

SEMESTER PROJECT

Subject area: Zoo Database

Implementation:

The database design should be implemented using VISIO or similar diagraming program, APEX or NCC's oracle database. Use the attached spreadsheet "zoo.xlsx" for all diagram creation and DDL and DML.

The deliverables include:

1. Normalization Diagram (20%) Create a 1NF, 2NF and 3NF diagram from the spreadsheet "zoo.xlsx". A 2NF diagram may not be needed.

Please see the PDF diagram attached in the 1NF_Files and 3NF_Files folders

2. E-R diagram (20%) Create an EERD from the spreadsheet "zoo.xlsx" and the Normalization Diagram in step 1. use the following business rules:
 - Employees are either Volunteers or Paid Employees but not both.
 - A Paid Employee is either a Contractor or works directly for the zoo, but can't be both.
 - Everyone is assigned a department, and assigned to a building or enclosure.

Please see the PDF diagram attached in the Q2_EERD_Files folder

3. Data Definition Language (DDL)/Data Manipulation Language (DML) (20%):
 - CREATE TABLE and INSERT INTO statements.

Please see the SQL files in the Q3_ZOO_PRIMARY_TABLES & Q3_ZOO_ADD_TABLES files

4. SQL reports (40%) SQL code and copies of the output for each of the following situations:

1. List the first name and last name of all employees that work for the contractor Zoonder.

```
SELECT DISTINCT e.first_name, e.last_name
FROM zoo_employee e, zoo_contractors c, contractor_status s
WHERE c.contractor_name = 'Zoonder' AND s.contractor_Y_N = 'Y'
AND c.contractor_id = s.contractor AND s.employ_id = e.employ_id;
```

SQL Commands

Schema: JUANVDB1NCC

Rows: 1000

Clear Command Find Tables Save Run

```
SELECT DISTINCT e.first_name, e.last_name
FROM zoo_employee e, zoo_contractors c, contractor_status s
WHERE c.contractor_name = 'Zooander' AND s.contractor_Y_N = 'Y'
AND c.contractor_id = s.contractor AND s.employ_id = e.employ_id;
```

Results Explain Describe Saved SQL History

FIRST_NAME	LAST_NAME
Clemmy	Jenkison
Isahella	Hane
Liana	Learmonth
Cicily	McPhelim
Sophronia	McGeneay
Joellyn	Babcock
Arlene	Birkhead
Lydia	Bedow

8 rows returned in 0.02 seconds [Download](#)

2. Who is the veterinarian (contractor) that cares for Bordie?

```
SELECT DISTINCT c.contractor_name
FROM contractor_status cs, zoo_contractors c, zoo_animals a, employee_enclosure ee, animal_enclosure ae
WHERE a.name = 'Bordie' AND a.animal_id = ae.animal_id AND ae.enclosure = ee.enclosure_assigned
AND ee.employ_id = cs.employ_id AND cs.contractor = c.contractor_id;
```

SQL Commands

Schema: JUANVDB1NCC

Rows: 1000

Clear Command Find Tables Save Run

```
SELECT DISTINCT c.contractor_name
FROM contractor_status cs, zoo_contractors c, zoo_animals a, employee_enclosure ee, animal_enclosure ae
WHERE a.name = 'Bordie' AND a.animal_id = ae.animal_id AND ae.enclosure = ee.enclosure_assigned
AND ee.employ_id = cs.employ_id AND cs.contractor = c.contractor_id;
```

Results Explain Describe Saved SQL History

CONTRACTOR_NAME
Fliptune
Thoughtstorm

2 rows returned in 0.22 seconds [Download](#)

3. What is the name of the only Javan Rhino?

```
SELECT DISTINCT a.name  
FROM zoo_animals a  
WHERE type = 'Javan Rhino';
```

SQL Commands Schema: JUANVDB1NCC

Rows: 1000 Clear Command Find Tables Save Run

```
SELECT DISTINCT a.name  
FROM zoo_animals a  
WHERE type = 'Javan Rhino';
```

Results Explain Describe Saved SQL History

NAME
Harmon

1 rows returned in 0.01 seconds Download

4. Create a view of all the volunteers.

```
CREATE VIEW volunteers  
AS SELECT DISTINCT * FROM volunteer_status  
WHERE volunteer = 'Y'  
WITH READ ONLY;
```

SQL Commands Schema: JUANVDB1NCC

Rows: 10 Clear Command Find Tables Save Run

```
CREATE VIEW volunteers  
AS SELECT DISTINCT * FROM volunteer_status  
WHERE volunteer = 'Y'  
WITH READ ONLY;
```

Results Explain Describe Saved SQL History

View created.

