

DATABASE MANAGEMENT SYSTEM PROJECT

Mall Management Database system

TEAM:

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PROBLEM STATEMENT:

Shopping malls are fast becoming a central part of life all over the world. Many malls are being constructed in all developing countries. However, maintenance of malls is an important necessity. So, we have designed a database to store information about all Malls in a particular city. The database will be accessible to the administrator of the Malls including their managers. It will be handled by Tenant Officers. Also, it will contain all required information about different places around a Mall

like Shops of different categories, Movie Halls, Food corners, ATM and Game zone. A separate management system relation along with opening and closing time of Mall is also included. This database gives information about all the Malls with reference to its Mall code in a city.

Through this database system we can manage maintenance of all the shops and other places in a particular mall and also monitor all activities of all Malls. Also, it enables the administrator to get information about expenses and earnings of all the shops in a Mall which gets updated each time after installment of any new activity with less time and less effort.

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TABLES:

1. MALLAttributes Datatype Constraints and Characteristics

Code VARCHAR(8) Primary key

Name VARCHAR(20) Not Null

Location VARCHAR(40) Not Null

Area(in Sq.ft) NUMBER(8) Not Null

Owners VARCHAR(20) Not Null

2. MALL MANAGERSAttributes Datatype Constraints and Characteristics

Manager_ID VARCHAR(5) Primary key

Name VARCHAR(20) Not Null

Salary NUMBER(8) Not Null

Start_Date DATE -

Phone_Number VARCHAR(10) Not Null

Address VARCHAR(30) Not Null

Mall_Code VARCHAR(8) Foreign key, Not Null

3. TENANT OFFICERSAttributes Datatype Constraints and Characteristics

ID VARCHAR(5) Primary key

Name VARCHAR(20) Not Null

Salary NUMBER(10) Not Null

Phone_Number VARCHAR(10) Not Null

4. MALL_T_OFFICERSAttributes Datatype Constraints and Characteristics

Mall_Code VARCHAR(8) Foreign key, Not Null

Tenant_ID VARCHAR(20) Foreign key, Not Null

5. TIMINGAttributes Datatype Constraints and Characteristics

Weekdays VARCHAR(7) Primary key(1)

Opening_Time VARCHAR(8) Not null

Closing_Time VARCHAR(8) Not null

Mall_Code VARCHAR(8) Primary key(2), Foreign key

6. STORE_CATEGORIESAttributes Datatype Constraints and Characteristics

ID VARCHAR(5) Primary key

Categories VARCHAR(20) Not Null

7. STORESAttributes Datatype Constraints and Characteristics

Store_ID NUMBER(5) Primary key

Store_Name VARCHAR(20) Not Null

Rent NUMBER(8) Not Null

Tenant_ID NUMBER(5) Foreign key, Not Null

Category_ID VARCHAR(5) Foreign key, Not Null

Mall_Code NUMBER(8) Foreign key, Not Null

8. FOOD_TYPESAttributes Datatype Constraints and Characteristics

ID VARCHAR(5) Primary key

Types VARCHAR(20) Not Null

9. FOOD_CORNERSAttributes Datatype Constraints and Characteristics

Corner_ID VARCHAR(5) Primary key

Name VARCHAR(20) Not Null

Rent NUMBER(8) Not Null

Tenant_ID VARCHAR(5) Foreign key, Not Null

Type_ID VARCHAR(5) Foreign key, Not Null

Mall_Code VARCHAR(8) Foreign key, Not Null

10. GAMESAttributes Datatype Constraints and Characteristics

ID NUMBER(2) Primary key

Game_Name VARCHAR(20) Not Null

No_Of_Players NUMBER(2) Not Null
Price NUMBER(5) Not Null

11. GAME_ZONEAttributes Datatype Constraints and Characteristics

Game_ID VARCHAR(5) Primary key(1), Foreign key
Rent NUMBER(8) Not Null
Tenant_ID VARCHAR(5) Foreign key, Not Null
Mall_Code VARCHAR(8) Primary key(2), Foreign key

12. MOVIE_THEATREAttributes Datatype Constraints and Characteristics

Th_Name VARCHAR(10) Primary key(1)
Total_Screens NUMBER(2) Not Null
Num_Of_Ticket_Counters NUMBER(2) Not Null
Tenant_ID VARCHAR(5) Foreign key, Not Null
Mall_Code VARCHAR(8) Primary key(2), Foreign key

13. CONCESSION_STANDAttributes Datatype Constraints and Characteristics

Stand_ID VARCHAR(5) Primary key(1)
Type_ID VARCHAR(5) Foreign key, Not Null
Mall_Code VARCHAR(8) Primary key(2), Foreign key

14. ATMAttributes Datatype Constraints and Characteristics

Branch_Name VARCHAR(10) Primary key(1)
Rent NUMBER(5) Not Null
Tenant_ID VARCHAR(5) Foreign key, Not Null
Mall_Code VARCHAR(8) Primary key(2), Foreign key

ER MODEL ASSUMPTIONS:

- 1.) Each mall has at least one Tenant Officers, and each tenant officer is employed in at least one of the given malls, therefore there is total participation and many to many relationship between mall and tenant_officers. Mall has area with unit sq.ft.
- 2.) In mall managers relation, each manager is employed in at least one of the malls, So there is total participation of Mall_managers.
- 3.) Timing relation is a weak entity set having weekdays as its partial key.
- 4.) Food_Types and Store_Categories & Games relations store information about the types

of food corners like restaurants, ice-cream parlour etc., and clothing, pharmacy etc. and different game names respectively along with its ID to identify the type.

5.) Stores and Food_Corners have different IDs(Primary key) for different malls. Also, each

mall has no, one or more than one stores, and each store is present in one mall, so there is a one to many relationship with total participation of stores. Same is in the case of Food Corners relation. Rent given is per month.

6.) Game Zone is a weak entity set with GameID as its partial key, which is also a foreign key from Games table. It is assumed that No. of players in the games table are not exact, there can be less no of players. Price of games are given by per player.

7.) Movie Theatres is a weak entity set with Th_name as its partial key. It is assumed that each mall has only one theatre with many screens, so the relationship is one to one type.

8.) Concession Stand is a weak entity set with standId as its primary key, and it is also connected to the food_types relation with typeID as foreign key which determines the type of stand inside movie theatres. Each theatre in a particular mall can have one or more than one stand and each stand is present in only one mall, so the relationship is one to many Type.

9.) ATM is a weak entity set with branch_name as its partial key. Each mall has more than one ATM, so it is one to many relationship type.

FUNCTIONAL DEPENDENCIES & PRIMARY KEY:

1.) MALLCode-> {Name, Location, Area, Owners}

Since all the other attributes depend on Code,

(Code)+

->R

Hence, Code is the primary key.

2.) MALL MANAGERSManager_ID->{Name, Salary, Start_date, Phone no, Address, Mall_Code}

Phone No->{Name, Salary, Start_Date, Address}

Since all the other attributes depend on Manager_ID,

(Manager_ID)+

->R

Hence, Manager_ID is the primary key.

3.) TENANT OFFICERS ID->{Name,salary, Phone_number}

Phone_number->{Name, salary}

Since all the other attributes depend on ID,

(ID)+

->R

Hence, Tenant ID is the primary key.

