

## **DBMS Assignment - 1**

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**ANIMAL DEPOT MANAGEMENT  
SYSTEM**

## **ABSTRACT**

The Animal Depot Management System (ADMS) is a graphic user interface that allows the manager and the employees to carry out maintenance and management of database and basically it is the Menagerie / Zoological Park data management system. The three groups of users for this application are the managers, the animal keepers and the animal trainers.

ADMS uses RDBMS for storage and retrieval of data. There will only be one super user (Manager) who has all rights. Super user has the access to add/update the database and employee can only view the content as required. For creating database we have used Oracle's 11g XE which is standard and easy to work with and provides good interface.

This database consists of all around 16 tables and all are included in association with one or more tables.

# **REQUIREMENT ANALYSIS**

## **List of tables**

- Zoo
- Site
- HabitatBiome
- Habitat
- Animal
- EmployeeCommunication
- Employee
- Keeper
- Trainer
- Food
- Shows
- Performs
- CaresFor
- Trains
- Trades
- Eats

## **List of attributes with their domain types**

- **Zoo:**
  - Address : varchar2(40)
  - Name : varchar2(40)
  - Phone : number(10)
  - City : varchar2(20)

Country : varchar2(20)

➤ **Site:**

site\_id : number(20)

Location : varchar2(20)

used\_for : varchar2(20)

➤ **Habitat:**

Enclosureid : number(10)

Biome:varchar2(20)

Sqft : number(10)

Depth : number(10)

➤ **Animal:**

Animalid : number(10)

Name : varchar2(20)

Age:number(10)

Sex : varchar2(20)

Height:number(10)

Weight : number(10)

Species : varchar2(20)

eat\_freq\_week : number(10)

eat\_amount : number(10)

➤ **Employee:**

Fname : varchar2(20)

Lname : varchar2(20)

Empid : number(10)

Pay : number(10)

➤ **Keeper:**

Duty : varchar2(20)

➤ **Trainer:**

Speciality : varchar2(20)

➤ **Food:**

Foodid : number(10)

Name : varchar2(20)

stock\_serving : number(10)

date\_purchased : date

date\_expired : date

➤ **Show:**

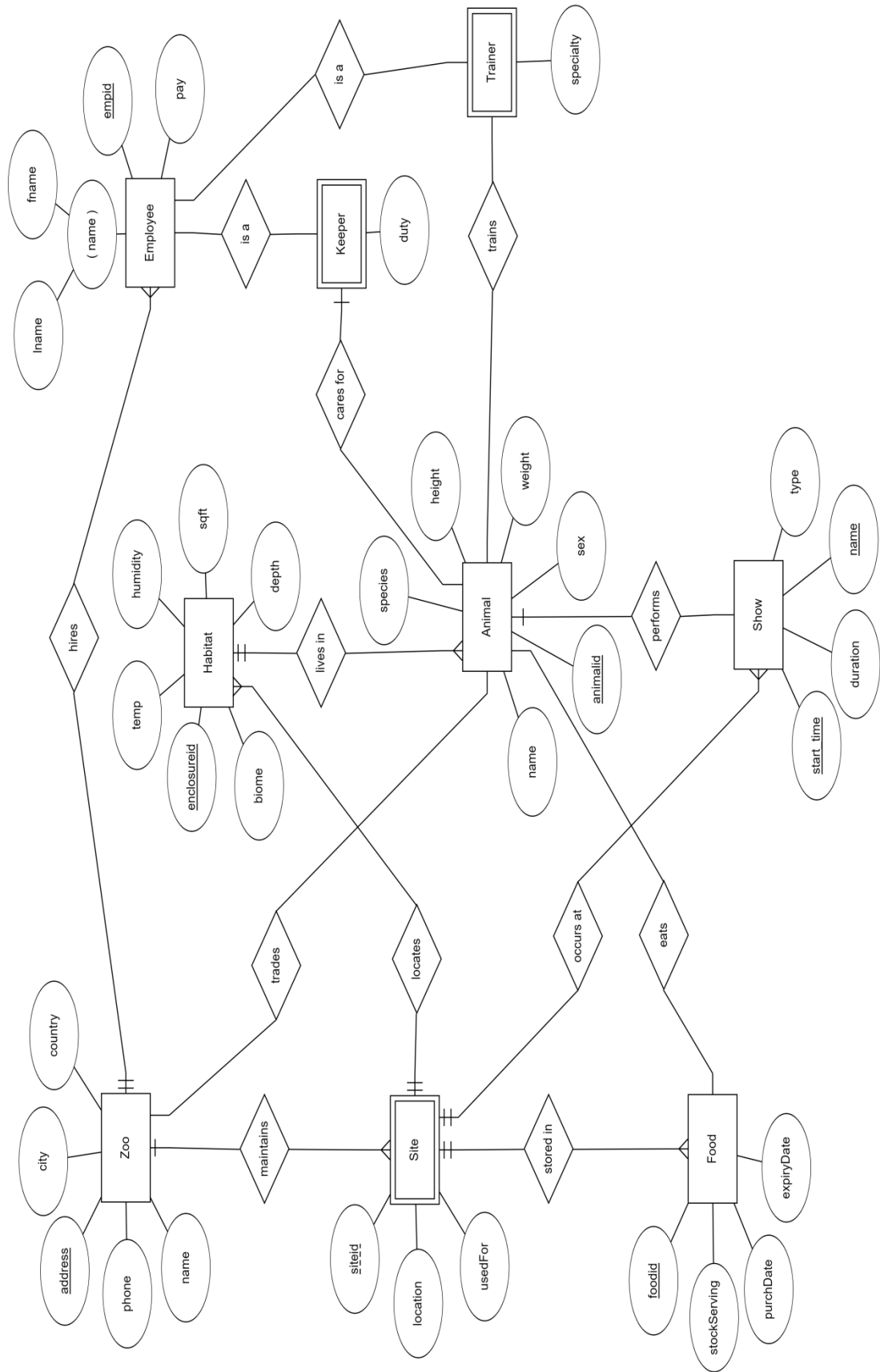
start\_time : varchar2(8)

