
Our database will contain 11 tables: VisitorTbl, ZooTbl, ZooKeeperTbl, EmployeeTbl, AdministratorTbl, EnclosureTbl, AnimalTbl, AnimalFeedingTbl, EducatorTbl, TicketTbl, VeterinarianCareTbl

Table Creation:

- **VisitorTbl:**

```
CREATE TABLE VisitorTbl(  
    VisitorID INTEGER PRIMARY KEY,  
    Name VARCHAR(255) NOT NULL,  
    Phone VARCHAR(20),  
    Email VARCHAR(255)  
);
```

- **ZooTbl:**

```
CREATE TABLE ZooTbl(  
    ZooID INTEGER PRIMARY KEY,  
    Name VARCHAR(255) NOT NULL,  
    Location VARCHAR(255),  
    ZooSize INTEGER  
);
```

- **ZooKeeperTbl:**

```
CREATE TABLE ZooKeeperTbl(  
    ZooKeeperID INTEGER PRIMARY KEY,  
    Name VARCHAR(255) NOT NULL,  
    animalspeciality VARCHAR(255)  
);
```

- **EmployeeTbl:**

```
CREATE TABLE EmployeeTbl(  
    EmployeeID INTEGER PRIMARY KEY,  
    Name VARCHAR(255) NOT NULL,  
    Position VARCHAR(255),  
    Shift VARCHAR(255)  
);
```

- **AdministratorTbl:**

```
CREATE TABLE AdministratorTbl(  
    AdministratorID INTEGER PRIMARY KEY,  
    ZooID INTEGER,  
    EmployeeID INTEGER,  
    Name VARCHAR(255) NOT NULL,  
    Position VARCHAR(255),  
    Shift VARCHAR(255),  
    FOREIGN KEY(ZooID) REFERENCES ZooTbl(ZooID),  
    FOREIGN KEY(EmployeeID) REFERENCES EmployeeTbl(EmployeeID)  
);
```

- **EnclosureTbl:**

```
CREATE TABLE EnclosureTbl(  
    EnclosureID INTEGER PRIMARY KEY,  
    ZooID INTEGER,  
    EnclosureType VARCHAR(255) NOT NULL,  
    EnclosureSize FLOAT,  
    Capacity INTEGER,  
    FOREIGN KEY(ZooID) REFERENCES ZooTbl(ZooID)  
);
```

- **AnimalTbl:**

```
CREATE TABLE AnimalTbl(  
    AnimalID INTEGER PRIMARY KEY,  
    Species VARCHAR(255) NOT NULL,  
    Name VARCHAR(255),  
    Gender CHAR(1),  
    Age INTEGER,  
    EnclosureID INTEGER,  
    FOREIGN KEY(EnclosureID) REFERENCES EnclosureTbl(EnclosureID)  
);
```

- **AnimalFeedingTbl:**

```
CREATE TABLE AnimalFeedingTbl(  
    AnimalID INTEGER,  
    FeedingTime TIMESTAMP,  
    FOREIGN KEY(AnimalID) REFERENCES AnimalTbl(AnimalID)  
);
```

- **EducatorTbl:**

```
CREATE TABLE EducatorTbl(  
    EducatorID INTEGER PRIMARY KEY,  
    Name VARCHAR(255) NOT NULL  
);
```

- **TicketTbl:**

```
CREATE TABLE TicketTbl(  
    TicketID INTEGER PRIMARY KEY,  
    VisitorID INTEGER,  
    Price NUMBER(10,2),  
    ExpiryDate DATE,  
    FOREIGN KEY(VisitorID) REFERENCES VisitorTbl(VisitorID)  
);
```

- **VeterinarianCareTbl:**

```
CREATE TABLE VeterinarianCareTbl(  
    VeterinarianID INTEGER PRIMARY KEY,  
    Name VARCHAR(255) NOT NULL,  
    Diagnosis VARCHAR(255)  
);
```

Database State:

