



Introduction to Database – Sec: A [Fall 22-23]

Theme Park Management System

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Introduction

The theme park industry is constantly evolving, with new attractions, and customer experiences being introduced on a regular basis. To keep up with these changes and effectively manage all aspects of a theme park, it is important to have a reliable and efficient management system in place. This project aims to design and implement a theme park management system using Oracle 10g Database, which will provide a centralized platform for storing and accessing information related to visitors, tickets, rides and attractions, employees, parking lot and more. By organizing the data of the tasks and processes involved in managing a theme park, this system will enable more efficient and effective operation, as well as improved customer satisfaction. In this report, we will describe the methodology and results of this project, as well as the benefits by querying data and potential future improvements of the theme park management system.

Scenario Description

In a theme park management system Magic Kingdom is a theme park company which owns multiple theme parks, each of which is identified by its own unique id. Each theme parks are owned by only Magic Kingdom. The system stores Business ID for Magic Kingdom which is its identification number as a company. It also stores Contact details of Magic Kingdom which is composed of Email and Telephone numbers. Magic Kingdom also has a Tax ID and an official address. The system accommodates these information too.

Each Theme Parks has their own name, land area in acre, targeted audience, park's location inside Magic Kingdom, off day, opening and closing time.

Magic Kingdom employs many employees, each of whom is identified by their own employee id. Each employee is employed by only Magic Kingdom. Employees have their name, contact details composed of personal email addresses and phone numbers, date of birth. They also have a job title, schedule, salary, qualification and hiring date for company's employee management purpose.

Magic Kingdom also leases many Shops inside the theme parks. Each shop is only leased by Magic Kingdom. Magic Kingdom is approaching this with a B2B method. Meaning the shops inside the theme park are leased to other businesses and they independently manage their business while the shops satisfy the needs of the incoming visitors. Magic Kingdom only keeps the needed data in the system. Each shop is identified by its unique id. Each shop has its name, area in square feet, rent amount and a business id to ensure the businesses' validity.

Magic Kingdom manages three storied parking lot for its incoming visitors. Each parking lot has its unique id. Moreover, A parking lot has its level, capacity, area in square feet and a confirmation whether it has accessible parking or not.



Each Theme Park operates many Rides for its visitors but a ride is only operated by one theme park. Each ride is identified by their ride id. Rides have cool names for attracting people to them, a certain capacity, and a fixed runtime at a time.

A Visitor is a person who is identified by a visitor id. Visitor has a name, phone number, age, and gender. The system respects visitor's privacy so it allows to leave the PII fields empty e.g. name, phone, age or gender. In that case, the visitor will only have a unique id. System stores the gender as single letter characters such as M for Male, F for Female. Visitor can choose not to share only the gender part. The ticketer should never assume any data for the visitor and only insert data which came from the visitor.

Each Theme Park sells many Entry tickets, but an entry ticket is only sold by one theme park. The entry tickets are identified by an id and has a price attached to it. A single-entry ticket can be bought by one visitor only. When a visitor buys an Entry ticket the system logs the time.

Each Ride can sell many Ride tickets but a single ride ticket is only associated with one ride. Ride tickets are identified by ride ticket id and has a price attached to it. A visitor can buy many Ride tickets but a single ride ticket is only associated with a single visitor. The system logs the time when a ride ticket is bought.

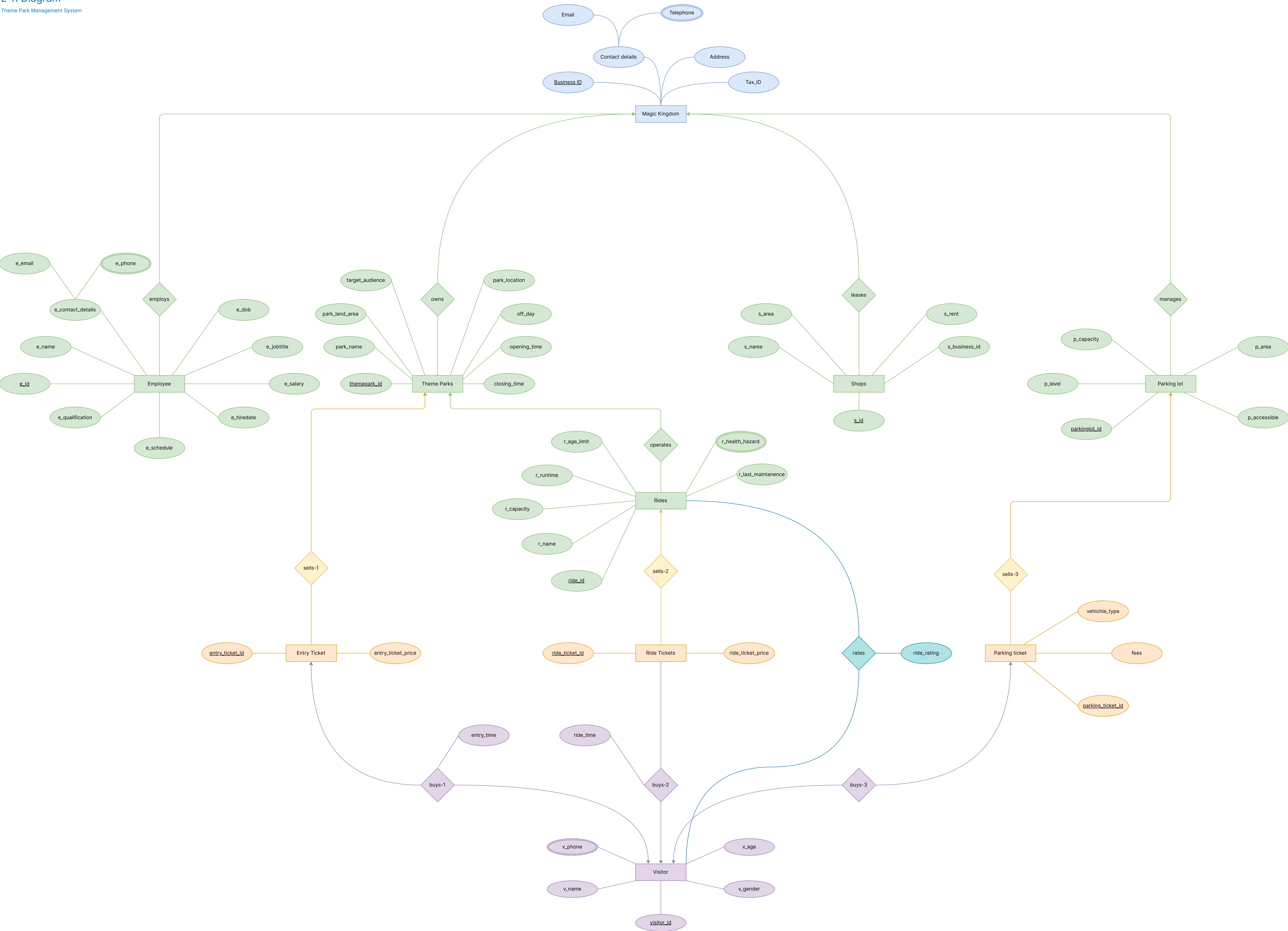
A parking lot sells many Parking ticket for visitor's car parking. But a parking ticket is only associated with a single parking lot. The ticket is identified by a id and has a parking fees, vehicle type which is being parked. One parking ticket can be bought by only one visitor.

Lastly, Many visitors can rate many rides. The system stores the rating when a visitor rates the ride.

E-R Diagram

The diagram is available on the next page.





Normalization

Employs

UNF

employs (Business_ID, Email, Telephone, Address, Tax_ID, e_id, e_name, e_email, e_phone, e_dob, e_jobtitle, e_salary, e_hiredate, e_schedule, e_qualification)

1NF

Telephone and e_phone are multivalued attributes.