Duration : number(10)

Name : varchar2(20)

Type : varchar2(20)

# ER - DIAGRAM



## **MAPPING CARDINALITY AND PARTICIATION**

### **CONSTRAINTS**

- Zoo is associated with Site in many to one participation as many Sites can have same address.
- Habitat and Site are connect in one to many participation as many habitat may belong same site.
- Habitat and Animal is associated in one to one participation as only one animal can have one habitat or vice-versa.
- Many employees may have same address hence they are connected in one to many participation.
- Atleast one animal need to be handled by keeper hence its a mandatory one to one participation.
- Show and Animal are connect in mandatory one to one participation I.e, the show must have atleast one animal.
- Show is associated with Site in one to many participation as many shows can happen on same site but at different timings.
- Food and Animal are connect and are in many to many participation as different kinds is food is eaten by various animals.
- Trainer and Animal are in association as one trainer can train many animals and many different animals can be trained by same trainee, hence it is many to many participation.

## **DDL COMMANDS**

```
create table zoo(  
address varchar2(40),  
name varchar2(40) not null,  
phone number(10),  
city varchar2(20),  
country varchar2(20),  
primary key (address)  
);
```

```
create table site(  
siteid number(20),  
location varchar2(20),  
usedfor varchar2(20),  
zooaddress varchar2(40),  
primary key (siteid),  
foreign key (zooaddress) references zoo ON DELETE CASCADE  
);
```

```
create table HabitatBiome(  
biome varchar2(20),  
temp number(10),  
humidity number(10),  
primary key (biome)  
);
```

```
create table habitat(  
enclosureid number(10),
```



```
biome varchar2(20),
sqft number(10),
depth number(10),
siteid number(10) not null,
primary key (enclosureid),
foreign key (biome) references habitatbiome,
foreign key (siteid) references site ON DELETE CASCADE
);
```

```
create table animal(
animalid number(10),
name varchar2(20),
age number(10),
sex varchar2(20),
height number(10),
weight number(10),
species varchar2(20),eat_freq_week number(10),
eat_amount number(10),
enclosure_id number(10),
primary key (animalid),
foreign key (enclosure_id) references habitat ON DELETE SET NULL
);
```

```
create table employeecommunication(
fname varchar2(20),
lname varchar2(20),
walkeetalkeeno number(10),
primary key (fname, lname)
);
```

```
create table employee(  
  fname varchar2(20),  
  lname varchar2(20),  
  empid number(10),  
  pay number(10),  
  zooaddress varchar2(40) not null,  
  primary key (empid),  
  foreign key (zooaddress) references zoo ON DELETE SET NULL,  
  foreign key (fname, lname) references employeecommunication  
);
```

```
create table keeper(  
  duty varchar2(20),  
  empid number(10),  
  primary key (empid),  
  foreign key (empid) references employee ON DELETE CASCADE  
);
```

```
create table trainer(  
  speciality varchar2(20),  
  empid number(10),  
  primary key (empid),  
  foreign key (empid) references employee ON DELETE CASCADE  
);
```

```
create table food(  
  foodid number(10),  
  name varchar2(20),
```

```
stock_serving number(10),  
date_purchased date,  
date_expired date,  
siteid number(10) not null,  
primary key (foodid),  
foreign key (siteid) references site ON DELETE CASCADE  
);
```

```
create table show(  
start_time varchar2(8),  
duration number(10),  
name varchar2(20),  
type varchar2(20),  
siteid number(10) not null,  
primary key (start_time, name),  
foreign key (siteid) references site ON DELETE CASCADE  
);
```

```
create table performs(  
start_time varchar2(8),  
show_name varchar2(20),  
empid number(10),  
animalid number(10),  
role varchar2(50),  
primary key (start_time, empid, animalid),  
foreign key (start_time, show_name) references show,  
foreign key (empid) references employee,  
Foreign key (animalid) references animal  
);
```

```
create table caresfor(  
  empid number(10),  
  animalid number(10),  
  primary key (empid, animalid),  
  foreign key (empid) references employee,  
  foreign key (animalid) references animal  
);
```

```
create table trains(  
  empid number(10),  
  animalid number(10),  
  skills varchar2(50),  
  primary key (empid, animalid),  
  foreign key (empid) references employee,  
  foreign key (animalid) references animal  
);
```

```
create table trades(  
  zoo_from_address varchar2(40),  
  zoo_to_address varchar2(40),  
  animalid number(10),  
  trade_date date,  
  primary key (zoo_from_address, zoo_to_address, animalid),  
  foreign key (zoo_from_address) references zoo,  
  foreign key (zoo_to_address) references zoo,  
  foreign key (animalid) references animal  
);
```

```
create table eats(  
  animalid number(10),  
  foodid number(10),  
  primary key (animalid, foodid),  
  foreign key (animalid) references animal ON DELETE CASCADE,  
  foreign key (foodid) references food  
);
```

