# DBMS Assignment - 1

**DONE BY:-**
**K.KRISHNA**
**IT - B**
**1602-18-737-077**

# 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 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:**

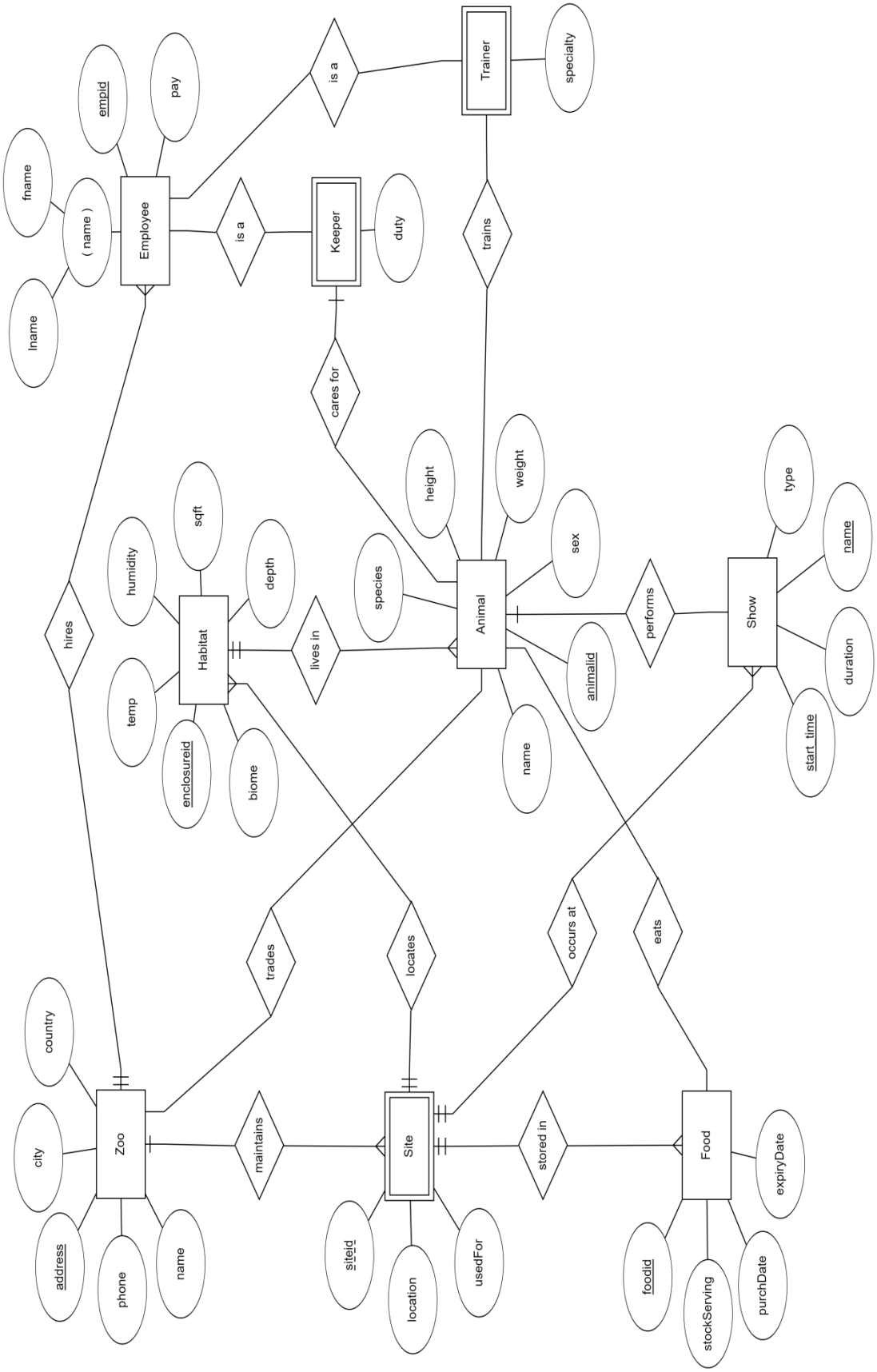
start_time : varchar2(8)

Duration : number(10)

Name : varchar2(20)

Type : varchar2(20)

# ER - DIAGRAM


Trainer
specialty
is a
empid
pay
fname
( name )
lname
Employee
is a
Keeper
duty
trains
cares for
hires
Habitat
sqft
humidity
depth
temp
enclosureid
biome
lives in
species
Animal
height
weight
sex
animalid
name
performs
Show
type
name
duration
start_time
trades
locates
occurs at
eats
country
city
address
phone
name
Zoo
maintains
Site
siteid
location
usedFor
stored in
Food
foodid
stockServing
purchDate
expiryDate