1. Business_ID, Email, Telephone, Address, Tax_ID, e_id, e_name, e_email, e_phone, e_dob, e_jobtitle, e_salary, e_hiredate, e_schedule, e_qualification

2NF

1. Business_ID, Email, Telephone, Address, Tax_ID
2. e_id, e_name, e_email, e_phone, e_dob, e_jobtitle, e_salary, e_hiredate, e_schedule, e_qualification

3NF

There is no transitive dependency. Relation is already in 3NF.

1. Business_ID, Email, Telephone, Address, Tax_ID
2. e_id, e_name, e_email, e_phone, e_dob, e_jobtitle, e_salary, e_hiredate, e_schedule, e_qualification

Table Creation

1. Business_ID, Email, Telephone, Address, Tax_ID
2. e_id, e_name, e_email, e_phone, e_dob, e_jobtitle, e_salary, e_hiredate, e_schedule, e_qualification, **Business_ID**



Owns

UNF

owns (Business_ID, Email, Telephone, Address, Tax_ID, themepark_id, park_name, park_land_area, target_audience, park_location, off_day, opening_time, closing_time)

1NF

Telephone is a multivalued attribute.

1. Business_ID, Email, Telephone, Address, Tax_ID, themepark_id, park_name, park_land_area, target_audience, park_location, off_day, opening_time, closing_time

2NF

1. Business_ID, Email, Telephone, Address, Tax_ID
2. themepark_id, park_name, park_land_area, target_audience, park_location, off_day, opening_time, closing_time

3NF

There is no transitive dependency. Relation is already in 3NF.

1. Business_ID, Email, Telephone, Address, Tax_ID
2. themepark_id, park_name, park_land_area, target_audience, park_location, off_day, opening_time, closing_time

Table Creation

1. Business_ID, Email, Telephone, Address, Tax_ID
2. themepark_id, park_name, park_land_area, target_audience, park_location, off_day, opening_time, closing_time, **Business_ID**



Leases

UNF

leases (Business_ID, Email, Telephone, Address, Tax_ID, s_id, s_name, s_area, s_rent, s_business_id)

1NF

Telephone is a multivalued attribute.

1. Business_ID, Email, Telephone, Address, Tax_ID, s_id, s_name, s_area, s_rent, s_business_id

2NF

1. Business_ID, Email, Telephone, Address, Tax_ID
2. s_id, s_name, s_area, s_rent, s_business_id

3NF

1. Business_ID, Email, Telephone, Address, Tax_ID
2. s_id, s_area, s_rent
3. s_business_id, s_name

Table Creation

1. Business_ID, Email, Telephone, Address, Tax_ID
2. s_id, s_area, s_rent, **leaseholder_id**, **Business_id**
3. leaseholder_id, s_name, s_business_id



Manages

UNF

manages (Business_ID, Email, Telephone, Address, Tax_ID, parkinglot_id, p_level, p_capacity, p_area, p_accessible)

1NF

Telephone is a multivalued attribute.

1. Business_ID, Email, Telephone, Address, Tax_ID, parkinglot_id, p_level, p_capacity, p_area, p_accessible

2NF

1. Business_ID, Email, Telephone, Address, Tax_ID
2. parkinglot_id, p_level, p_capacity, p_area, p_accessible

3NF

There is no transitive dependency. Relation is already in 3NF.

1. Business_ID, Email, Telephone, Address, Tax_ID
2. parkinglot_id, p_level, p_capacity, p_area, p_accessible

Table Creation

1. Business_ID, Email, Telephone, Address, Tax_ID
2. parkinglot_id, p_level, p_capacity, p_area, p_accessible, **Business_ID**



Operates

UNF

operates(themepark_id, park_name, park_land_area, target_audience, park_location, off_day, opening_time, closing_time, ride_id, r_name, r_capacity, r_runtime, r_age_limit, r_health_hazard, r_last_maintenance)

1NF

r_health_hazard is a multivalued attribute.

1. themepark_id, park_name, park_land_area, target_audience, park_location, off_day, opening_time, closing_time, ride_id, r_name, r_capacity, r_runtime, r_age_limit, r_health_hazard, r_last_maintenance

2NF

1. themepark_id, park_name, park_land_area, target_audience, park_location, off_day, opening_time, closing_time
2. ride_id, r_name, r_capacity, r_runtime, r_age_limit, r_health_hazard, r_last_maintenance

3NF

There is no transitive dependency. Relation is already in 3NF.

1. themepark_id, park_name, park_land_area, target_audience, park_location, off_day, opening_time, closing_time
2. ride_id, r_name, r_capacity, r_runtime, r_age_limit, r_health_hazard, r_last_maintenance

Table Creation

1. themepark_id, park_name, park_land_area, target_audience, park_location, off_day, opening_time, closing_time
2. ride_id, r_name, r_capacity, r_runtime, r_age_limit, r_health_hazard, r_last_maintenance, **themepark_id**



Sells-1

UNF

sells-1(themepark_id, park_name, park_land_area, target_audience, park_location, off_day, opening_time, closing_time, entry_ticket_id, entry_ticket_price)

1NF

There is no multivalued attribute.

1. themepark_id, park_name, park_land_area, target_audience, park_location, off_day, opening_time, closing_time, entry_ticket_id, entry_ticket_price

2NF

1. themepark_id, park_name, park_land_area, target_audience, park_location, off_day, opening_time, closing_time
2. entry_ticket_id, entry_ticket_price

3NF

There is no transitive dependency. Relation is already in 3NF.

1. themepark_id, park_name, park_land_area, target_audience, park_location, off_day, opening_time, closing_time
2. entry_ticket_id, entry_ticket_price

Table Creation

1. themepark_id, park_name, park_land_area, target_audience, park_location, off_day, opening_time, closing_time
2. entry_ticket_id, entry_ticket_price, **themepark_id**



Sells-2

UNF

sells-2(ride_id, r_name, r_capacity, r_runtime, r_age_limit, r_health_hazard, r_last_maintenance, ride_ticket_id, ride_ticket_price)

1NF

There is no multivalued attribute.

1. ride_id, r_name, r_capacity, r_runtime, r_age_limit, r_health_hazard, r_last_maintenance, ride_ticket_id, ride_ticket_price

2NF

1. ride_id, r_name, r_capacity, r_runtime, r_age_limit, r_health_hazard, r_last_maintenance
2. ride_ticket_id, ride_ticket_price

3NF

There is no transitive dependency. Relation is already in 3NF.

1. ride_id, r_name, r_capacity, r_runtime, r_age_limit, r_health_hazard, r_last_maintenance
2. ride_ticket_id, ride_ticket_price

Table Creation

1. ride_id, r_name, r_capacity, r_runtime, r_age_limit, r_health_hazard, r_last_maintenance
2. ride_ticket_id, ride_ticket_price, **ride_id**



Sells-3

UNF

Sells-3(parkinglot_id, p_level, p_capacity, p_area, p_accessible, parking_ticket_id, fees, vehicle_type)

1NF

There is no multivalued attribute.

1. parkinglot_id, p_level, p_capacity, p_area, p_accessible, parking_ticket_id, fees, vehicle_type

2NF

1. parkinglot_id, p_level, p_capacity, p_area, p_accessible
2. parking_ticket_id, fees, vehicle_type

3NF

There is no transitive dependency. Relation is already in 3NF.

1. parkinglot_id, p_level, p_capacity, p_area, p_accessible
2. parking_ticket_id, fees, vehicle_type

Table Creation

1. parkinglot_id, p_level, p_capacity, p_area, p_accessible
2. parking_ticket_id, fees, vehicle_type, **parkinglot_id**



Buys-1

UNF

Buys-1(entry_ticket_id, entry_ticket_price, visitor_id, v_name, v_phone, v_age, v_gender)

1NF

v_phone is a multivalued attribute.