## **DML COMMANDS**

- insert into ZOO values('&ADDRESS', '&NAME', &PHONE, '&CITY', '&COUNTRY');
- insert into SITE values(&SITEID, '&LOCATION', '&USEDFOR', '&ZOOADDRESS');
- insert into HABITATBIOME values('&BIOME', &TEMP, &HUMIDITY);
- insert into HABITAT values(&ENCLOSURE\_ID, '&BIOME', &SQFT, &DEPTH, &SITEID);
- insert into ANIMAL values(&ANIMALID, '&NAME', &AGE, '&SEX', &HEIGHT, &WEIGHT, '&SPECIES', &EAT\_FREQ\_WEEK, &EAT\_AMOUNT, &ENCLOSURE\_ID);
- insert into EMPLOYEECOMMUNICATION values('&FNAME', '&LNAME', &WALKEETALKEENO);
- insert into EMPLOYEE values('&FNAME', '&LNAME', &EMPID, &PAY, '&ZOOADDRESS');
- insert into KEEPER values('&DUTY', &EMPID);
- insert into TRAINER values('&SPECIALITY', &EMPID);

- insert into FOOD values(&FOODID, '&NAME',  
&STOCK\_SERVING, '&DATE\_PURCHASED',  
'&DATE\_EXPIRED', &SITEID);
- insert into SHOW values('&START\_TIME', &DURATION,  
'&NAME', '&TYPE', &SITEID);
- insert into PERFORMS values ('&START\_TIME',  
'&SHOW\_NAME', &EMPID, &ANIMALID, '&ROLE');
- insert into CARESFOR values (&EMPID, &ANIMALID);
- insert into TRAINS values (&EMPID, &ANIMALID, '&SKILLS');
- insert into TRADES values ('&ZOO\_FROM\_ADDRESS',  
'&ZOO\_TO\_ADDRESS', &ANIMALID, '&TRADE\_DATE');
- insert into EATS values (&ANIMALID, &FOODID);

# Run SQL Command Line

SQL> desc zoo;

Name	Null?	Type
ADDRESS	NOT NULL	VARCHAR2(40)
NAME	NOT NULL	VARCHAR2(40)
PHONE		NUMBER(10)
CITY		VARCHAR2(20)
COUNTRY		VARCHAR2(20)

SQL> desc site;

Name	Null?	Type
SITEID	NOT NULL	NUMBER(20)
LOCATION		VARCHAR2(20)
USEDFOR		VARCHAR2(20)
ZOOADDRESS		VARCHAR2(40)

SQL> desc habitatbiome;

Name	Null?	Type
BIOME	NOT NULL	VARCHAR2(20)
TEMP		NUMBER(10)
HUMIDITY		NUMBER(10)

SQL> desc habitat;

Name	Null?	Type
ENCLOSURE_ID	NOT NULL	NUMBER(10)
BIOME		VARCHAR2(20)
SQFT		NUMBER(10)
DEPTH		NUMBER(10)
SITEID	NOT NULL	NUMBER(10)

SQL> desc animal;

Name	Null?	Type
ANIMALID	NOT NULL	NUMBER(10)
NAME		VARCHAR2(20)
AGE		NUMBER(10)
SEX		VARCHAR2(20)
HEIGHT		NUMBER(10)
WEIGHT		NUMBER(10)
SPECIES		VARCHAR2(20)
EAT_FREQ_WEEK		NUMBER(10)
EAT_AMOUNT		NUMBER(10)
ENCLOSURE_ID		NUMBER(10)

SQL> desc employeeecommunication;

Name	Null?	Type
FNAME	NOT NULL	VARCHAR2(20)
LNAME	NOT NULL	VARCHAR2(20)
WALKEETALKEENO		NUMBER(10)

SQL> desc employee;

Name	Null?	Type
FNAME		VARCHAR2(20)
LNAME		VARCHAR2(20)
EMPID	NOT NULL	NUMBER(10)
PAY		NUMBER(10)
ZOO_ADDRESS	NOT NULL	VARCHAR2(40)

SQL> desc keeper;

Name	Null?	Type
DUTY		VARCHAR2(20)
EMPID	NOT NULL	NUMBER(10)

SQL> desc trainer;