Write all SQL statements used to **insert** values into the database

1. VisitorTbl

```
INSERT INTO VisitorTbl (VisitorID, Name, Phone,
Email) VALUES (101, 'Ahmed Abdullah',
'+966501234567', 'ahmed@gmail.com');
INSERT INTO VisitorTbl (VisitorID, Name, Phone,
Email) VALUES (102, 'Fatima Al-Mansouri',
'+966541234567', 'fatima@gmail.com');
INSERT INTO VisitorTbl (VisitorID, Name, Phone,
Email) VALUES (103, 'Mohammed Saleh',
'+966561234567', 'mohammed@gmail.com');
INSERT INTO VisitorTbl (VisitorID, Name, Phone,
Email) VALUES (104, 'Noura Al-Ghamdi',
'+966581234567', 'noura@gmail.com');
INSERT INTO VisitorTbl (VisitorID, Name, Phone,
Email) VALUES (105, 'Saeed Al-Rashidi',
'+966531234567', 'saeed@gmail.com');
INSERT INTO VisitorTbl (VisitorID, Name, Phone,
Email) VALUES (106, 'Layla Ahmed',
'+966551234567', 'layla@gmail.com');
```

2. ZooTbl

```
INSERT INTO ZooTbl (ZooID, Name, Location, ZooSize)
VALUES (201, 'Riyadh Zoo', 'Riyadh', 120);
INSERT INTO ZooTbl (ZooID, Name, Location, ZooSize)
VALUES (202, 'Jeddah Wildlife Park', 'Jeddah', 150);
INSERT INTO ZooTbl (ZooID, Name, Location, ZooSize)
VALUES (203, 'Dammam Safari Park', 'Dammam', 180);
INSERT INTO ZooTbl (ZooID, Name, Location, ZooSize)
VALUES (204, 'Medina Zoo', 'Medina', 100);
INSERT INTO ZooTbl (ZooID, Name, Location, ZooSize)
VALUES (205, 'Taif Nature Reserve', 'Taif', 130);
INSERT INTO ZooTbl (ZooID, Name, Location, ZooSize)
VALUES (206, 'Al Khobar Aquarium', 'Al Khobar', 80);
```

3. ZooKeeperTbl

```
INSERT INTO ZooKeeperTbl (ZooKeeperID, Name, animalspeciality) VALUES
(301, 'Ali Al-Farsi', 'Desert Fauna');
INSERT INTO ZooKeeperTbl (ZooKeeperID, Name, animalspeciality)
VALUES (302, 'Lina Al-Harbi', 'Avian Species');
INSERT INTO ZooKeeperTbl (ZooKeeperID, Name, animalspeciality)
VALUES (303, 'Omar Al-Mutairi', 'Marine Life');
INSERT INTO ZooKeeperTbl (ZooKeeperID, Name,
animalspeciality) VALUES (304, 'Sara Al-Qahtani', 'Reptiles');
INSERT INTO ZooKeeperTbl (ZooKeeperID, Name, animalspeciality)
VALUES (305, 'Khalid Al-Abdulaziz', 'Big Cats');
INSERT INTO ZooKeeperTbl (ZooKeeperID, Name, animalspeciality)
VALUES (306, 'Hanan Al-Saud', 'Primates');
```

4. EmployeeTbl

```
INSERT INTO EmployeeTbl (EmployeeID, Name,
Position, Shift) VALUES (401, 'Youssef Ahmed',
'Manager', 'Morning');
INSERT INTO EmployeeTbl (EmployeeID, Name,
Position, Shift) VALUES (402, 'Hala Mohammed',
'Assistant Manager', 'Morning');
INSERT INTO EmployeeTbl (EmployeeID, Name,
Position, Shift) VALUES (403, 'Abdul Rahman Ali',
'Zookeeper', 'Morning');
INSERT INTO EmployeeTbl (EmployeeID, Name,
Position, Shift) VALUES (404, 'Nada Abdullah',
'Educator', 'Afternoon');
INSERT INTO EmployeeTbl (EmployeeID, Name,
Position, Shift) VALUES (405, 'Sami Omar', 'Ticket
Clerk', 'Evening');
INSERT INTO EmployeeTbl (EmployeeID, Name,
Position, Shift) VALUES (406, 'Aisha Ibrahim', 'Janitor', 'Night');
```