# 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
);

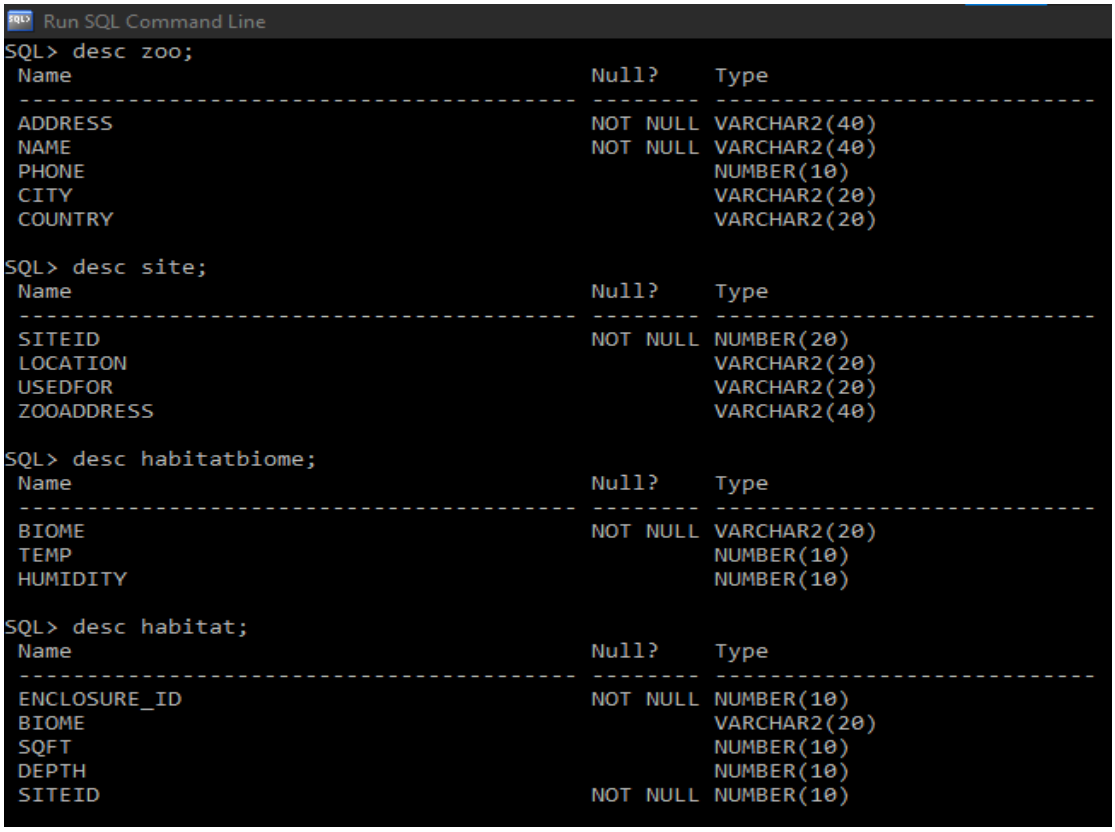
create table **trades**(
zoo_from_address varchar2(40),
zoo_to_address varchar2(40),
animalid number(10),
trade_date date,
primary key (zoo_from_address, zoo_to_address, animalid),
foreign key (zoo_from_address) references zoo,
foreign key (zoo_to_address) references zoo,
foreign key (animalid) references 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 employeecommunication;
 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                                         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                                               VARCHAR2(20)
 STOCK_SERVING                                      NUMBER(10)
 DATE_PURCHASED                                     DATE
 DATE_EXPIRED                                       DATE
 SITEID                                    NOT NULL NUMBER(10)

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

SQL> desc performs;
 Name                                      Null?    Type
 ----------------------------------------- -------- ----------------------------
 START_TIME                                NOT NULL VARCHAR2(8)
 SHOW_NAME                                          VARCHAR2(20)
 EMPID                                     NOT NULL NUMBER(10)
 ANIMALID                                  NOT NULL NUMBER(10)
 ROLE                                               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                                             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                      12345 Escondido
USA

2000 Meadowvale Rd
Toronto Zoo                                    23456 Toronto
Canada

ADDRESS
----------------------------------------
NAME                                          PHONE CITY
---------------------------------------- ---------- --------------------
COUNTRY
--------------------

80 Mandai Lake Rd
Singapore Zoo                                  45678 Singapore
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
---------- -------------------- ---------- -------------------- ----------
    WEIGHT SPECIES              EAT_FREQ_WEEK EAT_AMOUNT ENCLOSURE_ID
---------- -------------------- ------------- ---------- ------------
       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
-------------------- -------------------- ---------- ----------
ZOOADDRESS
----------------------------------------
newton               scamander            1234567890          0
2000 Meadowvale Rd

willy                wonka                2345678901        100
2000 Meadowvale Rd

newton               scamander            1246545423         75
80 Mandai Lake Rd


FNAME                LNAME                     EMPID        PAY
-------------------- -------------------- ---------- ----------
ZOOADDRESS
----------------------------------------
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


ZOO_FROM_ADDRESS
----------------------------------------
ZOO_TO_ADDRESS                           ANIMALID TRADE_DAT
---------------------------------------- ---------- ---------
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.
```