Name	Null?	Type
SPECIALITY		VARCHAR2(20)
EMPID	NOT NULL	NUMBER(10)

```
SQL> desc trades;
Name                                     Null?      Type
-----
ZOO_FROM_ADDRESS                       NOT NULL   VARCHAR2(40)
ZOO_TO_ADDRESS                         NOT NULL   VARCHAR2(40)
ANIMALID                              NOT NULL   NUMBER(10)
TRADE_DATE                             NOT NULL   DATE

SQL> desc eats;
Name                                     Null?      Type
-----
ANIMALID                              NOT NULL   NUMBER(10)
FOODID                                NOT NULL   NUMBER(10)
```

```
SQL> desc food;
Name                                     Null?      Type
-----
FOODID                                NOT NULL   NUMBER(10)
NAME                                   NOT NULL   VARCHAR2(20)
STOCK_SERVING                          NOT NULL   NUMBER(10)
DATE_PURCHASED                        NOT NULL   DATE
DATE_EXPIRED                          NOT NULL   DATE
SITEID                                NOT NULL   NUMBER(10)
```

```
SQL> desc show;
Name                                     Null?      Type
-----
START_TIME                            NOT NULL   VARCHAR2(8)
DURATION                              NOT NULL   NUMBER(10)
NAME                                   NOT NULL   VARCHAR2(20)
TYPE                                   NOT NULL   VARCHAR2(20)
SITEID                                NOT NULL   NUMBER(10)
```

```
SQL> desc performs;
Name                                     Null?      Type
-----
START_TIME                            NOT NULL   VARCHAR2(8)
SHOW_NAME                             NOT NULL   VARCHAR2(20)
EMPID                                  NOT NULL   NUMBER(10)
ANIMALID                              NOT NULL   NUMBER(10)
ROLE                                   NOT NULL   VARCHAR2(50)
```

```
SQL> desc caresfor;
Name                                     Null?      Type
-----
EMPID                                  NOT NULL   NUMBER(10)
ANIMALID                              NOT NULL   NUMBER(10)
```

```
SQL> desc trains;
Name                                     Null?      Type
-----
EMPID                                  NOT NULL   NUMBER(10)
ANIMALID                              NOT NULL   NUMBER(10)
SKILLS                                NOT NULL   VARCHAR2(50)
```

```
SQL> insert into ZOO values('&ADDRESS', '&NAME', &PHONE, '&CITY', '&COUNTRY');
Enter value for address: 15500 San Pasqual Valley Rd
Enter value for name: San Diego Zoo Safari Park
Enter value for phone: 12345
Enter value for city: Escondido
Enter value for country: USA
old 1: insert into ZOO values('&ADDRESS', '&NAME', &PHONE, '&CITY', '&COUNTRY')
new 1: insert into ZOO values('15500 San Pasqual Valley Rd', 'San Diego Zoo Safari Park', 12345, 'Escondido', 'USA')

1 row created.

SQL> /
Enter value for address: 2000 Meadowvale Rd
Enter value for name: Toronto Zoo
Enter value for phone: 23456
Enter value for city: Toronto
Enter value for country: Canada
old 1: insert into ZOO values('&ADDRESS', '&NAME', &PHONE, '&CITY', '&COUNTRY')
new 1: insert into ZOO values('2000 Meadowvale Rd', 'Toronto Zoo', 23456, 'Toronto', 'Canada')

1 row created.

SQL> /
Enter value for address: 80 Mandai Lake Rd
Enter value for name: Singapore Zoo
Enter value for phone: 45678
Enter value for city: Singapore
Enter value for country: Singapore
old 1: insert into ZOO values('&ADDRESS', '&NAME', &PHONE, '&CITY', '&COUNTRY')
new 1: insert into ZOO values('80 Mandai Lake Rd', 'Singapore Zoo', 45678, 'Singapore', 'Singapore')

1 row created.
```



```
SQL> select * from zoo;
```

```
ADDRESS
```

```
-----  
NAME
```

```
PHONE CITY
```

```
-----  
COUNTRY
```

```
-----  
15500 San Pasqual Valley Rd  
San Diego Zoo Safari Park  
USA
```

```
12345 Escondido
```

```
2000 Meadowvale Rd  
Toronto Zoo  
Canada
```

```
23456 Toronto
```

```
ADDRESS
```

```
-----  
NAME
```

```
PHONE CITY
```

```
-----  
COUNTRY
```

```
-----  
80 Mandai Lake Rd  
Singapore Zoo  
Singapore
```

```
45678 Singapore
```

```
London NW1 4RY  
London Zoo
```

```
56789345 London
```

```
ADDRESS
```

```
-----  
NAME
```

```
PHONE CITY
```

```
-----  
COUNTRY
```

```
-----  
UK
```

```
SQL> insert into SITE values(&SITEID, '&LOCATION', '&USEDFOR', '&ZOOADDRESS');
```

```
Enter value for siteid: 101
```

```
Enter value for location: Area 1
```

```
Enter value for usedfor: food
```

```
Enter value for zooaddress: 2000 Meadowvale Rd
```

```
old 1: insert into SITE values(&SITEID, '&LOCATION', '&USEDFOR', '&ZOOADDRESS')
```

```
new 1: insert into SITE values(101, 'Area 1', 'food', '2000 Meadowvale Rd')
```

```
1 row created.
```

```
SQL> /
```

```
Enter value for siteid: 102
```

```
Enter value for location: Area 2 North
```

```
Enter value for usedfor: habitat
```

```
Enter value for zooaddress: 2000 Meadowvale Rd
```

```
old 1: insert into SITE values(&SITEID, '&LOCATION', '&USEDFOR', '&ZOOADDRESS')
```

```
new 1: insert into SITE values(102, 'Area 2 North', 'habitat', '2000 Meadowvale Rd')
```

```
1 row created.
```

```
SQL> /
```

```
Enter value for siteid: 103
```

```
Enter value for location: Area 1 West
```

```
Enter value for usedfor: food
```

```
Enter value for zooaddress: 80 Mandai Lake Rd
```

```
old 1: insert into SITE values(&SITEID, '&LOCATION', '&USEDFOR', '&ZOOADDRESS')
```

```
new 1: insert into SITE values(103, 'Area 1 West', 'food', '80 Mandai Lake Rd')
```

```
1 row created.
```

```

SQL> select * from site;

  SITEID LOCATION                USEDFOR
-----
ZOOADDRESS
-----
    101 Area 1                    food
2000 Meadowvale Rd

    102 Area 2 North              habitat
2000 Meadowvale Rd

    103 Area 1 West              food
80 Mandai Lake Rd

  SITEID LOCATION                USEDFOR
-----
ZOOADDRESS
-----
    104 Area 1 East              habitat
80 Mandai Lake Rd

SQL> @insert into HABITATBIOME values('&BIOME', &TEMP, &HUMIDITY);
SP2-0734: unknown command beginning "?insert in..." - rest of line ignored.
SQL> insert into HABITATBIOME values('&BIOME', &TEMP, &HUMIDITY);
Enter value for biome: Tropical Rain Forest
Enter value for temp: 25
Enter value for humidity: 9
old 1: insert into HABITATBIOME values('&BIOME', &TEMP, &HUMIDITY)
new 1: insert into HABITATBIOME values('Tropical Rain Forest', 25, 9)

1 row created.

SQL> /
Enter value for biome: Grassland
Enter value for temp: 15
Enter value for humidity: 4
old 1: insert into HABITATBIOME values('&BIOME', &TEMP, &HUMIDITY)
new 1: insert into HABITATBIOME values('Grassland', 15, 4)

1 row created.

SQL> /
Enter value for biome: Ocean
Enter value for temp: 10
Enter value for humidity: 10
old 1: insert into HABITATBIOME values('&BIOME', &TEMP, &HUMIDITY)
new 1: insert into HABITATBIOME values('Ocean', 10, 10)

1 row created.

SQL> select * from habitatbiome;

BIOME                TEMP  HUMIDITY
-----
Tropical Rain Forest    25      9
Grassland                15      4
Dessert                 30      0
Ocean                   10     10

SQL> insert into HABITAT values(&ENCLOSURE_ID, '&BIOME', &SQFT, &DEPTH, &SITEID);
Enter value for enclosure_id: 1001
Enter value for biome: Tropical Rain Forest
Enter value for sqft: 50
Enter value for depth: 10
Enter value for siteid: 102
old 1: insert into HABITAT values(&ENCLOSURE_ID, '&BIOME', &SQFT, &DEPTH, &SITEID)
new 1: insert into HABITAT values(1001, 'Tropical Rain Forest', 50, 10, 102)

1 row created.

