),
27  ('P16',1025,'A08','2024-02-08','8 H');
```

	Project_ID	Staff_ID	Assignment_ID	Date_of_the_week	No_of_working_hours
☐ 🖉 Edit ⬛ Copy ⊖ Delete	P01	1001	A09	2023-12-29	4 H
☐ 🖉 Edit ⬛ Copy ⊖ Delete	P02	1004	A11	2023-11-28	3 H
☐ 🖉 Edit ⬛ Copy ⊖ Delete	P02	1017	A02	2023-11-28	4 H
☐ 🖉 Edit ⬛ Copy ⊖ Delete	P03	1006	A12	2024-01-25	8 H
☐ 🖉 Edit ⬛ Copy ⊖ Delete	P04	1005	A14	2023-10-30	6 H
☐ 🖉 Edit ⬛ Copy ⊖ Delete	P05	1018	A03	2023-12-06	5 H
☐ 🖉 Edit ⬛ Copy ⊖ Delete	P06	1007	A12	2023-11-12	8 H
☐ 🖉 Edit ⬛ Copy ⊖ Delete	P06	1024	A01	2024-02-05	5 H
☐ 🖉 Edit ⬛ Copy ⊖ Delete	P07	1011	A13	2024-01-06	4 H
☐ 🖉 Edit ⬛ Copy ⊖ Delete	P08	1020	A07	2023-12-06	6 H
☐ 🖉 Edit ⬛ Copy ⊖ Delete	P08	1022	A06	2023-10-15	3 H
☐ 🖉 Edit ⬛ Copy ⊖ Delete	P09	1016	A07	2024-01-10	7 H
☐ 🖉 Edit ⬛ Copy ⊖ Delete	P10	1012	A06	2023-12-18	4 H
☐ 🖉 Edit ⬛ Copy ⊖ Delete	P11	1013	A03	2023-10-28	8 H
☐ 🖉 Edit ⬛ Copy ⊖ Delete	P12	1002	A04	2023-08-24	5 H
☐ 🖉 Edit ⬛ Copy ⊖ Delete	P13	1005	A05	2024-01-19	2 H
☐ 🖉 Edit ⬛ Copy ⊖ Delete	P13	1019	A09	2024-01-31	12 H
☐ 🖉 Edit ⬛ Copy ⊖ Delete	P14	1010	A02	2023-12-17	3 H
☐ 🖉 Edit ⬛ Copy ⊖ Delete	P15	1012	A06	2023-12-20	4 H
☐ 🖉 Edit ⬛ Copy ⊖ Delete	P16	1023	A15	2024-01-25	6 H
☐ 🖉 Edit ⬛ Copy ⊖ Delete	P16	1025	A08	2024-02-08	8 H
☐ 🖉 Edit ⬛ Copy ⊖ Delete	P17	1019	A06	2023-10-30	1 H
☐ 🖉 Edit ⬛ Copy ⊖ Delete	P18	1003	A08	2023-08-17	10 H
☐ 🖉 Edit ⬛ Copy ⊖ Delete	P19	1009	A03	2024-03-12	2 H
☐ 🖉 Edit ⬛ Copy ⊖ Delete	P20	1015	A15	2024-03-21	6 H

Structure of the database after inserting data

Table	Action						Rows	Type	Collation	Size	Overhead
assignment	☆	Browse	Structure	Search	Insert	Empty	Drop	15	InnoDB	utf8mb4_general_ci	16.0 KiB	-
assignment_allocation	☆	Browse	Structure	Search	Insert	Empty	Drop	25	InnoDB	utf8mb4_general_ci	48.0 KiB	-
customer_company	☆	Browse	Structure	Search	Insert	Empty	Drop	8	InnoDB	utf8mb4_general_ci	48.0 KiB	-
customer_individual	☆	Browse	Structure	Search	Insert	Empty	Drop	8	InnoDB	utf8mb4_general_ci	48.0 KiB	-
payment	☆	Browse	Structure	Search	Insert	Empty	Drop	20	InnoDB	utf8mb4_general_ci	64.0 KiB	-
position	☆	Browse	Structure	Search	Insert	Empty	Drop	13	InnoDB	utf8mb4_general_ci	16.0 KiB	-
position_supervisor	☆	Browse	Structure	Search	Insert	Empty	Drop	5	InnoDB	utf8mb4_general_ci	16.0 KiB	-
project	☆	Browse	Structure	Search	Insert	Empty	Drop	20	InnoDB	utf8mb4_general_ci	48.0 KiB	-
staff	☆	Browse	Structure	Search	Insert	Empty	Drop	25	InnoDB	utf8mb4_general_ci	48.0 KiB	-
staff_position	☆	Browse	Structure	Search	Insert	Empty	Drop	30	InnoDB	utf8mb4_general_ci	32.0 KiB	-
10 tables	**Sum**						**169**	**InnoDB**	**utf8mb4_general_ci**	**384.0 KiB**	**0 B**

Data Manipulation with SQL

Questions- Answers

a). Display details of the projects located in Colombo and Kandy regions which were completed within the last 6 months.

```
Run SQL query/queries on database builders_citadel:

1 SELECT Location,ActualCom_date
2 FROM Project
3 WHERE (Location LIKE '%Colombo%' or Location LIKE '%Kandy%' ) AND (ActualCom_date>'2023-09-27'  AND ActualCom_date<'2024-03-27');
```

				Location	Completed Date
☐	Edit	Copy	Delete	Colombo	2024-02-09
☐	Edit	Copy	Delete	Colombo	2023-12-30

b). Display the project code, company name, estimated date of completion and the total payments received from the ongoing renovation projects sponsored by company customers.

```
1 SELECT Project.Project_ID AS 'Project Code',Customer_Company.Company_name AS 'Company Name',Project.EstimateCom_Date AS 'Estimated Completion Date',
  SUM(Payment.Payment_amount) AS 'Total Payments received from the ongoing renovation projects sponsored by company customers'
2 FROM Project
3 JOIN Customer_Company ON Project.Company_Customer_ID=Customer_Company.Company_Customer_ID
4 LEFT JOIN Payment ON Project.Project_ID=Payment.Project_ID
5 WHERE Project.Project_Type='Renovation' AND  Project.Current_progress='Ongoing'
6 GROUP BY Project.Project_ID,Customer_Company.Company_name,Project.EstimateCom_Date;
7
```

Project Code	Company Name	Estimated Completion Date	Total Payments received from the ongoing renovation projects sponsored by company customers
P08	Flower Decorators	2024-05-30	1300000.00
P14	Grapes Hotel	2024-04-10	1000000.00

Reference List

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   -Chapter 17: Methodology- Logical Database for the Relational Model (Pages 527- 560)

3. SQL LEFT JOIN Keyword- W3schools.com- *SQL LEFT JOIN Keyword (w3schools.com)*

4. The SQL GROUP BY Statement- W3schools.com-
   SQL GROUP BY Statement (w3schools.com)