5. AdministratorTbl

```
INSERT INTO AdministratorTbl (AdministratorID, ZooID,
EmployeeID, Name, Position, Shift) VALUES (501, 201, 401,'Khalid
Al-Ghamdi', 'Manager', 'Morning');
INSERT INTO AdministratorTbl (AdministratorID, ZooID,
EmployeeID, Name, Position, Shift) VALUES (502, 202, 402, 'Fatima
Al-Harbi', 'Assistant Manager', 'Morning');
INSERT INTO AdministratorTbl (AdministratorID, ZooID,
EmployeeID, Name, Position, Shift) VALUES (503, 203, 403,'Ahmed Al-
Mutairi', 'Zookeeper', 'Morning');
INSERT INTO AdministratorTbl (AdministratorID, ZooID,
EmployeeID, Name, Position, Shift) VALUES (504, 204, 404,'Layla Al-
Qahtani', 'Educator', 'Afternoon');
INSERT INTO AdministratorTbl (AdministratorID, ZooID,
EmployeeID, Name, Position, Shift) VALUES (505, 205, 405,'Mohammed
Omar', 'Ticket Clerk', 'Evening');
INSERT INTO AdministratorTbl (AdministratorID, ZooID,
EmployeeID, Name, Position, Shift) VALUES (506, 206, 406, 'Noura
Ibrahim', 'Janitor', 'Night');
```

6. EnclosureTbl

```
INSERT INTO EnclosureTbl (EnclosureID, ZooID,
EnclosureType, EnclosureSize, Capacity) VALUES
(601, 201, 'Savanna', 2500.00, 50);
INSERT INTO EnclosureTbl (EnclosureID, ZooID,
EnclosureType, EnclosureSize, Capacity) VALUES
(602, 202, 'Rainforest', 3000.00, 60);
INSERT INTO EnclosureTbl (EnclosureID, ZooID,
EnclosureType, EnclosureSize, Capacity) VALUES
(603, 203, 'Aquarium', 2000.00, 40);
INSERT INTO EnclosureTbl (EnclosureID, ZooID,
EnclosureType, EnclosureSize, Capacity) VALUES
(604, 204, 'Desert', 1800.00, 30);
INSERT INTO EnclosureTbl (EnclosureID, ZooID,
EnclosureType, EnclosureSize, Capacity) VALUES
(605, 205, 'Mountain', 2200.00, 45);
INSERT INTO EnclosureTbl (EnclosureID, ZooID,
EnclosureType, EnclosureSize, Capacity) VALUES
(606, 206, 'Coral Reef', 1500.00, 35);
```

7. AnimalTbl

```
INSERT INTO AnimalTbl (AnimalID, Species, Name,
Gender, EnclosureID) VALUES (701, 'Lion', 'Simba', 'M', 601);
INSERT INTO AnimalTbl (AnimalID, Species, Name,
Gender, EnclosureID) VALUES (702, 'Giraffe',
'Zara', 'F', 601);
INSERT INTO AnimalTbl (AnimalID, Species, Name,
Gender, EnclosureID) VALUES (703, 'Toucan',
'Toby', 'M', 602);
INSERT INTO AnimalTbl (AnimalID, Species, Name, Gender, EnclosureID)
VALUES (704, 'Sea Turtle', 'Shelly', 'F', 603);
INSERT INTO AnimalTbl (AnimalID, Species, Name,
Gender, EnclosureID) VALUES (705, 'Arabian Oryx',
'Omar', 'M', 604);
INSERT INTO AnimalTbl (AnimalID, Species, Name,
Gender, EnclosureID) VALUES (706, 'Snow Leopard',
'Luna', 'F', 605);
```

8. AnimalFeedingTbl

```
INSERT INTO AnimalFeedingTbl (AnimalID,
FeedingTime) VALUES (701, '2024-02-09 08:00:00');
INSERT INTO AnimalFeedingTbl (AnimalID,
FeedingTime) VALUES (702, '2024-02-09 08:00:00');
INSERT INTO AnimalFeedingTbl (AnimalID,
FeedingTime) VALUES (703, '2024-02-09 10:00:00');
INSERT INTO AnimalFeedingTbl (AnimalID,
FeedingTime) VALUES (704, '2024-02-09 10:00:00');
INSERT INTO AnimalFeedingTbl (AnimalID,
FeedingTime) VALUES (705, '2024-02-09 09:00:00');
INSERT INTO AnimalFeedingTbl (AnimalID,
FeedingTime) VALUES (706, '2024-02-09 09:00:00');
```