```

```

SQL> /
Enter value for enclosure_id: 1003
Enter value for biome: Ocean
Enter value for sqft: 100
Enter value for depth: 20
Enter value for siteid: 103
old 1: insert into HABITAT values(&ENCLOSURE_ID, '&BIOME', &SQFT, &DEPTH, &SITEID)
new 1: insert into HABITAT values(1003, 'Ocean', 100, 20, 103)

1 row created.

SQL> /
Enter value for enclosure_id: 1004
Enter value for biome: Dessert
Enter value for sqft: 20
Enter value for depth: 40
Enter value for siteid: 104
old 1: insert into HABITAT values(&ENCLOSURE_ID, '&BIOME', &SQFT, &DEPTH, &SITEID)
new 1: insert into HABITAT values(1004, 'Dessert', 20, 40, 104)

1 row created.

SQL> select * from habitat;

ENCLOSURE_ID BIOME                SQFT    DEPTH    SITEID
-----
1001 Tropical Rain Forest        50       10       102
1002 Grassland                  50       10       101
1003 Ocean                      100      20       103
1004 Dessert                    20       40       104

SQL> insert into ANIMAL values(&ANIMALID, '&NAME', &AGE, '&SEX', &HEIGHT, &WEIGHT, '&SPECIES', &EAT_FREQ_WEEK, &EAT_AMOUNT, &ENCLOSURE_ID);
Enter value for animalid: 101
Enter value for name: Johnny
Enter value for age: 5
Enter value for sex: M
Enter value for height: 50
Enter value for weight: 10
Enter value for species: Duck
Enter value for eat_freq_week: 20
Enter value for eat_amount: 2
Enter value for enclosure_id: 1001
old 1: insert into ANIMAL values(&ANIMALID, '&NAME', &AGE, '&SEX', &HEIGHT, &WEIGHT, '&SPECIES', &EAT_FREQ_WEEK, &EAT_AMOUNT, &ENCLOSURE_ID)
new 1: insert into ANIMAL values(101, 'Johnny', 5, 'M', 50, 10, 'Duck', 20, 2, 1001)

1 row created.

SQL> /
Enter value for animalid: 102
Enter value for name: Chandler
Enter value for age: 8
Enter value for sex: M
Enter value for height: 400
Enter value for weight: 300
Enter value for species: Giraffe
Enter value for eat_freq_week: 10
Enter value for eat_amount: 3
Enter value for enclosure_id: 1002
old 1: insert into ANIMAL values(&ANIMALID, '&NAME', &AGE, '&SEX', &HEIGHT, &WEIGHT, '&SPECIES', &EAT_FREQ_WEEK, &EAT_AMOUNT, &ENCLOSURE_ID)
new 1: insert into ANIMAL values(102, 'Chandler', 8, 'M', 400, 300, 'Giraffe', 10, 3, 1002)

1 row created.

SQL> /
Enter value for animalid: 104
Enter value for name: Ross
Enter value for age: 10
Enter value for sex: M
Enter value for height: 150
Enter value for weight: 400
Enter value for species: Lion
Enter value for eat_freq_week: 15
Enter value for eat_amount: 6
Enter value for enclosure_id: 1004
old 1: insert into ANIMAL values(&ANIMALID, '&NAME', &AGE, '&SEX', &HEIGHT, &WEIGHT, '&SPECIES', &EAT_FREQ_WEEK, &EAT_AMOUNT, &ENCLOSURE_ID)
new 1: insert into ANIMAL values(104, 'Ross', 10, 'M', 150, 400, 'Lion', 15, 6, 1004)

1 row created.

SQL> select * from animal;

ANIMALID NAME                AGE SEX    HEIGHT
-----
WEIGHT SPECIES                EAT_FREQ_WEEK EAT_AMOUNT ENCLOSURE_ID
-----
101 Johnny                    5 M      50
10 Duck                      20      2      1001
102 Chandler                  8 M      400
300 Giraffe                  10      3      1002
103 Tessa                    7 F      120
300 Tiger                   15      5      1003

ANIMALID NAME                AGE SEX    HEIGHT
-----
104 Ross                     10 M      150
400 Lion                     15      6      1004