4.) MALL_T_OFFICERS 5.) TIMING-

{Mall_Code,Weekdays}->{Opening_time,Closing_time}

Since all the other attributes depend on {Mall_Code, Weekdays}

(Mall_Code,Weekdays)+

->R

Hence, {Mall_Code, Weekdays} is the primary key.

6.) STORE_CATEGORIES ID->{Categories}

Since all the other attributes depend on ID,

(ID)

+

->R

Hence, ID is the primary key.

7.) STORES Store_ID->{Store_Name, Rent, Tenant_ID, Category_ID, Mall_Code}

Since all the attributes depend on Store_ID,

(Store_ID)+

->R

Hence, Store_ID is the primary key.

8.) FOOD_TYPES ID->{Types}

Since all the other attributes depend on ID,

(ID)

+

->R

Hence, ID is the primary key.

9.) FOOD CORNERS Corner_ID->{Name, Rent, Tenant_ID, Type_ID, Mall_Code}

Since all the attributes depend on Corner_ID,

(Corner_ID)+

->R

Hence, Corner_ID is the primary key.

10.) GAMESID->{Game_Name, No_Of_Players, Price}

Since all the attributes depend on ID,

(ID)+

->R

Hence, ID is the primary key.

11.) GAME ZONE-

{Game_ID, Mall_Code}->{Rent, Tenant_ID}

Since all the attributes depend on {Game_ID, Mall_Code},

(Game_ID, Mall_Code)

+

->R

Hence, {Game_ID, Mall_Code} is the primary key.

12.) MOVIE THEATRES-

{Th_Name, Mall_Code}-> {Total_Screens, No_Of_Ticket_Counters, Tenant_ID, Mall_Code}

Since all the attributes depend on {Th_Name, Mall_Code},

(Th_Name, Mall_Code)

+

->R

Hence, {Th_Name, Mall_Code} is the primary key.

13.) CONCESSION_STAND-

{Stand_ID, Mall_Code} ->{Type_ID}

Since all the attributes depend on {Stand_ID},

(Stand_ID, Mall_Code)+

->R

Hence, {Stand_ID, Mall_Code} is the primary key.

14.) ATM-

{Branch_Name, Mall_Code}->{Rent, Tenant_ID}

Since all the attributes depend on {Branch_Name, Mall_Code},

{Branch_Name, Mall_Code}+

->R

Hence, {Branch_Name, Mall_Code} is the primary key.

NORMALISATION :

1.) MALLPrimary key: Code

All attributes depend on the Code, hence the table is 2NF.

All the attributes depend directly on Code, hence the table is in 3NF.

All determinants(Code) are candidate keys, hence the table is in BCNF.

2.) MALL MANAGERSPrimary key: Manager_ID

All attributes depend on the Manager_ID, hence the table is 2NF.

All the prime attributes depend directly on Manager_ID, hence the table is in 3NF.

3.) TENANT OFFICERSPrimary key: Tenant_ID

All attributes depend on the Tenant_ID, hence the table is 2NF.

All the prime attributes depend directly on Tenant_ID, hence the table is in 3NF.

4.) MALL_T_OFFICERS5.) TIMINGPrimary key: {Weekdays, Mall_Code}

All attributes depend on the {Weekdays, Mall_Code}, hence the table is 2NF.

All the attributes depend directly on {Weekdays, Mall_Code}, hence the table is in 3NF.

All determinants ({Weekdays, Mall_Code}) are candidate keys, hence the table is in BCNF.

6.) STORE_CATEGORIESPrimary key: ID

All attributes depend on the ID, hence the table is 2NF.

All the attributes depend directly on ID, hence the table is in 3NF.

All determinants (ID) are candidate keys, hence the table is in BCNF.

7.) STORESPrimary key: Store_ID

All attributes depend on the Store_ID, hence the table is 2NF.

All the attributes depend directly on Store_ID, hence the table is in 3NF.

All determinants {Store_ID} are candidate keys, hence the table is in BCNF.

8.) FOOD_TYPESPrimary key: ID

All attributes depend on the ID, hence the table is 2NF.

All the attributes depend directly on ID, hence the table is in 3NF.

All determinants (ID) are candidate keys, hence the table is in BCNF.

9.) FOOD_CORNERS Primary key: Corner_ID

All attributes depend on the Corner_ID, hence the table is 2NF.

All the attributes depend directly on Corner_ID, hence the table is in 3NF.

All determinants (Corner_ID) are candidate keys, hence the table is in BCNF.

10.) GAMES Primary key: ID

All attributes depend on the ID, hence the table is 2NF.

All the attributes depend directly on ID, hence the table is in 3NF.

All determinants (ID) are candidate keys, hence the table is in BCNF.

11.) GAME_ZONE Primary key: {Game_ID, Mall_Code}

All attributes depend on the {Game_ID, Mall_Code}, hence the table is 2NF.

All the attributes depend directly on {Game_ID, Mall_Code}, hence the table is in 3NF.

All determinants ({Game_ID, Mall_Code}) are candidate keys, hence the table is in BCNF.

12.) MOVIE_THEATRES Primary key: {Th_Name, Mall_Code}

All attributes depend on the {Th_Name, Mall_Code}, hence the table is 2NF.

All the attributes depend directly on {Th_Name, Mall_Code}, hence the table is in 3NF.

All determinants ({Th_Name, Mall_Code}) are candidate keys, hence the table is in BCNF.

13.) CONCESSION_STAND Primary key: {Stand_ID, Mall_Code}

All attributes depend on the {Stand_ID, Mall_Code}, hence the table is 2NF.

All the attributes depend directly on {Stand_ID, Mall_Code}, hence the table is in 3NF.

All determinants ({Stand_ID, Mall_Code}) are candidate keys, hence the table is in BCNF.

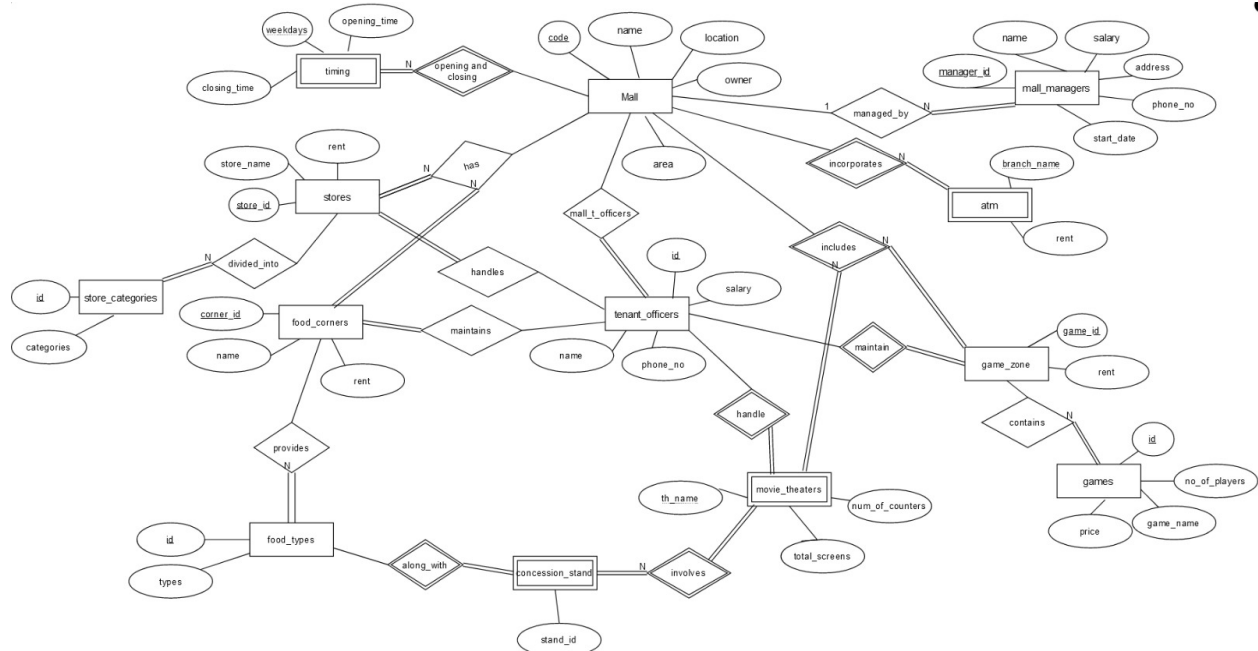
14.) ATM Primary key: {Branch_Name, Mall_Code}