9. EducatorTbl

```
INSERT INTO EducatorTbl (EducatorID, Name) VALUES (801, 'Fatima Al-
Harbi');
INSERT INTO EducatorTbl (EducatorID, Name) VALUES (802, 'Abdul
Rahman Ali');
INSERT INTO EducatorTbl (EducatorID, Name) VALUES (803, 'Nada
Abdullah');
INSERT INTO EducatorTbl (EducatorID, Name) VALUES (804, 'Sami Omar');
INSERT INTO EducatorTbl (EducatorID, Name) VALUES (805, 'Aisha
Ibrahim');
INSERT INTO EducatorTbl (EducatorID, Name) VALUES (806, 'Youssef
Ahmed');
```

10. TicketTbl

```
INSERT INTO TicketTbl (TicketID, VisitorID, Price, ExpiryDate)
VALUES (901, 101, 50.00,
'2024-03-01');
INSERT INTO TicketTbl (TicketID, VisitorID, Price, ExpiryDate)
VALUES (902, 102, 40.00, '2024-03-05');
INSERT INTO TicketTbl (TicketID, VisitorID, Price, ExpiryDate)
VALUES (903, 103, 60.00, '2024-03-10');
INSERT INTO TicketTbl (TicketID, VisitorID, Price, ExpiryDate)
VALUES (904, 104, 45.00, '2024-03-15');
INSERT INTO TicketTbl (TicketID, VisitorID, Price, ExpiryDate)
VALUES (905, 105, 55.00, '2024-03-20');
INSERT INTO TicketTbl (TicketID, VisitorID, Price, ExpiryDate)
VALUES (906, 106, 35.00,
'2024-03-25');
```

11. VeterinarianCareTbl

```
INSERT INTO VeterinarianCareTbl (VeterinarianID, Name, Diagnosis)
VALUES (1001, 'Dr. Ahmed Al-
Farsi', 'Wildlife Medicine');
INSERT INTO VeterinarianCareTbl (VeterinarianID, Name, Diagnosis)
VALUES (1002, 'Dr. Sarah Al-
Mansouri', 'Zoo Animal Health');
INSERT INTO VeterinarianCareTbl (VeterinarianID, Name, Diagnosis)
VALUES (1003, 'Dr. Mohammed
Saleh', 'Avian Medicine');
INSERT INTO VeterinarianCareTbl (VeterinarianID, Name, Diagnosis)
VALUES (1004, 'Dr. Noura Al-
Ghamdi', 'Marine Animal Medicine');
INSERT INTO VeterinarianCareTbl (VeterinarianID, Name, Diagnosis)
VALUES (1005, 'Dr. Khalid Al-
Rashidi', 'Exotic Animal Surgery');
INSERT INTO VeterinarianCareTbl (VeterinarianID, Name, Diagnosis)
VALUES (1006, 'Dr. Layla Ahmed',
'Primate Care');
```

Table Screenshot:

List all your table **instance/data**, after the insertion process take screenshot from each table.

1. VisitorTbl

VISITORID	NAME	PHONE	EMAIL
101	Ahmed Abdullah	+966501234567	ahmed@gmail.com
102	Fatima Al-Mansouri	+966541234567	fatima@gmail.com
103	Mohammed Saleh	+966561234567	mohammed@gmail.com
104	Noura Al-Ghamdi	+966581234567	noura@gmail.com
105	Saeed Al-Rashidi	+966531234567	saeed@gmail.com
106	Layla Ahmed	+966551234567	layla@gmail.com

2. ZooTbl

ZOOID	NAME	LOCATION	ZOOSIZE
201	Riyadh Zoo	Riyadh	120
202	Jeddah Wildlife Park	Jeddah	150
203	Dammam Safari Park	Dammam	180
204	Medina Zoo	Medina	100
205	Taif Nature Reserve	Taif	130
206	Al Khobar Aquarium	Al Khobar	80

3. ZooKeeperTbl

ZOOKEEPERID	NAME	ANIMALSPECIALITY
301	Ali Al-Farsi	Desert Fauna
302	Lina Al-Harbi	Avian Species
303	Omar Al-Mutairi	Marine Life
304	Sara Al-Qahtani	Reptiles
305	Khalid Al-Abdulaziz	Big Cats
306	Hanan Al-Saud	Primates