```

```
SQL> /
Enter value for fname: willy
Enter value for lname: wonka
Enter value for walkeetalkeeno: 2
old 1: insert into EMPLOYEECOMMUNICATION values('&FNAME', '&LNAME', &WALKEETALKEENO)
new 1: insert into EMPLOYEECOMMUNICATION values('willy', 'wonka', 2)
```

1 row created.

```
SQL> /
Enter value for fname: jane
Enter value for lname: goodall
Enter value for walkeetalkeeno: 3
old 1: insert into EMPLOYEECOMMUNICATION values('&FNAME', '&LNAME', &WALKEETALKEENO)
new 1: insert into EMPLOYEECOMMUNICATION values('jane', 'goodall', 3)
```

1 row created.

```
SQL> /
Enter value for fname: mary
Enter value for lname: poppins
Enter value for walkeetalkeeno: 4
old 1: insert into EMPLOYEECOMMUNICATION values('&FNAME', '&LNAME', &WALKEETALKEENO)
new 1: insert into EMPLOYEECOMMUNICATION values('mary', 'poppins', 4)
```

1 row created.

```
SQL> select * from employeecommunication;
```

FNAME	LNAME	WALKEETALKEENO
newton	scamander	1
willy	wonka	2
jane	goodall	3
mary	poppins	4

```
SQL> /
Enter value for fname: newton
Enter value for lname: scamander
Enter value for empid: 1246545423
Enter value for pay: 75
Enter value for zooaddress: 80 Mandai Lake Rd
old 1: insert into EMPLOYEE values('&FNAME', '&LNAME', &EMPID, &PAY, '&ZOOADDRESS')
new 1: insert into EMPLOYEE values('newton', 'scamander', 1246545423, 75, '80 Mandai Lake Rd')
```

1 row created.

```
SQL> /
Enter value for fname: mary
Enter value for lname: poppins
Enter value for empid: 1367865421
Enter value for pay: 0
Enter value for zooaddress: London NW1 4RY
old 1: insert into EMPLOYEE values('&FNAME', '&LNAME', &EMPID, &PAY, '&ZOOADDRESS')
new 1: insert into EMPLOYEE values('mary', 'poppins', 1367865421, 0, 'London NW1 4RY')
```

1 row created.

```
SQL> select * from employee;
```

FNAME	LNAME	EMPID	PAY
newton	scamander	1234567890	0
willy	wonka	2345678901	100
newton	scamander	1246545423	75
mary	poppins	1367865421	0

```

SQL> /
Enter value for duty: clean and feed
Enter value for empid: 2345678901
old 1: insert into KEEPER values('&DUTY', &EMPID)
new 1: insert into KEEPER values('clean and feed', 2345678901)

1 row created.

SQL> /
Enter value for duty: clean
Enter value for empid: 1246545423
old 1: insert into KEEPER values('&DUTY', &EMPID)
new 1: insert into KEEPER values('clean', 1246545423)

1 row created.

SQL> /
Enter value for duty: feed
Enter value for empid: 1367865421
old 1: insert into KEEPER values('&DUTY', &EMPID)
new 1: insert into KEEPER values('feed', 1367865421)

1 row created.

SQL> select * from keeper;

DUTY                EMPID
-----
clean                1234567890
clean and feed       2345678901
clean                1246545423
feed                 1367865421

SQL> insert into TRAINER values('&SPECIALITY', &EMPID);
Enter value for speciality: hoop jumping
Enter value for empid: 1234567890
old 1: insert into TRAINER values('&SPECIALITY', &EMPID)
new 1: insert into TRAINER values('hoop jumping', 1234567890)

1 row created.

SQL> /
Enter value for speciality: general
Enter value for empid: 1246545423
old 1: insert into TRAINER values('&SPECIALITY', &EMPID)
new 1: insert into TRAINER values('general', 1246545423)

1 row created.

SQL> /
Enter value for speciality: hoop jumping
Enter value for empid: 1367865421
old 1: insert into TRAINER values('&SPECIALITY', &EMPID)
new 1: insert into TRAINER values('hoop jumping', 1367865421)

1 row created.

SQL> select * from trainer;

SPECIALITY          EMPID
-----
hoop jumping         1234567890
balancing             2345678901
general              1246545423
hoop jumping         1367865421