1. entry_ticket_id, entry_ticket_price, visitor_id, v_name, v_phone, v_age, v_gender

2NF

1. entry_ticket_id, entry_ticket_price
2. visitor_id, v_name, v_phone, v_age, v_gender

3NF

There is no transitive dependency. Relation is already in 3NF.

1. entry_ticket_id, entry_ticket_price
2. visitor_id, v_name, v_phone, v_age, v_gender

Table Creation

1. entry_ticket_id, entry_ticket_price, **visitor_id**, entry_time
2. visitor_id, v_name, v_phone, v_age, v_gender



Buys-2

UNF

Buys-2(ride_ticket_id, ride_ticket_price, visitor_id, v_name, v_phone, v_age, v_gender)

1NF

v_phone is a multivalued attribute.

1. ride_ticket_id, ride_ticket_price, visitor_id, v_name, v_phone, v_age, v_gender

2NF

1. ride_ticket_id, ride_ticket_price
2. visitor_id, v_name, v_phone, v_age, v_gender

3NF

There is no transitive dependency. Relation is already in 3NF.

1. ride_ticket_id, ride_ticket_price
2. visitor_id, v_name, v_phone, v_age, v_gender

Table Creation

1. ride_ticket_id, ride_ticket_price, **visitor_id**, ride_time
2. visitor_id, v_name, v_phone, v_age, v_gender



Buys-3

UNF

Buys-2(parking_ticket_id, fees, vehicle_type, visitor_id, v_name, v_phone, v_age, v_gender)

1NF

v_phone is a multivalued attribute.

1. parking_ticket_id, fees, vehicle_type, visitor_id, v_name, v_phone, v_age, v_gender

2NF

1. parking_ticket_id, fees, vehicle_type
2. visitor_id, v_name, v_phone, v_age, v_gender

3NF

There is no transitive dependency. Relation is already in 3NF.

1. parking_ticket_id, fees, vehicle_type
2. visitor_id, v_name, v_phone, v_age, v_gender

Table Creation

1. parking_ticket_id, fees, vehicle_type, **visitor_id**
2. visitor_id, v_name, v_phone, v_age, v_gender



Rates

UNF

rates (ride_id, r_name, r_capacity, r_runtime, r_age_limit, r_health_hazard, r_last_maintenance, visitor_id, v_name, v_phone, v_age, v_gender)

1NF

v_phone is a multivalued attribute.

1. ride_id, r_name, r_capacity, r_runtime, r_age_limit, r_health_hazard, r_last_maintenance, visitor_id, v_name, v_phone, v_age, v_gender

2NF

1. ride_id, r_name, r_capacity, r_runtime, r_age_limit, r_health_hazard, r_last_maintenance
2. visitor_id, v_name, v_phone, v_age, v_gender

3NF

There is no transitive dependency. Relation is already in 3NF.

1. ride_id, r_name, r_capacity, r_runtime, r_age_limit, r_health_hazard, r_last_maintenance
2. visitor_id, v_name, v_phone, v_age, v_gender

Table Creation

1. ride_id, r_name, r_capacity, r_runtime, r_age_limit, r_health_hazard, r_last_maintenance
2. visitor_id, v_name, v_phone, v_age, v_gender
3. ride_id, visitor_id, rating



Temporary tables

1. Business_ID, Email, Telephone, Address, Tax_ID
2. e_id, e_name, e_email, e_phone, e_dob, e_jobtitle, e_salary, e_hiredate, e_schedule, e_qualification, **Business_ID**
3. ~~Business_ID, Email, Telephone, Address, Tax_ID~~
4. themepark_id, park_name, park_land_area, target_audience, park_location, off_day, opening_time, closing_time, **Business_ID**
5. ~~Business_ID, Email, Telephone, Address, Tax_ID~~
6. s_id, s_area, s_rent, **leaseholder_id**, **Business_id**
7. leaseholder_id, s_name, s_business_id
8. ~~Business_ID, Email, Telephone, Address, Tax_ID~~
9. parkinglot_id, p_level, p_capacity, p_area, p_accessible, **Business_ID**
10. ~~themepark_id, park_name, park_land_area, target_audience, park_location, off_day, opening_time, closing_time~~
11. ride_id, r_name, r_capacity, r_runtime, r_age_limit, r_health_hazard, r_last_maintenance, **themepark_id**
12. ~~themepark_id, park_name, park_land_area, target_audience, park_location, off_day, opening_time, closing_time~~
13. entry_ticket_id, entry_ticket_price, **themepark_id**
14. ~~ride_id, r_name, r_capacity, r_runtime, r_age_limit, r_health_hazard, r_last_maintenance~~
15. ride_ticket_id, ride_ticket_price, **ride_id**
16. ~~parkinglot_id, p_level, p_capacity, p_area, p_accessible~~
17. parking_ticket_id, fees, vehicle_type, **parkinglot_id**
18. entry_ticket_id, entry_ticket_price, **visitor_id**, entry_time
19. visitor_id, v_name, v_phone, v_age, v_gender
20. ride_ticket_id, ride_ticket_price, **visitor_id**, ride_time
21. ~~visitor_id, v_name, v_phone, v_age, v_gender~~
22. parking_ticket_id, fees, vehicle_type, **visitor_id**
23. ~~visitor_id, v_name, v_phone, v_age, v_gender~~
24. ~~ride_id, r_name, r_capacity, r_runtime, r_age_limit, r_health_hazard, r_last_maintenance~~
25. ~~visitor_id, v_name, v_phone, v_age, v_gender~~
26. **ride_id, visitor_id**, rating



Final tables

1. Business_id, Email, Telephone_1, Telephone_2, Address, Tax_ID
2. e_id, e_name, e_phone_1, e_phone_2, e_email, e_dob, e_jobtitle, e_salaray, e_hiredate, e_schedule, e_qualification, **Business_id**
3. themepark_id, park_name, park_land_area, target_audience, park_location, off_day, opening_time, closing_time, **Business_id**
4. parkinglot_id, p_level, p_capacity, p_area, p_accessible, **Business_id**
5. s_id, s_area, s_rent, **leaseholder_id**, **Business_id**
6. leaseholder_id, s_name, s_business_id
7. entry_ticket_id, entry_ticket_price, entry_time, **visitor_id**, **themepark_id**
8. ride_id, r_name, r_capacity, r_runtime, r_age_limit, r_health_hazard_1, r_health_hazard_2, r_last_maintenance, **themepark_id**
9. ride_ticket_id, ride_ticket_price, ride_time, **ride_id**, **visitor_id**
10. parking_ticket_id, fees, vehicle_type, **visitor_id**, **parkinglot_id**
11. visitor_id, v_name, v_phone_1, v_phone_2, v_age, v_gender
12. **ride_id**, **visitor_id**, rating

Schema diagram

Schema diagram is available on the next page.