4. EmployeeTbl

EMPLOYEEID	NAME	POSITION	SHIFT
401	Youssef Ahmed	Manager	Morning
402	Hala Mohammed	Assistant Manager	Morning
403	Abdul Rahman Ali	Zookeeper	Morning
404	Nada Abdullah	Educator	Afternoon
405	Sami Omar	Ticket Clerk	Evening
406	Aisha Ibrahim	Janitor	Night

5. AdministratorTbl

ADMINISTRATORID	ZOOID	EMPLOYEEID	NAME	POSITION	SHIFT
501	201	401	Khalid Al-Ghamdi	Manager	Morning
502	202	402	Fatima Al-Harbi	Assistant Manager	Morning
503	203	403	Ahmed Al-Mutairi	Zookeeper	Morning
504	204	404	Layla Al-Qahtani	Educator	Afternoon
505	205	405	Mohammed Omar	Ticket Clerk	Evening
506	206	406	Noura Ibrahim	Janitor	Night

6. EnclosureTbl

ENCLOSUREID	ZOOID	ENCLOSURETYPE	ENCLOSURESIZE	CAPACITY
601	201	Savanna	2500	50
602	202	Rainforest	3000	60
603	203	Aquarium	2000	40
604	204	Desert	1800	30
605	205	Mountain	2200	45
606	206	Coral Reef	1500	35

7. AnimalTbl

ANIMALID	SPECIES	NAME	GENDER	AGE	ENCLOSUREID
701	Lion	Simba	M	-	601
702	Giraffe	Zara	F	-	601
703	Toucan	Toby	M	-	602
704	Sea Turtle	Shelly	F	-	603
705	Arabian Oryx	Omar	M	-	604
706	Snow Leopard	Luna	F	-	605

8. AnimalFeedingTbl

AnimalID	FeedingTime
701	2024-02-09 08:00:00
702	2024-02-09 08:00:00
703	2024-02-09 10:00:00
704	2024-02-09 10:00:00
705	2024-02-09 09:00:00
706	2024-02-09 09:00:00

9. EducatorTbl

EDUCATORID	NAME
801	Fatima Al-Harbi
802	Abdul Rahman Ali
803	Nada Abdullah
804	Sami Omar
805	Aisha Ibrahim
806	Youssef Ahmed

10. TicketTbl

TicketID	VisitorID	Price	ExpiryDate
901	101	50	2024-03-01
902	102	40	2024-03-05
903	103	60	2024-03-10
904	104	45	2024-03-15
905	105	55	2024-03-20
906	106	35	2024-03-25

11. VeterinarianCareTbl

VETERINARIANID	NAME	DIAGNOSIS
1001	Dr. Ahmed Al-Farsi	Wildlife Medicine
1002	Dr. Sarah Al-Mansouri	Zoo Animal Health
1003	Dr. Mohammed Saleh	Avian Medicine
1004	Dr. Noura Al-Ghamdi	Marine Animal Medicine
1005	Dr. Khalid Al-Rashidi	Exotic Animal Surgery
1006	Dr. Layla Ahmed	Primate Care

Query Implementation:

Views list:

View 1: list of visitors with their ticket information:

```
CREATE VIEW VisitorTickets as SELECT VisitorTbl.Name as
VisitorName,
TicketTbl.TicketID, TicketTbl.Price, TicketTbl.ExpiryDate from
VisitorTbl
Join TicketTbl on VisitorTbl.VisitorID = TicketTbl.VisitorID
```

VisitorName	TicketID	Price	ExpiryDate
Ahmed Abdullah	901	50	2024-03-01
Fatima Al-Mansouri	902	40	2024-03-05
Mohammed Saleh	903	60	2024-03-10
Noura Al-Ghamdi	904	45	2024-03-15
Saeed Al-Rashidi	905	55	2024-03-20
Layla Ahmed	906	35	2024-03-25

View 2: Enclosure details with zoo information:

```
CREATE VIEW EnclosureDetails AS SELECT e.EnclosureID,
e.EnclosureType, e.EnclosureSize, e.Capacity, z.Name AS
ZooName, z.Location AS ZooLocation
FROM EnclosureTbl e
JOIN ZooTbl z ON e.ZooID = z.ZooID
```