```

```
SQL> /
Enter value for foodid: 13
Enter value for name: fish
Enter value for stock_serving: 32
Enter value for date_purchased: 08-nov-18
Enter value for date_expired: 31-mar-21
Enter value for siteid: 103
old 1: insert into FOOD values(&FOODID, '&NAME', &STOCK_SERVING, '&DATE_PURCHASED', '&DATE_EXPIRED', &SITEID)
new 1: insert into FOOD values(13, 'fish', 32, '08-nov-18', '31-mar-21', 103)
```

1 row created.

```
SQL> /
Enter value for foodid: 14
Enter value for name: eggs
Enter value for stock_serving: 99
Enter value for date_purchased: 09-nov-18
Enter value for date_expired: 10-dec-18
Enter value for siteid: 104
old 1: insert into FOOD values(&FOODID, '&NAME', &STOCK_SERVING, '&DATE_PURCHASED', '&DATE_EXPIRED', &SITEID)
new 1: insert into FOOD values(14, 'eggs', 99, '09-nov-18', '10-dec-18', 104)
```

1 row created.

```
SQL> select * from food;
```

FOODID	NAME	STOCK_SERVING	DATE_PURC	DATE_EXPI	SITEID
11	frozen chicken	80	08-NOV-18	10-AUG-20	101
12	bamboo	69	21-OCT-18	10-MAR-19	102
13	fish	32	08-NOV-18	31-MAR-21	103
14	eggs	99	09-NOV-18	10-DEC-18	104

```
SQL> /
Enter value for start_time: 17:30:00
Enter value for duration: 25
Enter value for name: Hoop-Jumping Tigers
Enter value for type: Entertainment
Enter value for siteid: 103
old 1: insert into SHOW values('&START_TIME', &DURATION, '&NAME', '&TYPE', &SITEID)
new 1: insert into SHOW values('17:30:00', 25, 'Hoop-Jumping Tigers', 'Entertainment', 103)
```

1 row created.

```
SQL> /
Enter value for start_time: 15:00:00
Enter value for duration: 10
Enter value for name: monkey tricks
Enter value for type: Entertainment
Enter value for siteid: 104
old 1: insert into SHOW values('&START_TIME', &DURATION, '&NAME', '&TYPE', &SITEID)
new 1: insert into SHOW values('15:00:00', 10, 'monkey tricks', 'Entertainment', 104)
```

1 row created.

```
SQL> /
Enter value for start_time: 12:00:00
Enter value for duration: 12
Enter value for name: Meet A Panda
Enter value for type: Educational
Enter value for siteid: 102
old 1: insert into SHOW values('&START_TIME', &DURATION, '&NAME', '&TYPE', &SITEID)
new 1: insert into SHOW values('12:00:00', 12, 'Meet A Panda', 'Educational', 102)
```

1 row created.

```
SQL> select * from show;
```

START_TI	DURATION	NAME	TYPE	SITEID
18:30:00	50	Play With Ducks	Kids	101
17:30:00	25	Hoop-Jumping Tigers	Entertainment	103
15:00:00	10	monkey tricks	Entertainment	104
12:00:00	12	Meet A Panda	Educational	102

```
SQL> /
Enter value for start_time: 17:30:00
Enter value for show_name: Hoop-Jumping Tigers
Enter value for empid: 2345678901
Enter value for animalid: 103
Enter value for role: guide tigers
old 1: insert into PERFORMS values ('&START_TIME', '&SHOW_NAME', &EMPID, &ANIMALID, '&ROLE')
new 1: insert into PERFORMS values ('17:30:00', 'Hoop-Jumping Tigers', 2345678901, 103, 'guide tigers')
```

1 row created.

```
SQL> /
Enter value for start_time: 15:00:00
Enter value for show_name: monkey tricks
Enter value for empid: 1246545423
Enter value for animalid: 102
Enter value for role: prompt monkeys
old 1: insert into PERFORMS values ('&START_TIME', '&SHOW_NAME', &EMPID, &ANIMALID, '&ROLE')
new 1: insert into PERFORMS values ('15:00:00', 'monkey tricks', 1246545423, 102, 'prompt monkeys')
```

1 row created.

```

SQL> select * from performs;

START_TI SHOW_NAME EMPID ANIMALID
-----
ROLE
-----
18:30:00 Play With Ducks 1234567890 101
watch over ducks

17:30:00 Hoop-Jumping Tigers 2345678901 103
guide tigers

15:00:00 monkey tricks 1246545423 102
prompt monkeys

START_TI SHOW_NAME EMPID ANIMALID
-----
ROLE
-----
12:00:00 Meet A Panda 1367865421 104
watch over panda

SQL> insert into CARESFOR values (&EMPID, &ANIMALID);
Enter value for empid: 1234567890
Enter value for animalid: 101
old 1: insert into CARESFOR values (&EMPID, &ANIMALID)
new 1: insert into CARESFOR values (1234567890, 101)

1 row created.

SQL> /
Enter value for empid: 2345678901
Enter value for animalid: 102
old 1: insert into CARESFOR values (&EMPID, &ANIMALID)
new 1: insert into CARESFOR values (2345678901, 102)

1 row created.

SQL> /
Enter value for empid: 1246545423
Enter value for animalid: 103
old 1: insert into CARESFOR values (&EMPID, &ANIMALID)
new 1: insert into CARESFOR values (1246545423, 103)

1 row created.

SQL> /
Enter value for empid: 1367865421
Enter value for animalid: 104
old 1: insert into CARESFOR values (&EMPID, &ANIMALID)
new 1: insert into CARESFOR values (1367865421, 104)

1 row created.

SQL> select * from caresfor;

EMPID ANIMALID
-----
1234567890 101
1246545423 103
1367865421 104
2345678901 102

SQL> insert into TRAINS values (&EMPID, &ANIMALID, '&SKILLS');
Enter value for empid: 1234567890
Enter value for animalid: 102
Enter value for skills: understand trainer gestures
old 1: insert into TRAINS values (&EMPID, &ANIMALID, '&SKILLS')
new 1: insert into TRAINS values (1234567890, 102, 'understand trainer gestures')

1 row created.