All attributes depend on the {Branch_Name, Mall_Code}, hence the table is 2NF.

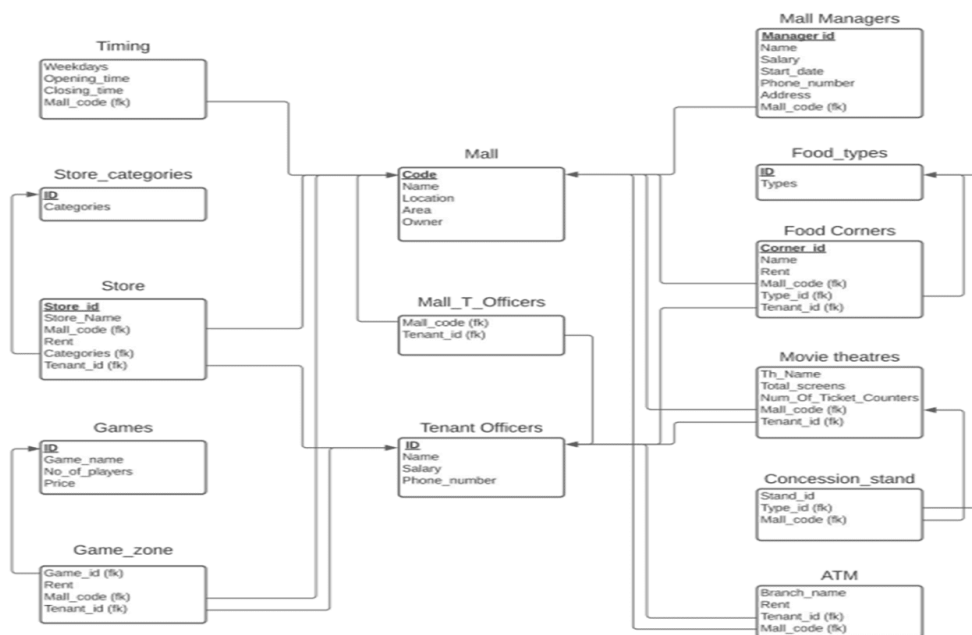
All the attributes depend directly on {Branch_Name, Mall_Code}, hence the table is in 3NF.

All determinants ({Branch_Name, Mall_Code}) are candidate keys, hence the table is in BCNF.

ER DIAGRAM :



RELATIONAL SCHEMA AFTER NORMALISATION:



SQL CODE:

1.)MALL

**CREATE TABLE MALL
(CODE VARCHAR(7) PRIMARY KEY,
"NAME" VARCHAR(20) NOT NULL,
"LOCATION" VARCHAR(40) NOT NULL,
AREA NUMBER(8)NOT NULL,
OWNER VARCHAR(20)NOT NULL);**

2.)MALL_MANAGERS

**CREATE TABLE MALL_MANAGERS
(MANAGER_ID VARCHAR(5) PRIMARY KEY,
NAME VARCHAR(20) NOT NULL,
SALARY NUMBER(8)NOT NULL,
START_DATE DATE,
PHONE_NUMBER VARCHAR(10) NOT NULL,
ADDRESS VARCHAR(30) NOT NULL,
MALL_CODE VARCHAR(8) NOT NULL,
FOREIGN KEY(MALL_CODE) REFERENCES MALL(CODE) ON DELETE
CASCADE);**

3.)TENANT OFFICERS

**CREATE TABLE TENANT_OFFICERS
(ID VARCHAR(5) PRIMARY KEY,
NAME VARCHAR(20) NOT NULL,
SALARY NUMBER(10)NOT NULL,
PHONE_NUMBER VARCHAR(10) NOT NULL);**

4.)MALL_T_OFFICERS

**CREATE TABLE MALL_T_OFFICERS
(MALL_CODE VARCHAR(8) NOT NULL,
TENANT_ID VARCHAR(5) NOT NULL,
FOREIGN KEY(MALL_CODE) REFERENCES MALL(CODE) ON DELETE
CASCADE,
FOREIGN KEY(TENANT_ID) REFERENCES TENANT_OFFICERS(ID) ON DELETE
CASCADE);**

5.)TIMING

```
CREATE TABLE TIMING  
(WEEKDAYS VARCHAR(7),  
OPENING_TIME VARCHAR(8) NOT NULL,  
CLOSING_TIME VARCHAR(8) NOT NULL,  
MALL_CODE VARCHAR(8),  
PRIMARY KEY(MALL_CODE,WEEKDAYS),  
FOREIGN KEY(MALL_CODE) REFERENCES MALL(CODE) ON DELETE  
CASCADE);
```

6.)STORE_CATEGORIES

```
CREATE TABLE STORE_CATEGORIES  
(ID VARCHAR(5) PRIMARY KEY,  
CATEGORIES VARCHAR(20));
```

7.)STORES

```
CREATE TABLE STORES  
(STORE_ID VARCHAR(5) PRIMARY KEY,  
STORE_NAME VARCHAR(20)NOT NULL,  
RENT NUMBER(8)NOT NULL,  
TENANT_ID VARCHAR(5)NOT NULL,  
CATEGORY_ID VARCHAR(5) NOT NULL,  
MALL_CODE VARCHAR(8) NOT NULL,  
FOREIGN KEY(TENANT_ID) REFERENCES TENANT_OFFICERS(ID) ON DELETE  
CASCADE,  
FOREIGN KEY(CATEGORY_ID) REFERENCES CATEGORIES(ID) ON DELETE  
CASCADE,  
FOREIGN KEY(MALL_CODE) REFERENCES MALL(CODE) ON DELETE  
CASCADE);
```