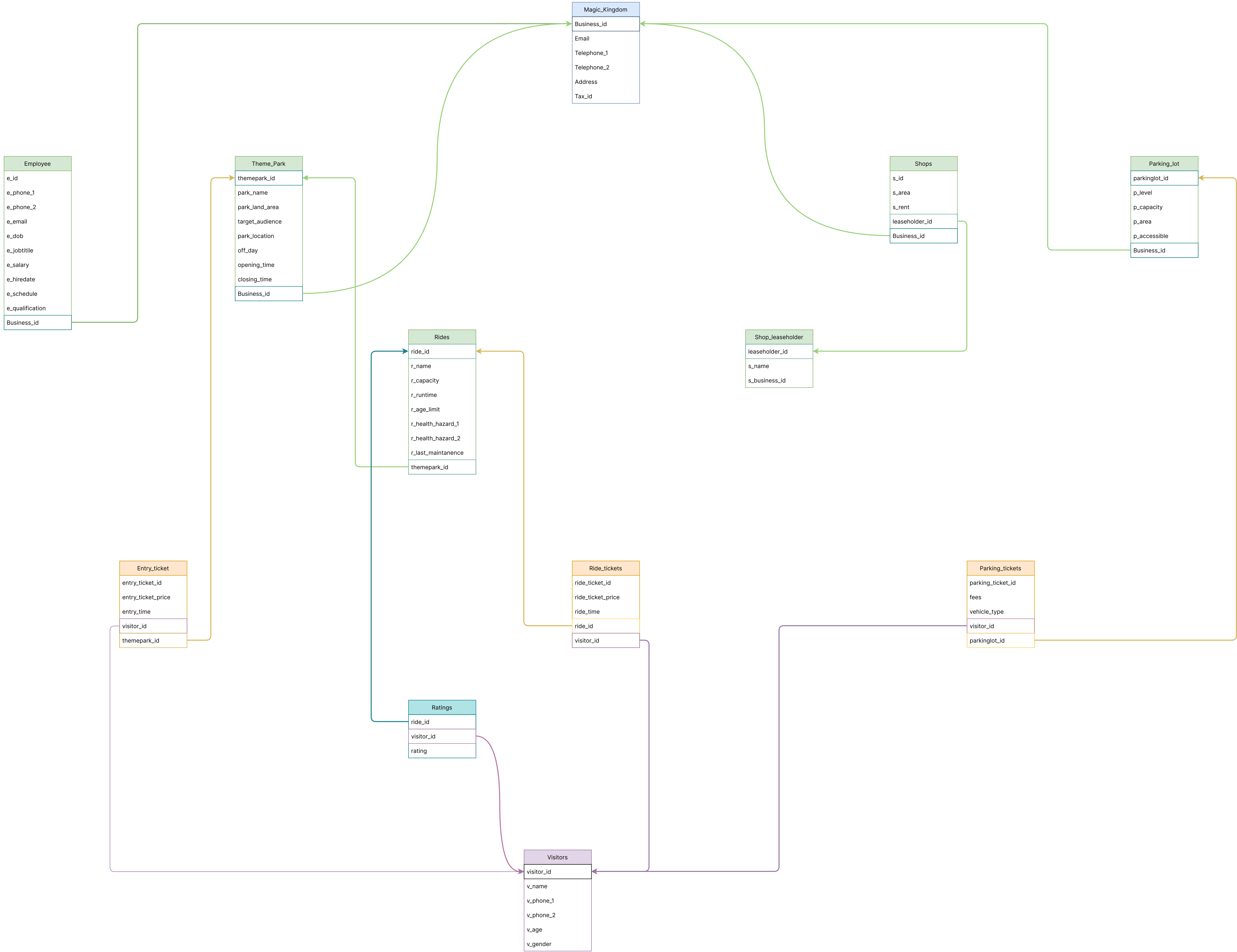


Table Creation

1. Business_id, Email, Telephone_1, Telephone_2, Address, Tax_ID

SQL:

```
CREATE TABLE MAGIC_KINGDOM
  (BUSINESS_ID NUMBER(7) CONSTRAINT PK_BUSINESS_ID PRIMARY KEY,
  EMAIL VARCHAR2(255),
  TELEPHONE_1 NUMBER(11),
  TELEPHONE_2 NUMBER(7),
  ADDRESS VARCHAR2(255),
  TAX_ID NUMBER(11));
```

Oracle Description:

Object Type **TABLE** Object **MAGIC_KINGDOM**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
<u>MAGIC_KINGDOM</u>	<u>BUSINESS_ID</u>	Number	-	7	0	1	-	-	-
	<u>EMAIL</u>	Varchar2	255	-	-	-	✓	-	-
	<u>TELEPHONE_1</u>	Number	-	11	0	-	✓	-	-
	<u>TELEPHONE_2</u>	Number	-	7	0	-	✓	-	-
	<u>ADDRESS</u>	Varchar2	255	-	-	-	✓	-	-
	<u>TAX_ID</u>	Number	-	11	0	-	✓	-	-
1 - 6									



2. e_id, e_name, e_phone_1, e_phone_2, e_email, e_dob, e_jobtitle, e_salaray, e_hiredate, e_schedule, e_qualification, Business_id

SQL:

```
CREATE TABLE EMPLOYEE
  (E_ID NUMBER(7) CONSTRAINT PK_Emp_ID PRIMARY KEY,
   E_NAME VARCHAR2(255) NOT NULL,
   E_PHONE_1 NUMBER(11) UNIQUE,
   E_PHONE_2 NUMBER(11),
   E_EMAIL VARCHAR2(255),
   E_DOB DATE NOT NULL,
   E_JOBTITLE VARCHAR2(25),
   E_SALARY NUMBER(7),
   E_HIREDATE DATE,
   E_SCHEDULE VARCHAR2(25),
   E_QUALIFICATION VARCHAR2(25),
   BUSINESS_ID NUMBER(7) CONSTRAINT FK1_BID REFERENCES MAGIC_KINGDOM);
```

Oracle Description:

Object Type **TABLE** Object **EMPLOYEE**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
<u>EMPLOYEE</u>	<u>E_ID</u>	Number	-	7	0	1	-	-	-
	<u>E_NAME</u>	Varchar2	255	-	-	-	-	-	-
	<u>E_PHONE_1</u>	Number	-	11	0	-	✓	-	-
	<u>E_PHONE_2</u>	Number	-	11	0	-	✓	-	-
	<u>E_EMAIL</u>	Varchar2	255	-	-	-	✓	-	-
	<u>E_DOB</u>	Date	7	-	-	-	-	-	-
	<u>E_JOBTITLE</u>	Varchar2	25	-	-	-	✓	-	-
	<u>E_SALARY</u>	Number	-	7	0	-	✓	-	-
	<u>E_HIREDATE</u>	Date	7	-	-	-	✓	-	-
	<u>E_SCHEDULE</u>	Varchar2	25	-	-	-	✓	-	-
	<u>E_QUALIFICATION</u>	Varchar2	25	-	-	-	✓	-	-
	<u>BUSINESS_ID</u>	Number	-	7	0	-	✓	-	-
									1 - 12



3. themepark_id, park_name, park_land_area, target_audience, park_location, off_day, opening_time, closing_time, Business_id

SQL:

```
CREATE TABLE THEME_PARKS
  (THEMEPARK_ID NUMBER(3) CONSTRAINT PK_THEME_ID PRIMARY KEY,
   PARK_NAME VARCHAR2(255) NOT NULL,
   PARK_LAND_AREA NUMBER(10,2),
   TARGET_AUDIENCE VARCHAR2(25),
   PARK_LOCATION VARCHAR2(25),
   OFF_DAY VARCHAR2(10),
   OPENING_TIME VARCHAR2(15),
   CLOSING_TIME VARCHAR2(7),
   BUSINESS_ID NUMBER(7) CONSTRAINT FK2_BID REFERENCES MAGIC_KINGDOM);
```

Oracle Description:

Object Type **TABLE** Object **THEME_PARKS**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
THEME_PARKS	THEMEPARK_ID	Number	-	3	0	1	-	-	-
	PARK_NAME	Varchar2	255	-	-	-	-	-	-
	PARK_LAND_AREA	Number	-	10	2	-	✓	-	-
	TARGET_AUDIENCE	Varchar2	25	-	-	-	✓	-	-
	PARK_LOCATION	Varchar2	25	-	-	-	✓	-	-
	OFF_DAY	Varchar2	10	-	-	-	✓	-	-
	OPENING_TIME	Varchar2	15	-	-	-	✓	-	-
	CLOSING_TIME	Varchar2	7	-	-	-	✓	-	-
	BUSINESS_ID	Number	-	7	0	-	✓	-	-
									1 - 9