```



```
SQL> /
Enter value for empid: 2345678901
Enter value for animalid: 103
Enter value for skills: jump through hoops when instructed
old 1: insert into TRAINS values (&EMPID, &ANIMALID, '&SKILLS')
new 1: insert into TRAINS values (2345678901, 103, 'jump through hoops when instructed')

1 row created.
```

```
SQL> /
Enter value for empid: 1367865421
Enter value for animalid: 102
Enter value for skills: juggle 3 balls
old 1: insert into TRAINS values (&EMPID, &ANIMALID, '&SKILLS')
new 1: insert into TRAINS values (1367865421, 102, 'juggle 3 balls')

1 row created.
```

```
SQL> /
Enter value for empid: 1246545423
Enter value for animalid: 104
Enter value for skills: wave at visitors
old 1: insert into TRAINS values (&EMPID, &ANIMALID, '&SKILLS')
new 1: insert into TRAINS values (1246545423, 104, 'wave at visitors')

1 row created.
```

```
SQL> select * from trains;
```

EMPID	ANIMALID	SKILLS
1234567890	102	understand trainer gestures
2345678901	103	jump through hoops when instructed
1367865421	102	juggle 3 balls
1246545423	104	wave at visitors

```
SQL> /
Enter value for zoo_from_address: 80 Mandai Lake Rd
Enter value for zoo_to_address: 2000 Meadowvale Rd
Enter value for animalid: 101
Enter value for trade_date: 21-sep-18
old 1: insert into TRADES values ('&ZOO_FROM_ADDRESS', '&ZOO_TO_ADDRESS', &ANIMALID, '&TRADE_DATE')
new 1: insert into TRADES values ('80 Mandai Lake Rd', '2000 Meadowvale Rd', 101, '21-sep-18')

1 row created.
```

```
SQL> /
Enter value for zoo_from_address: London NW1 4RY
Enter value for zoo_to_address: 2000 Meadowvale Rd
Enter value for animalid: 102
Enter value for trade_date: 01-jan-18
old 1: insert into TRADES values ('&ZOO_FROM_ADDRESS', '&ZOO_TO_ADDRESS', &ANIMALID, '&TRADE_DATE')
new 1: insert into TRADES values ('London NW1 4RY', '2000 Meadowvale Rd', 102, '01-jan-18')

1 row created.
```

```
SQL> select * from trades;
```

ZOO_FROM_ADDRESS	ZOO_TO_ADDRESS	ANIMALID	TRADE_DAT
2000 Meadowvale Rd	80 Mandai Lake Rd	103	21-SEP-16
2000 Meadowvale Rd	15500 San Pasqual Valley Rd	104	31-MAR-17
80 Mandai Lake Rd	2000 Meadowvale Rd	101	21-SEP-18
London NW1 4RY	2000 Meadowvale Rd	102	01-JAN-18



```

SQL> insert into EATS values (&animalid,&foodid);
Enter value for animalid: 101
Enter value for foodid: 14
old 1: insert into EATS values (&animalid,&foodid)
new 1: insert into EATS values (101,14)

1 row created.

SQL> /
Enter value for animalid: 102
Enter value for foodid: 12
old 1: insert into EATS values (&animalid,&foodid)
new 1: insert into EATS values (102,12)

1 row created.

SQL> /
Enter value for animalid: 103
Enter value for foodid: 11
old 1: insert into EATS values (&animalid,&foodid)
new 1: insert into EATS values (103,11)

1 row created.

SQL> /
Enter value for animalid: 104
Enter value for foodid: 14
old 1: insert into EATS values (&animalid,&foodid)
new 1: insert into EATS values (104,14)

1 row created.

SQL> /
Enter value for animalid: 104
Enter value for foodid: 11
old 1: insert into EATS values (&animalid,&foodid)
new 1: insert into EATS values (104,11)

1 row created.

SQL> /
Enter value for animalid: 103
Enter value for foodid: 12
old 1: insert into EATS values (&animalid,&foodid)
new 1: insert into EATS values (103,12)

1 row created.

SQL> /
Enter value for animalid: 101
Enter value for foodid: 11
old 1: insert into EATS values (&animalid,&foodid)
new 1: insert into EATS values (101,11)

1 row created.

SQL> select * from eats;

  ANIMALID    FOODID
-----
        101         11
        101         14
        102         12
        103         11
        103         12
        104         11
        104         14

7 rows selected.

```