8.)FOOD_TYPES

```
CREATE TABLE FOOD_TYPES  
(ID VARCHAR(5) PRIMARY KEY,  
TYPES VARCHAR(20) NOT NULL);
```

9.)FOOD CORNERS

```
CREATE TABLE FOOD_CORNERS  
(CORNER_ID VARCHAR(5) PRIMARY KEY,  
NAME VARCHAR(20)NOT NULL,  
RENT NUMBER(10)NOT NULL,  
TENANT_ID VARCHAR(5)NOT NULL,  
TYPE_ID VARCHAR(5) NOT NULL,  
MALL_CODE VARCHAR(8) NOT NULL,  
FOREIGN KEY(TENANT_ID) REFERENCES TENANT_OFFICERS ON DELETE  
CASCADE,  
FOREIGN KEY(TYPE_ID) REFERENCES FOOD_TYPES(ID) ON DELETE  
CASCADE,  
FOREIGN KEY(MALL_CODE) REFERENCES MALL ON DELETE CASCADE);
```

10.)GAMES

```
CREATE TABLE GAMES  
(ID VARCHAR(5) PRIMARY KEY,  
GAME_NAME VARCHAR(20) NOT NULL  
NUM_OF_PLAYERS NUMBER(2)NOT NULL  
PRICE NUMBER(5) NOT NULL);  
11.)GAME_ZONECREATE TABLE GAME_ZONE
```

```
(GAME_ID VARCHAR(5),  
RENT NUMBER(8) NOT NULL,  
TENANT_ID VARCHAR(5)NOT NULL,  
MALL_CODE VARCHAR(8),  
PRIMARY KEY(MALL_CODE,GAME_ID),  
FOREIGN KEY(GAME_ID) REFERENCES GAMES(ID) ON DELETE CASCADE,  
FOREIGN KEY(TENANT_ID) REFERENCES TENANT_OFFICERS ON DELETE  
CASCADE,  
FOREIGN KEY(MALL_CODE) REFERENCES MALL(CODE) ON DELETE  
CASCADE);
```

12.)MOVIE THEATRES

```
CREATE TABLE MOVIE_THEATRES  
(TH_NAME VARCHAR(10) NOT NULL,  
TOTAL_SCREENS NUMBER(2)NOT NULL,  
NUM_OF_TICKET_COUNTERS NUMBER(2)NOT NULL,  
RENT NUMBER(8) NOT NULL,
```

**TENANT_ID VARCHAR(5) NOT NULL,
MALL_CODE VARCHAR(8) PRIMARY KEY,
FOREIGN KEY(MALL_CODE) REFERENCES MALL(CODE) ON DELETE
CASCADE,
FOREIGN KEY(TENANT_ID) REFERENCES TENANT_OFFICERS ON DELETE
CASCADE);**

**13.) CONCESSION_STAND
CREATE TABLE CONCESSION_STAND
(STAND_ID VARCHAR(5),
TYPE_ID VARCHAR(5),
MALL_CODE VARCHAR(8),
PRIMARY KEY(STAND_ID, MALL_CODE),
FOREIGN KEY(TYPE_ID) REFERENCES FOOD_TYPES(ID) ON DELETE
CASCADE,
FOREIGN KEY(MALL_CODE) REFERENCES MOVIE_THEATRES(MALL_CODE)
ON DELETE
CASCADE);**

**14.) ATM
CREATE TABLE ATM
(BRANCH_NAME VARCHAR(10),
RENT NUMBER(5) NOT NULL,
TENANT_ID VARCHAR(5) NOT NULL,
MALL_CODE VARCHAR(8),
PRIMARY KEY(BRANCH_NAME, MALL_CODE),
FOREIGN KEY(TENANT_ID) REFERENCES TENANT_OFFICERS ON DELETE
CASCADE,
FOREIGN KEY (MALL_CODE) REFERENCES MALL(CODE) ON DELETE
CASCADE);**

INSERTION OF VALUES:

**INSERT INTO MALL VALUES('M101', 'CITY CENTER', 'GANDHI ROAD, DELHI',
4100000, 'SIMON
PROPERTY GROUP');**

**INSERT INTO MALL VALUES('M102', 'AMBUJA', 'MATHURA ROAD, FARIDABAD',
5000000,
'KIMCO REALTY');**

**INSERT INTO MALL VALUES('M103', 'MAGNETO', 'CAMAC STREET, KOLKATA',
4953000, 'MANOJ
AGARWAL');**

**INSERT INTO MALL VALUES('M104', 'CITY CENTER', 'PANAJI, GOA', 6073000,
'DALIP SEHGAL');**

**INSERT INTO MALL VALUES('M105', 'COLORS', 'SHIBPUR, HOWRAH', 5550800,
'LEVIS BATA');**

**INSERT INTO MALL VALUES('M106', 'CRYSTAL', 'NEW TOWN, KOLKATA',
7300000, 'CALVIN
KLEIN');**

**INSERT INTO MALL VALUES('M107', 'DLF', 'SECTOR-18, NOIDA', 6580000,
'SHARYANS');**

**INSERT INTO MALL VALUES('M108', 'Z SQUARE', 'THE MALL, KANPUR', 5000000,
'RAHEJA
CONSTRUCTIONS');**

**INSERT INTO MALL VALUES('M109', 'HiLITE', 'KOZHIKODE BYPASS,
KOZHIKODE', 8500200,
'HiLITE MILLS GROUP');**

**INSERT INTO MALL VALUES('M110', 'ELANTE', 'INSUSTRIAL AREA, PHASE 1,
CHANDIGARH',
4500000, 'JINDAL CONSTRUCTIONS');**

**INSERT INTO MALL VALUES('M111', 'MAGNETO', 'WHITEFIELD MAIN ROAD,
BANGALORE',
6700000, 'PHOENIX MILLS');**

**INSERT INTO MALL VALUES('M112', 'ESPLANADE ONE', 'RASULGARH
INDUSTRIAL ESTATE,
BHUBANESWAR', 7106000, 'WIDITA INTERNATIONAL');**