4. parkinglot_id, p_level, p_capacity, p_area, p_accessible, Business_id

SQL:

```
CREATE TABLE PARKING_LOT
(PARKINGLOT_ID VARCHAR2(3) CONSTRAINT PK_PARKLOT_ID PRIMARY KEY,
P_LEVEL VARCHAR2(10),
P_CAPACITY NUMBER(5),
P_AREA NUMBER(10,2),
P_ACCESSIBLE VARCHAR2(10) CONSTRAINT CH1 CHECK(P_ACCESSIBLE='TRUE' OR
P_ACCESSIBLE='FALSE'),
BUSINESS_ID NUMBER(7) CONSTRAINT FK3_BID REFERENCES MAGIC_KINGDOM);
```

Oracle Description:

Object Type TABLE Object PARKING_LOT

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
PARKING_LOT	PARKINGLOT_ID	Varchar2	3	-	-	1	-	-	-
	P_LEVEL	Varchar2	10	-	-	-	✓	-	-
	P_CAPACITY	Number	-	5	0	-	✓	-	-
	P_AREA	Number	-	10	2	-	✓	-	-
	P_ACCESSIBLE	Varchar2	10	-	-	-	✓	-	-
	BUSINESS_ID	Number	-	7	0	-	✓	-	-
1 - 6									



5. s_id, s_area, s_rent, leaseholder_id, Business_id

SQL:

```
CREATE TABLE SHOP_LEASEHOLDER  
(LEASEHOLDER_ID NUMBER(7) CONSTRAINT PK_LEASEHOLDER_ID PRIMARY KEY,  
S_NAME VARCHAR2(255) NOT NULL,  
S_BUSINESS_ID NUMBER(7) NOT NULL UNIQUE);
```

Oracle Description:

Object Type **TABLE** Object **SHOPS**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
SHOPS	<u>S_ID</u>	Number	-	4	0	1	-	-	-
	<u>S_AREA</u>	Number	-	10	2	-	✓	-	-
	<u>S_RENT</u>	Number	-	7	0	-	✓	-	-
	<u>LEASEHOLDER_ID</u>	Number	-	7	0	-	✓	-	-
	<u>BUSINESS_ID</u>	Number	-	7	0	-	✓	-	-
									1 - 5



6. leaseholder_id, s_name, s_business_id

SQL:

```
CREATE TABLE SHOPS
(S_ID NUMBER(4) CONSTRAINT PK_S_ID PRIMARY KEY,
S_AREA NUMBER(10,2),
S_RENT NUMBER(7),
LEASEHOLDER_ID NUMBER(7) CONSTRAINT FK1_LEASEHOLDER_ID REFERENCES
SHOP_LEASEHOLDER,
BUSINESS_ID NUMBER(7) CONSTRAINT FK4_BID REFERENCES MAGIC_KINGDOM);
```

Oracle Description:

Object Type TABLE Object SHOP_LEASEHOLDER

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
SHOP_LEASEHOLDER	LEASEHOLDER_ID	Number	-	7	0	1	-	-	-
	S_NAME	Varchar2	255	-	-	-	-	-	-
	S_BUSINESS_ID	Number	-	7	0	-	-	-	-
1 - 3									



7. entry_ticket_id, entry_ticket_price, entry_time, visitor_id, themepark_id

SQL:

```
CREATE TABLE ENTRY_TICKETS
(ENTRY_TICKET_ID NUMBER(10) CONSTRAINT PK_ENTRY_ID PRIMARY KEY,
ENTRY_TICKET_PRICE NUMBER(5),
ENTRY_TIME DATE,
VISITOR_ID NUMBER(10) CONSTRAINT FK1_VISITOR_ID REFERENCES VISITORS,
THEMEPARK_ID NUMBER(3) CONSTRAINT FK1_THEMEPARK_ID REFERENCES
THEME_PARKS);
```

Oracle Description:

Object Type TABLE Object ENTRY_TICKETS

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
ENTRY_TICKETS	ENTRY_TICKET_ID	Number	-	10	0	1	-	-	-
	ENTRY_TICKET_PRICE	Number	-	5	0	-	✓	-	-
	ENTRY_TIME	Date	7	-	-	-	✓	-	-
	VISITOR_ID	Number	-	10	0	-	✓	-	-
	THEMEPARK_ID	Number	-	3	0	-	✓	-	-
									1 - 5



8. ride_id, r_name, r_capacity, r_runtime, r_age_limit, r_health_hazard_1, r_health_hazard_2, r_last_maintenance, themepark_id

SQL:

```
CREATE TABLE RIDES
  (RIDE_ID NUMBER(4) CONSTRAINT PK_RIDE_ID PRIMARY KEY,
   R_NAME VARCHAR2(255),
   R_CAPACITY NUMBER(5),
   R_RUNTIME NUMBER(4),
   R_AGE_LIMIT NUMBER(3),
   R_HEALTH_HAZARD_1 VARCHAR2(25),
   R_HEALTH_HAZARD_2 VARCHAR2(25),
   R_LAST_MAINTANENCE DATE,
   THEMEPARK_ID NUMBER(3) CONSTRAINT FK2_THEMEPARK_ID REFERENCES
THEME_PARKS);
```

Oracle Description:

Object Type **TABLE** Object **RIDES**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
<u>RIDES</u>	<u>RIDE_ID</u>	Number	-	4	0	1	-	-	-
	<u>R_NAME</u>	Varchar2	255	-	-	-	✓	-	-
	<u>R_CAPACITY</u>	Number	-	5	0	-	✓	-	-
	<u>R_RUNTIME</u>	Number	-	4	0	-	✓	-	-
	<u>R_AGE_LIMIT</u>	Number	-	3	0	-	✓	-	-
	<u>R_HEALTH_HAZARD_1</u>	Varchar2	25	-	-	-	✓	-	-
	<u>R_HEALTH_HAZARD_2</u>	Varchar2	25	-	-	-	✓	-	-
	<u>R_LAST_MAINTANENCE</u>	Date	7	-	-	-	✓	-	-
	<u>THEMEPARK_ID</u>	Number	-	3	0	-	✓	-	-
1 - 9									



9. ride_ticket_id, ride_ticket_price, ride_time, ride_id, visitor_id

SQL:

```
CREATE TABLE RIDE_TICKETS
(RIDE_TICKET_ID NUMBER(10) CONSTRAINT PK_RIDETICKET_ID PRIMARY KEY,
RIDE_TICKET_PRICE NUMBER(5),
ENTRY_TIME DATE,
RIDE_ID NUMBER(4) CONSTRAINT FK1_RIDE_ID REFERENCES RIDES,
VISITOR_ID NUMBER(10) CONSTRAINT FK2_VISITOR_ID REFERENCES VISITORS);
```

Oracle Description:

Object Type TABLE Object RIDE_TICKETS

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
RIDE_TICKETS	RIDE_TICKET_ID	Number	-	10	0	1	-	-	-
	RIDE_TICKET_PRICE	Number	-	5	0	-	✓	-	-
	ENTRY_TIME	Date	7	-	-	-	✓	-	-
	RIDE_ID	Number	-	4	0	-	✓	-	-
	VISITOR_ID	Number	-	10	0	-	✓	-	-
									1 - 5



