CITM500 Project 2 (10%) July 14that 10pm.

This is a group assignment. Group size is 1 to 4 maximum. No exceptions.

Note: Copying and pasting from AI or providing solutions to other groups is not acceptable. Such actions will result in a grade reduction and in extreme cases could result in a zero and a charge of academic misconduct.

Part 1 – 100 marks

Using the ACME Drug Stores narrative, design and document a logical data model using Erwin. You should also make and document any reasonable assumptions where you feel the case is vague or ambiguous or missing any data necessary to meet the requirements. However you cannot ignore or overrule the requirements that are explicitly stated. Show all cardinality, prime keys and foreign keys. Use verbs to clarify your relationships. Show only the attributes that are contained explicitly in the case.

Part 2 – 100 marks

Given the attached physical schema in Project2PERD undertake the following:

1. Using SQL Server create a database called Project2P24

2. Define all primary keys, foreign keys and data (20 marks)

3. Populate the tables with sufficient data to adequately test all aspects of your queries. (See Note below). Failure to do so will lose you marks. Only show in the output the details required by the specifics of the query. No unnecessary or debug columns. The term ‘list details’ means all the columns from the specified table – no more and no less.

4. Develop the SQL queries to satisfy the questions below – 80 marks.

No views should be employed here. While no question would require it you may use dynamic temporary tables as a technique.

No multilevel group by clauses (e.g. group by cola, colb, colc, etc) should be used. No question requires them, Use nesting techniques instead.

--1. Show for each zoo the number of different species of animals there are in that zoo .

--2. List the zoo name, employee name and salary of each employee that is a world’s best expert in a species. Sequence the output by employee name within zoo name.

--3. List the detail of animals that are in any zoo but whose mother is currently in the "Garden Zoo" in Boston.

--4. Show for each zoo in Canada a count of animals in that zoo. Sequence the output by highest to lowest count.

--5. Show for each species a count of the experts that are employed by USA zoos

--6. List the details for employees in any zoo in Canada that have either a salary of at least 75000 or are an expert in the Tiger species. Sequence the output by employee name.

--7. List the details for all animals born in 2016 that belong to an endangered species (status = E).

--8. List the details for the zoos in China that have more than 2 animals that belong to the Panda species. Sequence by zooname.

--9. List the names, gender and salaries of all male employees that are the world’s best expert for a threatened species (status = T).

--10. List the details of the Canadian zoo that has the employee with the highest salary.

--11. List the details for any species for which there are animals held in any zoo in China.

--12. List the details for the zoos that have animals belonging to more than 3 different species. Sequence the output alphabetically by zoo within city.

 --13. List details for the animals that have a mother that is in a zoo that is different from their child's current zoo.

--14. Show the name of any country that has the more than 2 zoos.

--15. List the species details for the species that have a world’s best expert working in a zoo that also has animals of that same species. Show each species only once.

--16. List the details for the employee Tiger specialists that have a salary above the average salary for their expertise

--17. List the details for any endangered species for which there are more than 5 individual animals in Canadian zoos.

 --18. List the details of any zoo that has more than 2 Lions born in 2016.

 --19. Show the count of how many species experts are employed at the "Metro Zoo" in Toronto.

 --20 List the details of mother animals that have more than 2 offspring that are currently in Canadian zoos.

Note: Queries that do not return sufficient data will lose marks. If no output is generated that query will receive a zero.

1. All queries must generate some output
2. Queries with explicit sequencing (order by clause) must return a minimum of 3 rows
3. An aggregate query must have at least one row of output that is using at least 2 input rows (e.g. a count of 2, not 0 or 1)
4. Use column aliases where appropriate.
5. Suppress duplicate rows where appropriate for output based on your actual test data results even if not specifically requested by the question.

Have one group member submit a Zip file thru Blackboard that will contain the following files:

1. The Erwin file containing the Logical Model and a text box with the team member names

 ii) The mdf and ldf files of the Project2W24 database as created and loaded with your test data.

1. The SQL file containing the original questions and your answers to the queries. Include as a comment your team member names

If your submission is incomplete or is not submitted on time thru D2Lyou will lose marks. Checklist:

1. Files are zipped via Windows Compression and NOT using RAR
2. All files are there
3. That your database contains data.
4. That your database was created using SQL Server Express 2019 and not a higher version