**INSERT INTO MALL VALUES('M113', 'ORION', 'DR RAJKUMAR ROAD,
BENGALURU', 8209000, 'AR
CONSTRUCTIONS');**

**INSERT INTO MALL VALUES('M114', 'AMBIENCE', 'DLF PHASE 3, SECTOR 24,
GURUGRAM',
4500200, 'DLF MILLS AND GROUP');**

**INSERT INTO MALL VALUES('M115', 'THE FORUM', 'NELSON MANDELA MARG,
NEW DELHI',
4001000, 'SKYHIGH GROUP');**

**INSERT INTO MALL MANAGERS VALUES ('M1', 'RAJESH GUPTA', 25000,
'01-JAN-2016',
'9876543210', 'SANEPA', 'M101');**
**INSERT INTO MALL MANAGERS VALUES ('M2', 'ASHWINI KARKI', 35000,
'11-FEB-2014',
'9726543221', 'RAMESHWARAM', 'M102');**
**INSERT INTO MALL MANAGERS VALUES ('M3', 'AMIT AGARWAL', 20000,
'22-MARCH-2015',
'9748541215', 'DURBARMARG', 'M103');**
**INSERT INTO MALL MANAGERS VALUES ('M4', 'MUKESH GOENKA', 32000,
'16-JAN-2017',
'9870593258', 'SUNAUJI', 'M104');**
**INSERT INTO MALL MANAGERS VALUES ('M5', 'HARSHIT BAJAJ', 25000,
'01-JULY-2016',
'9726543219', 'RAKSHOL', 'M105');**
**INSERT INTO MALL MANAGERS VALUES ('M6', 'PRASUN THAPA', 28000,
'26-DEC-2015',
'9721549814', 'BIRGUNJ', 'M106');**
**INSERT INTO MALL MANAGERS VALUES ('M7', 'RAJAT SHAKYA', 35000,
'13-JUNE-2013',
'9851033462', 'CHAVEL', 'M107');**
**INSERT INTO MALL MANAGERS VALUES ('M8', 'BIJESH SHARMA', 30000,
'19-APRIL-2016',
'9818082616', 'RATOPUL', 'M108');**
**INSERT INTO MALL MANAGERS VALUES ('M9', 'SANCHIT TIWARI', 40000,
'18-JAN-2015',
'987148308', 'BANESHWOR', 'M109');**
**INSERT INTO MALL MANAGERS VALUES ('M10', 'AAKASH ROY', 23000,
'19-NOV-2014',
'9875943115', 'PATAN', 'M110');**
**INSERT INTO MALL MANAGERS VALUES ('M11', 'BHAWESH AGRAWAL', 26000,
'21-OCT-2017',
'9726143277', 'JAMAL', 'M111');**
**INSERT INTO MALL MANAGERS VALUES ('M12', 'TUSHAR GOENKA', 35000,
'25-JAN-2016',
'9716843279', 'NEWROAD', 'M112');**
**INSERT INTO MALL MANAGERS VALUES ('M13', 'LAL KUMAR', 20000,
'21-JULY-2014',
'9875544321', 'JAWALAKHEL', 'M113');**

**INSERT INTO MALL MANAGERS VALUES ('M14', 'JAYESH GUPTA', 32000,
'16-JUNE-2015',
'9806543228', 'KTM', 'M114');
INSERT INTO MALL MANAGERS VALUES ('M15', 'AMIT KOERALA', 21000,
'08-MAY-2016',
'9816543239', 'LALITPUR', 'M115');**

**INSERT INTO TENANT OFFICERS VALUES('T101', 'AMAN BANSAL', 50000,
9996461873);
INSERT INTO TENANT OFFICERS VALUES('T102', 'RASHI JAIN', 45000,
7994148473);
INSERT INTO TENANT OFFICERS VALUES('T103', 'NIKITA KAPADIYA', 67000,
8796361891);
INSERT INTO TENANT OFFICERS VALUES('T104', 'VISHAL SINGH', 74000,
9983446125);
INSERT INTO TENANT OFFICERS VALUES('T105', 'ASIT TIWARI', 41000,
7896568147);
INSERT INTO TENANT OFFICERS VALUES('T106', 'RISHI SINGHAL', 46000,
9996421873);
INSERT INTO TENANT OFFICERS VALUES('T107', 'ROHIT MALHOTRA', 67000,
8316431859);
INSERT INTO TENANT OFFICERS VALUES('T108', 'PRACHI SINGH', 55000,
7946211844);
INSERT INTO TENANT OFFICERS VALUES('T109', 'VICKY SHARMA', 75000,
7835189358);
INSERT INTO TENANT OFFICERS VALUES('T110', 'MOHIT DESAI', 80000,
9913131894);
INSERT INTO TENANT OFFICERS VALUES('T111', 'KANGANA AGARWAL', 66000,
9884825854);
INSERT INTO TENANT OFFICERS VALUES('T112', 'MEENA TIWARI', 64000,
6478164113);
INSERT INTO TENANT OFFICERS VALUES('T113', 'AMAN SAINI', 48000,
9994284194);
INSERT INTO TENANT OFFICERS VALUES('T114', 'RANBEER SINGH', 66000,
8872514571);
INSERT INTO TENANT OFFICERS VALUES('T115', 'PANAKJ ROY', 55000,
6694718618);**

**INSERT INTO TENANT_OFFICERS VALUES('T116', 'SHILPA SINGH', 67000,
6247971894);**

**INSERT INTO MALL_T_OFFICERS VALUES('M101', 'T104');
INSERT INTO MALL_T_OFFICERS VALUES('M101', 'T106');
INSERT INTO MALL_T_OFFICERS VALUES('M101', 'T107');
INSERT INTO MALL_T_OFFICERS VALUES('M101', 'T114');
INSERT INTO MALL_T_OFFICERS VALUES('M101', 'T106');
INSERT INTO MALL_T_OFFICERS VALUES('M102', 'T103');
INSERT INTO MALL_T_OFFICERS VALUES('M102', 'T105');
INSERT INTO MALL_T_OFFICERS VALUES('M102', 'T108');
INSERT INTO MALL_T_OFFICERS VALUES('M102', 'T109');
INSERT INTO MALL_T_OFFICERS VALUES('M102', 'T113');
INSERT INTO MALL_T_OFFICERS VALUES('M103', 'T104');
INSERT INTO MALL_T_OFFICERS VALUES('M103', 'T107');
INSERT INTO MALL_T_OFFICERS VALUES('M103', 'T110');
INSERT INTO MALL_T_OFFICERS VALUES('M104', 'T112');
INSERT INTO MALL_T_OFFICERS VALUES('M104', 'T113');
INSERT INTO MALL_T_OFFICERS VALUES('M104', 'T111');
INSERT INTO MALL_T_OFFICERS VALUES('M104', 'T116');
INSERT INTO MALL_T_OFFICERS VALUES('M105', 'T105');
INSERT INTO MALL_T_OFFICERS VALUES('M105', 'T106');
INSERT INTO MALL_T_OFFICERS VALUES('M105', 'T109');
INSERT INTO MALL_T_OFFICERS VALUES('M106', 'T101');
INSERT INTO MALL_T_OFFICERS VALUES('M106', 'T108');
INSERT INTO MALL_T_OFFICERS VALUES('M107', 'T103');
INSERT INTO MALL_T_OFFICERS VALUES('M107', 'T106');
INSERT INTO MALL_T_OFFICERS VALUES('M107', 'T107');
INSERT INTO MALL_T_OFFICERS VALUES('M107', 'T108');
INSERT INTO MALL_T_OFFICERS VALUES('M108', 'T111');
INSERT INTO MALL_T_OFFICERS VALUES('M108', 'T112');
INSERT INTO MALL_T_OFFICERS VALUES('M109', 'T105');
INSERT INTO MALL_T_OFFICERS VALUES('M109', 'T108');
INSERT INTO MALL_T_OFFICERS VALUES('M109', 'T109');
INSERT INTO MALL_T_OFFICERS VALUES('M110', 'T104');
INSERT INTO MALL_T_OFFICERS VALUES('M110', 'T113');
INSERT INTO MALL_T_OFFICERS VALUES('M111', 'T107');
INSERT INTO MALL_T_OFFICERS VALUES('M111', 'T108');**