10. parking_ticket_id, fees, vehicle_type, visitor_id, parkinglot_id

SQL:

```
CREATE TABLE PARKING_TICKETS
(PARKING_TICKET_ID NUMBER(10) CONSTRAINT PK_PARKING_TICKET_ID PRIMARY
KEY,
FEES NUMBER(5),
VEHICLE_TYPE VARCHAR2(15),
PARKINGLOT_ID VARCHAR2(3) CONSTRAINT FK1_PARKLOT_ID REFERENCES
PARKING_LOT,
VISITOR_ID NUMBER(10) CONSTRAINT FK3_VISITOR_ID REFERENCES VISITORS);
```

Oracle Description:

Object Type TABLE Object PARKING_TICKETS

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
PARKING TICKETS	PARKING_TICKET_ID	Number	-	10	0	1	-	-	-
	FEES	Number	-	5	0	-	✓	-	-
	VEHICLE_TYPE	Varchar2	15	-	-	-	✓	-	-
	PARKINGLOT_ID	Varchar2	3	-	-	-	✓	-	-
	VISITOR_ID	Number	-	10	0	-	✓	-	-
									1 - 5



11. visitor_id, v_name, v_phone_1, v_phone_2, v_age, v_gender

SQL:

```
CREATE TABLE VISITORS
(VISITOR_ID NUMBER(10) CONSTRAINT PK_VISITOR_ID PRIMARY KEY,
 V_NAME VARCHAR2(255),
 V_PHONE_1 NUMBER(11),
 V_PHONE_2 NUMBER(11),
 V_AGE NUMBER(3),
 V_GENDER CHAR(1) CONSTRAINT CH2 CHECK(V_GENDER='M' OR V_GENDER='F'));
```

Oracle Description:

Object Type **TABLE** Object **VISITORS**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
<u>VISITORS</u>	<u>VISITOR_ID</u>	Number	-	10	0	1	-	-	-
	<u>V_NAME</u>	Varchar2	255	-	-	-	✓	-	-
	<u>V_PHONE_1</u>	Number	-	11	0	-	✓	-	-
	<u>V_PHONE_2</u>	Number	-	11	0	-	✓	-	-
	<u>V_AGE</u>	Number	-	3	0	-	✓	-	-
	<u>V_GENDER</u>	Char	1	-	-	-	✓	-	-
									1 - 6



12. ride_id, visitor_id, rating

SQL:

```
CREATE TABLE RATINGS
(RIDE_ID NUMBER(4) CONSTRAINT FK2_RIDE_ID REFERENCES RIDES,
VISITOR_ID NUMBER(10) CONSTRAINT FK4_VISITOR_ID REFERENCES VISITORS,
RATING NUMBER(2));
```

Oracle Description:

Object Type **TABLE** Object **RATINGS**

Table	Column	Data Type	Length	Precision	Scale	Primary Key	Nullable	Default	Comment
RATINGS	RIDE_ID	Number	-	4	0	-	✓	-	-
	VISITOR_ID	Number	-	10	0	-	✓	-	-
	RATING	Number	-	2	0	-	✓	-	-
									1 - 3



Sequence

Here are all the sequences needed for this database.

```
Create sequence employee_seq increment by 1 start with 0001 maxvalue 9999;
```

```
Create sequence themepark_seq increment by 100 start with 100 maxvalue 900;
```

```
Create sequence leaseholder_seq increment by 10 start with 1000 maxvalue  
100000;
```

```
Create sequence sid_seq increment by 1 start with 1001 maxvalue 9999;
```

```
Create sequence vid_seq increment by 1 start with 1001;
```

```
Create sequence ENTRY_SEQ increment by 1 start with 0001;
```

```
Create sequence RIDE_seq increment by 1 start with 100;
```

```
Create sequence park_seq increment by 1 start with 1001;
```

User Creation

```
CREATE user sysadmin identified by secure123;  
GRANT ALL PRIVILEGES TO sysadmin with admin option;
```



Data Insertion

--MAGIC_KINGDOM

INSERT INTO MAGIC_KINGDOM VALUES

(1023113,'contact@magickingdom.com','01512542465','1123141','DHAKA','23423123345');

BUSINESS_ID	EMAIL	TELEPHONE_1	TELEPHONE_2	ADDRESS	TAX_ID
1023113	contact@magickingdom.com	1512542465	1123141	DHAKA	23423123345

--EMPLOYEE

INSERT INTO EMPLOYEE VALUES (employee_seq.NEXTVAL,'ASHRAF UDDIN','01745254246','01395639756','ashraf@gmail.com',to_date('22-05-1974','dd-mm-yyyy'),'GAME ATTENDANT','3000',to_date('13-05-2000','dd-mm-yyyy'),'Morning','BBA',1023113);

INSERT INTO EMPLOYEE VALUES (employee_seq.NEXTVAL,'MOMIN UDDIN','01945425424','01325639756','momin@gmail.com',to_date('22-05-1988','dd-mm-yyyy'),'Ride Technician','5000',to_date('12-03-2010','dd-mm-yyyy'),'Evening','MECHANICAL',1023113);

INSERT INTO EMPLOYEE VALUES (employee_seq.NEXTVAL,'STONNY SMITH','01595425424','01925639756','smith@gmail.com',to_date('22-03-1990','dd-mm-yyyy'),'Ride Technician','5000',to_date('12-04-2011','dd-mm-yyyy'),'Morning','MECHANICAL',1023113);

INSERT INTO EMPLOYEE VALUES (employee_seq.NEXTVAL,'MIRA AHMED','01595423424','01905639756','mira@gmail.com',to_date('27-09-1980','dd-mm-yyyy'),'MANAGER','7000',to_date('19-07-2001','dd-mm-yyyy'),'Afternoon','BBA',1023113);

INSERT INTO EMPLOYEE VALUES (employee_seq.NEXTVAL,'ARIF HASAN','01785425424','01345639756','arif@gmail.com',to_date('27-08-1987','dd-mm-yyyy'),'COSTUME CHARACTER','4000',to_date('19-07-2008','dd-mm-yyyy'),'Evening','FASHION DESIGN',1023113);

E_ID	E_NAME	E_PHONE_1	E_PHONE_2	E_EMAIL	E_DOB	E_JOBTITLE	E_SALARY	E_HIREDATE	E_SCHEDULE	E_QUALIFICATION	BUSINESS_ID
1	ASHRAF UDDIN	1745254246	1395639756	ashraf@gmail.com	22-MAY-74	GAME ATTENDANT	3000	13-MAY-00	Morning	BBA	1023113
2	MOMIN UDDIN	1945425424	1325639756	momin@gmail.com	22-MAY-88	Ride Technician	5000	12-MAR-10	Evening	MECHANICAL	1023113
3	STONNY SMITH	1595425424	1925639756	smith@gmail.com	22-MAR-90	Ride Technician	5000	12-APR-11	Morning	MECHANICAL	1023113
5	MIRA AHMED	1595423424	1905639756	mira@gmail.com	27-SEP-80	MANAGER	7000	19-JUL-01	Afternoon	BBA	1023113
6	ARIF HASAN	1785425424	1345639756	arif@gmail.com	27-AUG-87	COSTUME CHARACTER	4000	19-JUL-08	Evening	FASHION DESIGN	1023113

--THEME_PARKS

INSERT INTO THEME_PARKS VALUES

(themepark_seq.NEXTVAL,'WATERLAND',60.13,'CHILDREN','WEST','MONDAY','9 AM','5 PM',1023113);

INSERT INTO THEME_PARKS VALUES (themepark_seq.NEXTVAL,'VR MADNESS',50,'TEENS','EAST','WEDNESDAY','10 AM','5 PM',1023113);

INSERT INTO THEME_PARKS VALUES (themepark_seq.NEXTVAL,'WONDERLAND',70,'ALL','SOUTH','THURSDAY','9 AM','4 PM',1023113);