0.04 seconds

5. How many male gorillas are there?

```
SELECT COUNT(*) AS "Male Gorillas"
FROM zoo_animals a
WHERE a.scientific_name LIKE '%Gorilla%' AND a.gender LIKE 'Male';
```

SQL Commands

Schema: JUANVDB1NCC

Rows: 1000

Clear Command Find Tables Save Run

```
SELECT COUNT(*) AS "Male Gorillas"
FROM zoo_animals a
WHERE a.scientific_name LIKE '%Gorilla%' AND a.gender LIKE 'Male';
```

Results Explain Describe Saved SQL History

Male Gorillas
5

1 rows returned in 0.00 seconds [Download](#)

6. List the name of the enclosure and the number of female animals in each.

```
SELECT DISTINCT ae.enclosure, COUNT(*) AS "Female Animals"
FROM zoo_animals a, animal_enclosure ae
WHERE a.gender LIKE 'Female' AND a.animal_id = ae.animal_id
GROUP BY ae.enclosure;
```

SQL Commands

Schema: JUANVDB1NCC

Rows: 10

Clear Command Find Tables Save Run

```
SELECT DISTINCT ae.enclosure, COUNT(*) AS "Female Animals"
FROM zoo_animals a, animal_enclosure ae
WHERE a.gender LIKE 'Female' AND a.animal_id = ae.animal_id
GROUP BY ae.enclosure;
```

Results Explain Describe Saved SQL History

ENCLOSURE	Female Animals
The Australian College of Kuwait Enclosure	17
The Hyogo University of Education Enclosure	3
The St. Andrews Presbyterian College Enclosure	19
The Chung Shan Medical and Dental College Enclosure	5
The University of Arkansas Enclosure	17
The George Brown College Enclosure	3

6 rows returned in 0.04 seconds [Download](#)

7. How many animals do not have names?

```
SELECT DISTINCT COUNT(*) AS "Nameless Animals"  
FROM zoo_animals a  
WHERE a.name IS NULL;
```

SQL Commands Schema: JUANVDB1NCC

Rows: 1000 Clear Command Find Tables Save Run

```
SELECT DISTINCT COUNT(*) AS "Nameless Animals"  
FROM zoo_animals a  
WHERE a.name IS NULL;
```

Results Explain Describe Saved SQL History

Nameless Animals
71

1 rows returned in 0.02 seconds Download

8. List the employee that lives in California and works as a contractor for Zoonder?

```
SELECT DISTINCT e.employ_id, e.first_name, e.last_name  
FROM zoo_employee e, zoo_contractors c, contractor_status cs  
WHERE c.contractor_name = 'Zoonder' AND c.contractor_id = cs.contractor  
AND cs.contractor_y_n = 'Y' AND cs.employ_id = e.employ_id AND e.state = 'California';
```

SQL Commands Schema: JUANVDB1NCC

Rows: 1000 Clear Command Find Tables Save Run

```
SELECT DISTINCT e.employ_id, e.first_name, e.last_name  
FROM zoo_employee e, zoo_contractors c, contractor_status cs  
WHERE c.contractor_name = 'Zoonder' AND c.contractor_id = cs.contractor  
AND cs.contractor_y_n = 'Y' AND cs.employ_id = e.employ_id AND e.state = 'California';
```

Results Explain Describe Saved SQL History

EMPLOY_ID	FIRST_NAME	LAST_NAME
1036	Lydia	Bedow
1039	Isahella	Hane

2 rows returned in 0.01 seconds Download