**INSERT INTO MALL_T_OFFICERS VALUES('M111', 'T111');
INSERT INTO MALL_T_OFFICERS VALUES('M111', 'T114');
INSERT INTO MALL_T_OFFICERS VALUES('M112', 'T104');
INSERT INTO MALL_T_OFFICERS VALUES('M112', 'T108');
INSERT INTO MALL_T_OFFICERS VALUES('M113', 'T102');
INSERT INTO MALL_T_OFFICERS VALUES('M113', 'T109');
INSERT INTO MALL_T_OFFICERS VALUES('M113', 'T110');
INSERT INTO MALL_T_OFFICERS VALUES('M114', 'T101');
INSERT INTO MALL_T_OFFICERS VALUES('M114', 'T106');
INSERT INTO MALL_T_OFFICERS VALUES('M114', 'T108');
INSERT INTO MALL_T_OFFICERS VALUES('M114', 'T113');
INSERT INTO MALL_T_OFFICERS VALUES('M115', 'T115');
INSERT INTO MALL_T_OFFICERS VALUES('M115', 'T116');**

**INSERT INTO TIMING VALUES ('MTWTF', '10:00 AM', '6:00 PM', 'M101');
INSERT INTO TIMING VALUES ('MTWTFS', '09:00 AM', '7:00 PM', 'M102');
INSERT INTO TIMING VALUES ('SMTWTF', '10:30 AM', '8:00 PM', 'M103');
INSERT INTO TIMING VALUES ('MTTFS', '11:00 AM', '6:30 PM', 'M104');
INSERT INTO TIMING VALUES ('SMTWFS', '09:30 AM', '7:30 PM', 'M105');
INSERT INTO TIMING VALUES ('SMWTF', '10:00 AM', '5:30 PM', 'M106');
INSERT INTO TIMING VALUES ('MWTFS', '11:30 AM', '4:00 PM', 'M107');
INSERT INTO TIMING VALUES ('SMTWTFS', '12:00 AM', '6:00 PM', 'M108');
INSERT INTO TIMING VALUES ('SMTTS', '09:00 AM', '5:30 PM', 'M109');
INSERT INTO TIMING VALUES ('STWTFS', '10:40 AM', '7:00 PM', 'M110');
INSERT INTO TIMING VALUES ('SMTWTS', '09:40 AM', '8:00 PM', 'M111');
INSERT INTO TIMING VALUES ('SMTWTF', '11:30 AM', '7:30 PM', 'M112');
INSERT INTO TIMING VALUES ('MTWTFS', '12:00 AM', '8:30 PM', 'M113');
INSERT INTO TIMING VALUES ('SMWTS', '11:00 AM', '9:00 PM', 'M114');
INSERT INTO TIMING VALUES ('MTTFS', '10:50 AM', '10:00 PM', 'M115');**

**INSERT INTO STORE_CATEGORIES VALUES('S100','GROCERY');
INSERT INTO STORE_CATEGORIES VALUES('S101','FURNITURES');
INSERT INTO STORE_CATEGORIES VALUES('S102','CLOTHING');
INSERT INTO STORE_CATEGORIES VALUES('S103','ACCESSORIES');
INSERT INTO STORE_CATEGORIES VALUES('S104','PHARMACY');
INSERT INTO STORE_CATEGORIES VALUES('S105','SERVICE STATIONS');**

**INSERT INTO STORE_CATEGORIES VALUES('S106','ELECTRONICS');
INSERT INTO STORE_CATEGORIES VALUES('S107','JEWELLERY');
INSERT INTO STORE_CATEGORIES VALUES('S108','STATIONARY');
INSERT INTO STORE_CATEGORIES VALUES('S109','FOOTWEARS');
INSERT INTO STORE_CATEGORIES VALUES('S110','PET');
INSERT INTO STORE_CATEGORIES VALUES('S111','DEPARTMENT');**

**INSERT INTO STORES VALUES('SI201', 'ARROWS', 5300, 'T106','S101', 'M101');
INSERT INTO STORES VALUES('SI202', 'SHOPULSE', 4500, 'T104','S111', 'M101');
INSERT INTO STORES VALUES('SI203', 'SPEED APPAREL', 6200, 'T105','S103',
'M102');
INSERT INTO STORES VALUES('SI204', 'SMILE LOVES', 6300, 'T110','S105', 'M103');
INSERT INTO STORES VALUES('SI205', 'BESTMART', 5900, 'T104','S101', 'M103');
INSERT INTO STORES VALUES('SI206', 'BUY YOUR DREAM', 5400, 'T107','S109',
'M103');
INSERT INTO STORES VALUES('SI207', 'SHOPNEST', 4400, 'T112','S104', 'M104');
INSERT INTO STORES VALUES('SI208', 'LIBERTY LAND', 5300, 'T113','S108',
'M104');
INSERT INTO STORES VALUES('SI209', 'WALK IN WONDERS', 5500, 'T105','S103',
'M105');
INSERT INTO STORES VALUES('SI210', 'DRESSY GIRLZ', 6200, 'T105','S102',
'M105');
INSERT INTO STORES VALUES('SI211', 'FAST PACED', 5100, 'T108','S107', 'M106');
INSERT INTO STORES VALUES('SI212', 'JIVE SHOP', 4500, 'T101','S106', 'M106');
INSERT INTO STORES VALUES('SI213', 'BUYNOW', 4700, 'T108','S111', 'M107');
INSERT INTO STORES VALUES('SI214', 'SHOP HOP', 4800, 'T107','S103', 'M107');
INSERT INTO STORES VALUES('SI215', 'FRESH FOOD', 6300, 'T112','S101', 'M108');
INSERT INTO STORES VALUES('SI216', 'MALLTUDE', 7200, 'T108','S105', 'M109');
INSERT INTO STORES VALUES('SI217', 'BESTBUY', 6300, 'T109','S109', 'M109');
INSERT INTO STORES VALUES('SI218', 'GREEN SHOP', 6600, 'T109','S101', 'M109');
INSERT INTO STORES VALUES('SI219', 'SUNLIVES', 5700, 'T113','S104', 'M110');
INSERT INTO STORES VALUES('SI220', 'THE CORNER SHOP', 5300, 'T111','S106',
'M111');
INSERT INTO STORES VALUES('SI221', 'MYSHOP', 5500, 'T111','S108', 'M111');
INSERT INTO STORES VALUES('SI222', 'GOODSHOP', 7500, 'T108','S109', 'M112');
INSERT INTO STORES VALUES('SI223', 'BUZZSHOP', 7200, 'T104','S105', 'M112');
INSERT INTO STORES VALUES('SI224', 'LUXURY LINES', 6400, 'T102','S102',
'M113');**

**INSERT INTO STORES VALUES('SI225', 'THREADS AND BLOOMS', 5200,
'T110','S102', 'M113');
INSERT INTO STORES VALUES('SI226', 'BLUE SHELVES', 6900, 'T110','S108',
'M113');
INSERT INTO STORES VALUES('SI227', 'GIFTS AND GLAM', 7100, 'T113','S103',
'M114');
INSERT INTO STORES VALUES('SI228', 'XSHOP', 5700, 'T115','S101', 'M115');
INSERT INTO STORES VALUES('SI229', 'THE ROYAL REALITY', 4200, 'T116','S107',
'M115');**

**INSERT INTO FOOD_TYPES VALUES('FT101','RESTAURANT');
INSERT INTO FOOD_TYPES VALUES('FT102','CAFE');
INSERT INTO FOOD_TYPES VALUES('FT103','ICE CREAM PARLOUR');
INSERT INTO FOOD_TYPES VALUES('FT104','FOOD STALLS');
INSERT INTO FOOD_TYPES VALUES('FT105','BAKERY');
INSERT INTO FOOD_TYPES VALUES('FT106','JUICE SHOP');**