THEMEPARK_ID	PARK_NAME	PARK_LAND_AREA	TARGET_AUDIENCE	PARK_LOCATION	OFF_DAY	OPENING_TIME	CLOSING_TIME	BUSINESS_ID
100	WATERLAND	60.13	CHILDREN	WEST	MONDAY	9 AM	5 PM	1023113
200	VR MADNESS	50	TEENS	EAST	WEDNESDAY	10 AM	5 PM	1023113
300	WONDERLAND	70	ALL	SOUTH	THURSDAY	9 AM	4 PM	1023113

--PARKING_LOT

INSERT INTO PARKING_LOT VALUES ('B01','BASEMENT-1',500,15000,'FALSE',1023113);

INSERT INTO PARKING_LOT VALUES ('B02','BASEMENT-2',350,10000,'FALSE',1023113);



```
INSERT INTO PARKING_LOT VALUES ('G00', 'GROUND', 800, 20000, 'TRUE', 1023113);
```

THEMEPARK_ID	PARK_NAME	PARK_LAND_AREA	TARGET_AUDIENCE	PARK_LOCATION	OFF_DAY	OPENING_TIME	CLOSING_TIME	BUSINESS_ID
100	WATERLAND	60.13	CHILDREN	WEST	MONDAY	9 AM	5 PM	1023113
200	VR MADNESS	50	TEENS	EAST	WEDNESDAY	10 AM	5 PM	1023113
300	WONDERLAND	70	ALL	SOUTH	THURSDAY	9 AM	4 PM	1023113

```
--SHOP_LEASEHOLDER
```

```
INSERT INTO SHOP_LEASEHOLDER VALUES (leaseholder_seq.NEXTVAL, 'KFC', 1044343);
```

```
INSERT INTO SHOP_LEASEHOLDER VALUES
```

```
(leaseholder_seq.NEXTVAL, 'PIZZAHUT', 1056343);
```

```
INSERT INTO SHOP_LEASEHOLDER VALUES
```

```
(leaseholder_seq.NEXTVAL, 'CRIMSONCUP', 1087343);
```

```
INSERT INTO SHOP_LEASEHOLDER VALUES
```

```
(leaseholder_seq.NEXTVAL, 'TOYSTORE', 1045343);
```

```
INSERT INTO SHOP_LEASEHOLDER VALUES
```

```
(leaseholder_seq.NEXTVAL, 'KIDSZONE', 1043343);
```

LEASEHOLDER_ID	S_NAME	S_BUSINESS_ID
1000	KFC	1044343
1010	PIZZAHUT	1056343
1020	CRIMSONCUP	1087343
1030	TOYSTORE	1045343
1040	KIDSZONE	1043343

```
--SHOPS
```

```
INSERT INTO SHOPS VALUES (sid_seq.NEXTVAL, '500', 75000, 1000, 1023113);
```

```
INSERT INTO SHOPS VALUES (sid_seq.NEXTVAL, '600', 85000, 1010, 1023113);
```

```
INSERT INTO SHOPS VALUES (sid_seq.NEXTVAL, '900', 100000, 1050, 1023113);
```

```
INSERT INTO SHOPS VALUES (sid_seq.NEXTVAL, '400', 50000, 1030, 1023113);
```

```
INSERT INTO SHOPS VALUES (sid_seq.NEXTVAL, '400', 60000, 1040, 1023113);
```

S_ID	S_AREA	S_RENT	LEASEHOLDER_ID	BUSINESS_ID
1001	500	75000	1000	1023113
1002	600	85000	1010	1023113
1004	900	100000	1020	1023113
1005	400	50000	1030	1023113
1006	400	60000	1040	1023113

```
--VISITORS
```

```
INSERT INTO VISITORS VALUES (vid_seq.NEXTVAL, 'ALIF  
UDDIN', '01918453789', '01537648901', 30, 'M');
```

```
INSERT INTO VISITORS VALUES (vid_seq.NEXTVAL, 'MEHEDI  
RAHMAN', '0191845343', '', 30, 'M');
```

```
INSERT INTO VISITORS VALUES (vid_seq.NEXTVAL, 'ASMA  
BEGUM', '0191856789', '01537648457', 40, 'F');
```

```
INSERT INTO VISITORS VALUES (vid_seq.NEXTVAL, 'ARISHA  
RAHMAN', '01568473789', '', 27, 'F');
```

```
INSERT INTO VISITORS VALUES (vid_seq.NEXTVAL, 'AKKASH  
RAHMAN', '01568473789', '01649537895', 30, 'M');
```



VISITOR_ID	V_NAME	V_PHONE_1	V_PHONE_2	V_AGE	V_GENDER
1001	ALIF UDDIN	1918453789	1537648901	30	M
1002	MEHEDI RAHMAN	191845343	-	30	M
1003	ASMA BEGUM	191856789	1537648457	40	F
1004	ARISHA RAHMAN	1568473789	-	27	F
1005	AKKASH RAHMAN	1568473789	1649537895	30	M

--ENTRY_TICKETS

```

INSERT INTO ENTRY_TICKETS VALUES (ENTRY_SEQ.NEXTVAL,250,to_date('22-05-2022
11:10:20','dd-mm-yyyy HH12:MI:SS AM'),1001,100);
INSERT INTO ENTRY_TICKETS VALUES (ENTRY_SEQ.NEXTVAL,250,to_date('22-05-2022
11:12:20','dd-mm-yyyy HH12:MI:SS AM'),1002,100);
INSERT INTO ENTRY_TICKETS VALUES (ENTRY_SEQ.NEXTVAL,350,to_date('22-05-2022
11:10:20','dd-mm-yyyy HH12:MI:SS AM'),1003,200);
INSERT INTO ENTRY_TICKETS VALUES (ENTRY_SEQ.NEXTVAL,250,to_date('22-05-2022
11:20:20','dd-mm-yyyy HH12:MI:SS AM'),1004,200);
INSERT INTO ENTRY_TICKETS VALUES (ENTRY_SEQ.NEXTVAL,350,to_date('22-05-2022
11:30:20','dd-mm-yyyy HH12:MI:SS AM'),1005,300);

```

ENTRY_TICKET_ID	ENTRY_TICKET_PRICE	ENTRY_TIME	VISITOR_ID	THEMEPARK_ID
2	250	22-MAY-22	1001	100
3	250	22-MAY-22	1002	100
4	350	22-MAY-22	1003	200
5	250	22-MAY-22	1004	200
6	350	22-MAY-22	1005	300

--RIDES

```

INSERT INTO RIDES VALUES (101,'WHIRPOOL SLIDE',20,15,5,'HIGH
BLOODPRESSURE',NULL,'1-Nov-18',100);
INSERT INTO RIDES VALUES (102,'POOL JUMP',20,15,5,'HIGH
BLOODPRESSURE',NULL,'14-DEC-20',100);
INSERT INTO RIDES VALUES (201,'FLIGHT SIMULATOR',20,15,5,'HIGH
BLOODPRESSURE','EPILEPSY','1-Nov-18',200);
INSERT INTO RIDES VALUES (202,'NASCAR',20,15,5,'HIGH
BLOODPRESSURE','HEADACHE','1-Nov-18',200);
INSERT INTO RIDES VALUES (301,'ROLLERCOASTER',20,15,5,'HIGH
BLOODPRESSURE',NULL,'12-JAN-19',300);

```

RIDE_ID	R_NAME	R_CAPACITY	R_RUNTIME	R_AGE_LIMIT	R_HEALTH_HAZARD_1	R_HEALTH_HAZARD_2	R_LAST_MAINTANENCE	THEMEPARK_ID
101	WHIRPOOL SLIDE	20	15	5	HIGH BLOODPRESSURE	-	01-NOV-18	100
102	POOL JUMP	20	15	5	HIGH BLOODPRESSURE	-	14-DEC-20	100
201	FLIGHT SIMULATOR	20	15	5	HIGH BLOODPRESSURE	EPILEPSY	01-NOV-18	200
202	NASCAR	20	15	5	HIGH BLOODPRESSURE	HEADACHE	01-NOV-18	200
301	ROLLERCOASTER	20	15	5	HIGH BLOODPRESSURE	-	12-JAN-19	300