EnclosureID	EnclosureType	EnclosureSize	Capacity	ZooName	ZooLocation
601	Savanna	2500	50	Riyadh Zoo	Riyadh
602	Rainforest	3000	60	Jeddah Wildlife ...	Jeddah
603	Aquarium	2000	40	Dammam Safari...	Dammam
604	Desert	1800	30	Medina Zoo	Medina
605	Mountain	2200	45	Taif Nature Res...	Taif
606	Coral Reef	1500	35	Al Khobar Aquar...	Al Khobar

Queries list:

1. Query 1: List all employees with their positions and shifts:

```
SELECT Name, Position, Shift FROM EmployeeTbl;
```

NAME	POSITION	SHIFT
Youssef Ahmed	Manager	Morning
Hala Mohammed	Assistant Manager	Morning
Abdul Rahman Ali	Zookeeper	Morning
Nada Abdullah	Educator	Afternoon
Sami Omar	Ticket Clerk	Evening
Aisha Ibrahim	Janitor	Night

2. Query 2: List all zookeepers with their animal specialties:

```
SELECT Name, animalspeciality FROM ZooKeeperTbl;
```

NAME	ANIMALSPECIALITY
Ali Al-Farsi	Desert Fauna
Lina Al-Harbi	Avian Species
Omar Al-Mutairi	Marine Life
Sara Al-Qahtani	Reptiles
Khalid Al-Abdulaziz	Big Cats
Hanan Al-Saud	Primates

3. Query 3: List all administrators with their associated zoo and employee information:

```
SELECT a.Name AS AdministratorName, z.Name AS ZooName,  
e.Position, e.Shift FROM AdministratorTbl a  
JOIN ZooTbl z ON a.ZooID = z.ZooID JOIN EmployeeTbl e ON  
a.EmployeeID = e.EmployeeID;
```

ADMINISTRATORNAME	ZOONAME	POSITION	SHIFT
Khalid Al-Ghamdi	Riyadh Zoo	Manager	Morning
Fatima Al-Harbi	Jeddah Wildlife Park	Assistant Manager	Morning
Ahmed Al-Mutairi	Dammam Safari Park	Zookeeper	Morning
Layla Al-Qahtani	Medina Zoo	Educator	Afternoon
Mohammed Omar	Taif Nature Reserve	Ticket Clerk	Evening
Noura Ibrahim	Al Khobar Aquarium	Janitor	Night

4. Query 4: List all enclosures with their capacities:

```
SELECT EnclosureID, EnclosureType, Capacity FROM EnclosureTbl;
```

ENCLOSUREID	ENCLOSURETYPE	CAPACITY
601	Savanna	50
602	Rainforest	60
603	Aquarium	40
604	Desert	30
605	Mountain	45
606	Coral Reef	35

5. Query 5: List all animals with their species and enclosures

```
SELECT a.Name AS AnimalName, a.Species, e.EnclosureType FROM
AnimalTbl a
JOIN EnclosureTbl e ON a.EnclosureID = e.EnclosureID
```

AnimalName	Species	EnclosureType
Simba	Lion	Savanna
Zara	Giraffe	Savanna
Toby	Toucan	Rainforest
Shelly	Sea Turtle	Aquarium
Omar	Arabian Oryx	Desert
Luna	Snow Leopard	Mountain

6. Query 6: Retrieve the total number of animals in each enclosure:

```
SELECT e.EnclosureID, COUNT(a.AnimalID) AS TotalAnimals FROM
EnclosureTbl e
LEFT JOIN AnimalTbl a ON e.EnclosureID = a.EnclosureID
GROUP BY e.EnclosureID;
```

ENCLOSUREID	TOTALANIMALS
605	1
602	1
603	1
604	1
601	2
606	0

7. Query 7: Retrieve the names of all visitors who visited the zoo on a specific date.

```
SELECT DISTINCT v.Name AS VisitorName
FROM VisitorTbl v
JOIN TicketTbl t ON v.VisitorID =
t.VisitorID
WHERE t.ExpiryDate = '2024-03-10'
```

VISITORNAME
Mohammed Saleh

8. Query 8: Retrieve the names of all animals along with their enclosure types

```
SELECT a.Name AS AnimalName, e.EnclosureType FROM AnimalTbl a
JOIN EnclosureTbl e ON a.EnclosureID = e.EnclosureID
```

ANIMALNAME	ENCLOSURETYPE
Simba	Savanna
Zara	Savanna
Toby	Rainforest
Shelly	Aquarium
Omar	Desert
Luna	Mountain