**INSERT INTO FOOD_CORNERS
VALUES('FC101','MCDONALDS',6000,'T104','FT101','M101');
INSERT INTO FOOD_CORNERS VALUES('FC102','DREAMY
CREAMY',3500,'T112','FT103','M104');
INSERT INTO FOOD_CORNERS VALUES('FC103','BHEL
PURI',2000,'T108','FT104','M109');
INSERT INTO FOOD_CORNERS VALUES('FC104','DOMINOS
PIZZA',6500,'T113','FT101','M102');
INSERT INTO FOOD_CORNERS VALUES('FC105','JUICE
MASTERS',3000,'T106','FT106','M114');
INSERT INTO FOOD_CORNERS
VALUES('FC106','AMUL',4000,'T107','FT105','M107');
INSERT INTO FOOD_CORNERS
VALUES('FC107','BASKIN-ROBBINS',4000,'T105','FT103','M105');
INSERT INTO FOOD_CORNERS VALUES('FC108','PIZZA
HUT',6000,'T107','FT101','M103');
INSERT INTO FOOD_CORNERS VALUES('FC109','CANDY
SHOP',2000,'T104','FT104','M110');**

**INSERT INTO FOOD_CORNERS
VALUES('FC110','NATURALS',3000,'T116','FT106','M115');
INSERT INTO FOOD_CORNERS VALUES('FC111','VERKA
MILK',4000,'T112','FT105','M108');
INSERT INTO FOOD_CORNERS VALUES('FC112','KFC',8000,'T111','FT101','M104');
INSERT INTO FOOD_CORNERS VALUES('FC113','CCD',6000,'T101','FT102','M106');
INSERT INTO FOOD_CORNERS VALUES('FC114','CAKE
INDUSTRY',5000,'T109','FT105','M109');
INSERT INTO FOOD_CORNERS
VALUES('FC115','NESCAFE',2500,'T103','FT102','M107');
INSERT INTO FOOD_CORNERS VALUES('FC116','FUN
FOOD',3000,'T108','FT104','M111');
INSERT INTO FOOD_CORNERS VALUES('FC117','JUICE
MASTERS',4000,'T106','FT106','M101');
INSERT INTO FOOD_CORNERS VALUES('FC118','DOMINOS
PIZZA',6000,'T109','FT101','M105');
INSERT INTO FOOD_CORNERS VALUES('FC119','BRU',2500,'T111','FT102','M108');
INSERT INTO FOOD_CORNERS VALUES('FC120','CREAM
VILLA',4500,'T113','FT103','M110');
INSERT INTO FOOD_CORNERS VALUES('FC121','CRUNCHY
BALLS',3500,'T104','FT104','M112');
INSERT INTO FOOD_CORNERS
VALUES('FC122','AMUL',5500,'T107','FT105','M111');
INSERT INTO FOOD_CORNERS
VALUES('FC123','TROPICANA',4500,'T105','FT106','M102');
INSERT INTO FOOD_CORNERS VALUES('FC124','CCD',5000,'T110','FT102','M113');
INSERT INTO FOOD_CORNERS
VALUES('FC125','BASKIN-ROBBINS',4000,'T115','FT103','M115');
INSERT INTO FOOD_CORNERS VALUES('FC126','KFC',8000,'T101','FT101','M106');
INSERT INTO FOOD_CORNERS
VALUES('FC127','NESCAFE',2500,'T113','FT102','M110');
INSERT INTO FOOD_CORNERS
VALUES('FC128','MCDONALDS',6000,'T102','FT101','M113');
INSERT INTO FOOD_CORNERS
VALUES('FC129','NATURALS',3000,'T104','FT106','M103');
INSERT INTO FOOD_CORNERS
VALUES('FC130','AMUL',5500,'T108','FT105','M112');**

```

INSERT INTO GAMES VALUES(G101,'CAR DASH',10,250);
INSERT INTO GAMES VALUES(G102,'BOWLING',6,500);
INSERT INTO GAMES VALUES(G103,'LAZER CASTLE',8,300);
INSERT INTO GAMES VALUES(G104,'VR REAL CRICKET',2,600);
INSERT INTO GAMES VALUES(G105,'PLAYBOX KIDS',6,200);
INSERT INTO GAMES VALUES(G106,'TABLE TENNIS',2,150);
INSERT INTO GAMES VALUES(G107,'ARCADE BASKETBALL',2,200);
INSERT INTO GAMES VALUES(G108,'DART GAMES',2,150);
INSERT INTO GAMES VALUES(G109,'8 BALL POOL',2,150);
INSERT INTO GAMES VALUES(G110,'PLAY STATION',6,100);
INSERT INTO GAMES VALUES(G111,'MOTO GP',1,250);
INSERT INTO GAMES VALUES(G112,'GUN GAME',1,250);
INSERT INTO GAMES VALUES(G113,'AIR HOCKEY',2,300);
INSERT INTO GAMES VALUES(G114,'TABLE FOOTBALL',4,100);
INSERT INTO GAMES VALUES(G115,'SHOOTING',1,300);

```

```

INSERT INTO GAME_ZONE VALUES(G101,4450,T104,M112);
INSERT INTO GAME_ZONE VALUES(G110,4000,T111,M108);
INSERT INTO GAME_ZONE VALUES(G111,3350,T105,M102);
INSERT INTO GAME_ZONE VALUES(G104,4320,T109,M109);
INSERT INTO GAME_ZONE VALUES(G101,4050,T116,M104);
INSERT INTO GAME_ZONE VALUES(G106,3450,T106,M107);
INSERT INTO GAME_ZONE VALUES(G102,4000,T110,M113);
INSERT INTO GAME_ZONE VALUES(G105,4554,T114,M101);
INSERT INTO GAME_ZONE VALUES(G103,2950,T108,M111);
INSERT INTO GAME_ZONE VALUES(G113,5450,T115,M115);
INSERT INTO GAME_ZONE VALUES(G112,4720,T107,M103);
INSERT INTO GAME_ZONE VALUES(G104,4523,T113,M110);
INSERT INTO GAME_ZONE VALUES(G102,3650,T101,M114);
INSERT INTO GAME_ZONE VALUES(G113,3780,T108,M112);
INSERT INTO GAME_ZONE VALUES(G115,3500,T106,M105);
INSERT INTO GAME_ZONE VALUES(G107,4455,T110,M103);
INSERT INTO GAME_ZONE VALUES(G109,4000,T108,M106);
INSERT INTO GAME_ZONE VALUES(G108,3250,T113,M114);
INSERT INTO GAME_ZONE VALUES(G114,3400,T107,M101);
INSERT INTO GAME_ZONE VALUES(G111,3000,T108,M112);

```

INSERT INTO GAME_ZONE VALUES(G106,5100,T104,M103);
INSERT INTO GAME_ZONE VALUES(G112,4000,T103,M102);
INSERT INTO GAME_ZONE VALUES(G115,4050,T109,M105);
INSERT INTO GAME_ZONE VALUES(G107,4350,T104,M101);
INSERT INTO GAME_ZONE VALUES(G109,4850,T109,M109);