--RIDE TICKETS

```

INSERT INTO RIDE_TICKETS VALUES (RIDE_seq.NEXTVAL,250,to_date('22-05-2022
11:10:20','dd-mm-yyyy HH12:MI:SS AM'),101,1001);
INSERT INTO RIDE_TICKETS VALUES (RIDE_seq.NEXTVAL,250,to_date('22-05-2022
11:12:20','dd-mm-yyyy HH12:MI:SS AM'),102,1002);
INSERT INTO RIDE_TICKETS VALUES (RIDE_seq.NEXTVAL,250,to_date('22-05-2022
11:16:24','dd-mm-yyyy HH12:MI:SS AM'),201,1003);

```



```

INSERT INTO RIDE_TICKETS VALUES (RIDE_seq.NEXTVAL,250,to_date('22-05-2022
11:18:20','dd-mm-yyyy HH12:MI:SS AM'),202,1004);
INSERT INTO RIDE_TICKETS VALUES (RIDE_seq.NEXTVAL,250,to_date('22-05-2022
11:19:40','dd-mm-yyyy HH12:MI:SS AM'),301,1001);

```

RIDE_TICKET_ID	RIDE_TICKET_PRICE	ENTRY_TIME	RIDE_ID	VISITOR_ID
105	250	22-MAY-22	101	1001
106	250	22-MAY-22	102	1002
107	250	22-MAY-22	201	1003
108	250	22-MAY-22	202	1004
109	250	22-MAY-22	301	1001

--PARKING TICKETS

```

INSERT INTO PARKING_TICKETS VALUES (park_seq.NEXTVAL,150,'PRIVATE
CAR','B01',1001);
INSERT INTO PARKING_TICKETS VALUES
(park_seq.NEXTVAL,50,'MOTORCYCLE','B02',1002);
INSERT INTO PARKING_TICKETS VALUES (park_seq.NEXTVAL,150,'PRIVATE
CAR','B01',1003);
INSERT INTO PARKING_TICKETS VALUES (park_seq.NEXTVAL,150,'PRIVATE
CAR','B02',1004);
INSERT INTO PARKING_TICKETS VALUES (park_seq.NEXTVAL,350,'MINI
BUS','G00',1005);

```

PARKING_TICKET_ID	FEES	VEHICLE_TYPE	PARKINGLOT_ID	VISITOR_ID
1001	150	PRIVATE CAR	B01	1001
1002	50	MOTORCYCLE	B02	1002
1003	150	PRIVATE CAR	B01	1003
1004	150	PRIVATE CAR	B02	1004
1005	350	MINI BUS	G00	1005

--RATINGS

```

INSERT INTO RATINGS VALUES (101,1001,8);
INSERT INTO RATINGS VALUES (102,1002,7);
INSERT INTO RATINGS VALUES (101,1003,8);
INSERT INTO RATINGS VALUES (104,1004,6);
INSERT INTO RATINGS VALUES (105,1005,5);

```

RIDE_ID	VISITOR_ID	RATING
101	1001	8
102	1002	7
101	1003	8
301	1004	6
201	1005	9



Query Writing

SINGLE ROW FUNCTIONS:

1.Display the employee id, hiredate and number of years ashraf uddin has worked.

```
Select e_id,e_hiredate,round(Months_between(Sysdate,e_hiredate)/12,0)
FROM employee
WHERE lower(e_name)='ashraf uddin';
```

E_ID	E_HIREDATE	ROUND(MONTHS_BETWEEN(SYSDATE,E_HIREDATE)/12,0)
1	13-MAY-00	23

2.Manipulate the salary of employee stony smith in such a way that it is displayed as \$3,000

```
Select to_char(e_salary,'$9,999')
FROM employee
WHERE lower(e_name)='stonny smith';
```

TO_CHAR(E_SALARY,'\$9,999')
\$5,000

GROUP FUNCTION:

1.Display the incremented salary of COSTUME CHARACTER by \$2000, manager by \$3000 and GAME ATTENDANT by \$4000. Salaries of other employee will not increase.

```
SELECT e_jobtitle, e_salary,
       DECODE(e_jobtitle, 'COSTUME CHARACTER', e_salary+2000,
                'MANAGER', e_salary+3000,
                'GAME ATTENDANT', e_salary+4000,
                e_salary) AS newSalary
FROM employee;
```

E_JOBTITLE	E_SALARY	NEWSALARY
GAME ATTENDANT	3000	7000
Ride Technician	5000	5000
Ride Technician	5000	5000
MANAGER	7000	10000
COSTUME CHARACTER	4000	6000

SUBQUERIES:

1.Display the employee names who earn more than employee ARIF HASAN



```
SELECT e_name
FROM employee
WHERE e_salary > (SELECT e_salary
                  FROM employee
                  WHERE e_name = 'ARIF HASAN');
```

E_NAME
MOMIN UDDIN
STONNY SMITH
MIRA AHMED

2. Display the employee names who joined **after** MIRA AHMED.

```
SELECT e_name
FROM employee
WHERE sysdate - e_hiredate < (SELECT sysdate - e_hiredate
                              FROM employee
                              WHERE e_name = 'MIRA AHMED');
```

E_NAME
MOMIN UDDIN
STONNY SMITH
ARIF HASAN

JOINING:

1. Display the **entry** ticket fee for the themeparks

```
SELECT entry.entry_ticket_price, thm.park_name
from entry_tickets entry, theme_parks thm
where entry.themepark_id = thm.themepark_id;
```

ENTRY_TICKET_PRICE	PARK_NAME
250	WATERLAND
250	WATERLAND
350	VR MADNESS
250	VR MADNESS
350	WONDERLAND

2. Display the rent of the shop 'KIDSZONE'

```
SELECT s.s_rent, l.s_name
from shops s, shop_leaseholder l
where s.leaseholder_id = l.leaseholder_id and s_name = 'KFC';
```

S_RENT	S_NAME
75000	KFC



VIEW:

1. Create a view of the names of the rides, capacity and the runtime

```
CREATE VIEW RIDEVIEW AS SELECT r_name, r_capacity, r_runrime from rides;
```

2. Display all the rides from the created view

```
Select r_name from RIDEVIEW;
```

R_NAME
WHIRPOOL SLIDE
POOL JUMP
FLIGHT SIMULATOR
NASCAR
ROLLERCOASTER

Relational Algebra

1. Find the name of the ride where ride id is 201

$$\Pi_{r_name} (\sigma_{r_id = "201"} (Rides))$$

2. Find the type of vehicle where visitor id is 1001

$$\Pi_{vehicle_type} (\sigma_{visitor_id = "1001"} (Parking_Tickets))$$

3. Find the salary where employee name is Mira Rahman

$$\Pi_{e_salary} (\sigma_{e_name = "Mira Rahman"} (Employee))$$

4. Find the level of Parking lot whose id is B02

$$\Pi_{p_level} (\sigma_{parkinglot_id = "B02"} (Parking_lot))$$

5. Find the shop business id of the shop KFC

$$\Pi_{s_business_id} (\sigma_{s_name = "KFC"} (shop_leaseholder))$$



Conclusion

One possible future improvement of the theme park database management system can be realtime availability update of every ride. We can also collect extensive feedback from the visitors which later can be turned into valuable knowledge for our future development. Our database does not touch one aspect which is event management. Theme parks are often the recreational spot for corporate holidays or family picnics. A future update of this database could include those aspects as well.



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