INSERT INTO MOVIE_THEATRES VALUES('PVR',8,3,15000,'T107','M101');
INSERT INTO MOVIE_THEATRES VALUES('INOX',5,2,12000,'T105','M102');
INSERT INTO MOVIE_THEATRES VALUES('PVR',7,4,15000,'T116','M104');
INSERT INTO MOVIE_THEATRES VALUES('CINEWORLD',9,3,17000,'T105','M106');
INSERT INTO MOVIE_THEATRES VALUES('PATHE',6,2,18000,'T107','M108');
INSERT INTO MOVIE_THEATRES VALUES('HOYTS',8,2,19000,'T109','M109');
INSERT INTO MOVIE_THEATRES VALUES('INOX',5,1,14000,'T104','M110');
INSERT INTO MOVIE_THEATRES VALUES('INOX',7,3,14000,'T108','M111');
INSERT INTO MOVIE_THEATRES VALUES('CINEPLEX',8,2,16000,'T110','M113');
INSERT INTO MOVIE_THEATRES VALUES('CINEWORLD',7,4,17000,'T113','M114');

INSERT INTO CONCESSION_STAND VALUES('ST201','FT103','M101');
INSERT INTO CONCESSION_STAND VALUES('ST202','FT104','M101');
INSERT INTO CONCESSION_STAND VALUES('ST201','FT106','M102');
INSERT INTO CONCESSION_STAND VALUES('ST201','FT104','M104');
INSERT INTO CONCESSION_STAND VALUES('ST202','FT103','M104');
INSERT INTO CONCESSION_STAND VALUES('ST203','FT104','M104');
INSERT INTO CONCESSION_STAND VALUES('ST201','FT104','M106');
INSERT INTO CONCESSION_STAND VALUES('ST202','FT106','M106');
INSERT INTO CONCESSION_STAND VALUES('ST201','FT103','M108');
INSERT INTO CONCESSION_STAND VALUES('ST201','FT104','M109');
INSERT INTO CONCESSION_STAND VALUES('ST201','FT103','M110');
INSERT INTO CONCESSION_STAND VALUES('ST202','FT106','M110');
INSERT INTO CONCESSION_STAND VALUES('ST201','FT106','M111');
INSERT INTO CONCESSION_STAND VALUES('ST201','FT104','M113');
INSERT INTO CONCESSION_STAND VALUES('ST201','FT103','M114');
INSERT INTO CONCESSION_STAND VALUES('ST202','FT104','M114');


```
INSERT INTO ATM VALUES('SBI',9000,'T106','M101');
INSERT INTO ATM VALUES('HDFC',9000,'T107','M101');
INSERT INTO ATM VALUES('ICICI',9000,'T109','M102');
INSERT INTO ATM VALUES('SBI',9000,'T104','M103');
INSERT INTO ATM VALUES('YES',9000,'T111','M104');
INSERT INTO ATM VALUES('KOTAK',9000,'T105','M105');
INSERT INTO ATM VALUES('HDFC',9000,'T109','M105');
INSERT INTO ATM VALUES('PNB',9000,'T108','M107');
INSERT INTO ATM VALUES('CBI',9000,'T105','M109');
INSERT INTO ATM VALUES('ICICI',9000,'T108','M109');
INSERT INTO ATM VALUES('YES',9000,'T113','M110');
INSERT INTO ATM VALUES('PNB',9000,'T104','M112');
INSERT INTO ATM VALUES('PNB',9000,'T110','M113');
INSERT INTO ATM VALUES('KOTAK',9000,'T102','M113');
INSERT INTO ATM VALUES('SBI',9000,'T115','M115');
```

SQL QUERIES:

1)Retrieve the details of movie theaters along with their associated tenant officers and mall details

QUERY:

```
SELECT MT., TO.*, M.FROM MOVIE_THEATRES MTJOIN
TENANT_OFFICERS TO ON MT.TENANT_ID = TO.IDJOIN MALL M ON
MT.MALL_CODE = M.CODE;
```

OUTPUT:

TH_NAME	ID	CODE
-----	-----	-----
INOX	T105	M102
PVR	T116	M104
CINEWORLD	T105	M106
HOYTS	T109	M109
INOX	T104	M110
INOX	T108	M111
CINEPLEX	T110	M113
CINEWORLD	T113	M114

8 rows selected.

2)Retrieve the details of all stores in a specific mall along with their corresponding category

Query:

```
SELECT S.store_name, SC.CATEGORIES FROM STORES S JOIN
STORE_CATEGORIES SC ON S.CATEGORY_ID = SC.ID WHERE
S.MALL_CODE = 'M106';
```

OUTPUT:

STORE_NAME	CATEGORIES
FAST PACED	JEWELLERY
JIVE SHOP	ELECTRONICS

3)Retrieve the details of all mall managers along with their corresponding mall details

Query:

```
SELECT MM."NAME",MM.MANAGER_ID, M.CODEFROM
MALL MANAGERS MMJOIN MALL M ON
MM.MALL_CODE = M.CODE;
```

OUTPUT:

NAME	MANAG	CODE
-----	-----	-----
ASHWINI KARKI	M2	M102
AMIT AGARWAL	M3	M103
MUKESH GOENKA	M4	M104
HARSHIT BAJAJ	M5	M105
PRASUN THAPA	M6	M106
RAJAT SHAKYA	M7	M107
SANCHIT TIWARI	M9	M109
AAKASH ROY	M10	M110
BHAWESH AGRAWAL	M11	M111
LAL KUMAR	M13	M113
JAYESH GUPTA	M14	M114
NAME	MANAG	CODE
-----	-----	-----
AMIT KOERALA	M15	M115

12 rows selected.

4) Retrieve the names of all mall managers along with the count of stores they manage

Query:

```
SELECT MM.NAME, COUNT(S.STORE_ID) AS
STORE_COUNT FROM MALL MANAGERS MM LEFT JOIN MALL
M ON MM.MALL_CODE = M.CODE LEFT JOIN STORES S ON
M.CODE = S.MALL_CODE GROUP BY MM.NAME;
```

OUTPUT:

NAME	STORE_COUNT
HARSHIT BAJAJ	2
PRASUN THAPA	2
AMIT AGARWAL	3
RAJAT SHAKYA	2
SANCHIT TIWARI	3
JAYESH GUPTA	1
AAKASH ROY	1
ASHWINI KARKI	1
BHAWESH AGRAWAL	2
LAL KUMAR	3
MUKESH GOENKA	2
NAME	STORE_COUNT
AMIT KOERALA	2

12 rows selected.

5)Retrieve the names of tenant officers who work in both food corners and movie theaters

Query:

```
SELECT TOF."NAME"FROM TENANT_OFFICERS TOF
JOIN FOOD_CORNERS FC ON TOF."ID" =
FC.TENANT_IDJOIN MOVIE_THEATRES MT ON
TOF."ID" = MT.TENANT_ID;
```

OUTPUT:

```
NAME
-----
PRACHI SINGH
AMAN SAINI
ASIT TIWARI
ASIT TIWARI
VISHAL SINGH
SHILPA SINGH
VICKY SHARMA
PRACHI SINGH
VICKY SHARMA
AMAN SAINI
ASIT TIWARI

NAME
-----
ASIT TIWARI
MOHIT DESAI
AMAN SAINI
VISHAL SINGH

15 rows selected.
```