Cover Sheet

(Each school can adapt with their own school name, logo etc)

Grade 12

SQL Portfolio Test 2018

Time: 45 minutes

Total marks: 40

Examiner: Dr C Kader Jaarsveld

Moderators: Mr T Phiri, Mrs T van

This question paper consists of **8** questions -printed on **6** pages (including the cover page)

SCENARIO

A database is kept maintained by the owners of an animal/game park in order to keep track of their animals and donors. The database contains information in several tables. You have been supplied with a database called **AnimalsDB.accdb/mdb**. The **tblCount** table (*Figure 1 & 2*) is used to store details and keep track of the numbers of each type of animal; this is done by making a count on different days. The **tblAnimal** table (*Figure 3 & 4*) contains information about each type of animal. This contains information in several tables on various animals in the animal/game park. The game park has a number of donors, the details of which are kept in table **tblDonor** (*Figure 5 & 6*). Each donor can make donations or donates for the upkeep of various animals. A description of each of the tables is shown in *Figure 1, Figure 3,* and *Figure 5. Figures 2, 4 & 6* show sample data.

As several of the queries you will have to create will make changes to this database, it is recommended that you make a backup copy of the original database.

TABLE STRUCTURE

The fields in the database are discussed below. Below each description is a screenshot of the first few rows of data for your convenience. NOTE: The tables do contain more data:

tblCount

tblCount

	Field Name	Data Type	Description (Optional)
🔑	CountDate	Date/Time	Date on which the count was done
🔑	AnID	Number	Foreign Key - refers to tblAnimal.AnID
	Quantity	Short Text	Number counted on that day
	Accuracy	Short Text	What is the accuracy of the count? (a percentage).

Figure 1

CountDate	AnID	Quantity	Accuracy
1/23/2016	5	4	50
1/23/2016	8	18	80
1/23/2016	11	100	85
1/23/2016	12	1	50
1/23/2016	15	6	80

Figure 2

tblAnimal

tblAnimal

Field Name	Data Type	Description (Optional)
AnID	AutoNumber	
Animal	Short Text	Common name of animal.
ScientificName	Short Text	Scientific name of animal.
Protected	Yes/No	Is the animal protected or not?
ConservationCategory	Short Text	General, Vulnerable, Endangered, Critically Endangered, Extinct
Price	Currency	Cost price of Animal

Figure 3

AnID	Animal	ScientificName	Protected	ConservationCatego	Price
1	Blesbok	Damaliscus pygargus phillipsi	☐	General	R 1,000.00
2	Eland	Taurotragus oryx	☐	General	R 9,000.00
3	Ostrich	Struthio camelus	☐	General	R 400.00
4	Warthog	Phacochoerus africanus	☐	Vulnerable	R 700.00
5	Gemsbok	Oryx gazella	☐	General	R 5,100.00

Figure 4

tblDonor

tblDonor

Field Name	Data Type	Description (Optional)
DonorID	Short Text	Primary key - Unique donor ID
DonName	Short Text	Donor name
Amount	Currency	Amount donated
AnID	Number	Foreign key - refers to tblAnimal.AnID

Figure 5

DonorID	DonName	Amount	AnID
CK63	Carl Kaine	$1,000.00	2
LM20	Laurie Mann	$500.00	5
LA12	Leah Ash	$1,250.00	9
JG66	John Green	$790.00	5

Figure 6

RELATIONSHIPS

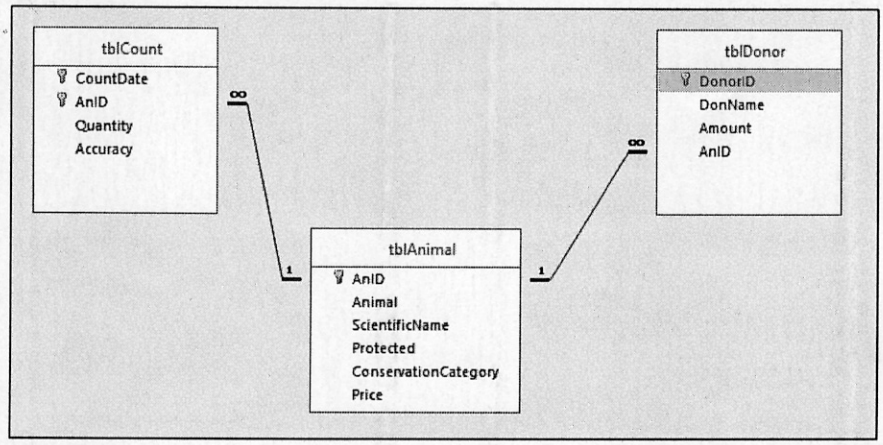

Figure 7

You have been supplied with the database named **AnimalsDB** and an electronic answer sheet named **SQL Answer Sheet 2018.** Open this file and paste your SQL queries in the space provided. Ensure that you save your work at regular intervals. Print **SQL2018Answers.docx** at the end of the session.

1.	Write a query that will list all the details of all the donors from **tblDonor** in descending order of the amount donated. Sample output is shown in *Figure 8*.	[4]
2.	Write a query that will list the animal and price from **tblAnimal** for animals whose price range from 500 to 2300 (inclusive of both values). Sample output is shown in *Figure 9*.	[4]

DonorID	DonName	Amount	AnID
LA12	Leah Ash	$1,250.00	9
CK63	Carl Kaine	$1,000.00	2
SK74	Sbu Khoza	$850.00	1
JG66	John Green	$790.00	5
JS35	Jay Singh	$650.00	8
LM20	Laurie Mann	$500.00	5

Figure 8

Animal	Price
Blesbok	R 1,000.00
Warthog	R 700.00
Rietbok	R 2,300.00
Steenbok	R 1,200.00
Duiker	R 750.00
Rooibok	R 1,150.00
Springbok	R 600.00

Figure 9

3.	It has been found that the count that took place on 1/17/2018 is invalid. Delete all counts in **tblCount** that took place on this date.	[3]
4.	Write a query that will update **tblAnimal** so that all animals regarded as vulnerable in the **ConservationCategory** field, are set as protected. Sample of update ringed in *Figure 10*.	[4]

AnID	Animal	ScientificName	Protected	ConservationCatego	Price
1	Blesbok	Damaliscus pygargus phillipsi	☐	General	R 1,000.00
2	Eland	Taurotragus oryx	☐	General	R 9,000.00
3	Ostrich	Struthio camelus	☐	General	R 400.00
4	Warthog	Phacochoerus africanus	☑	Vulnerable	R 700.00
5	Gemsbok	Oryx gazella	☐	General	R 5,100.00

Figure 10

5.	Write a query that will show the animal ID and average quantity of all animals counted in 2017, under the column heading **Average Quantity**. The first three lines of output is shown in *Figure 11*.	(7)

AnID	Average Quantity
8	30
12	2
15	7

Figure 11

6.	Write a query to display a list of the animals (AnID, Animal, ConservationCategory and Quantity) which are categorised as Extinct, Critically Endangered or Endangered. Sample output shown in *Figure 12*.	(6)

AnID	Animal	ConservationCatego	Quantity
20	Black Rhino	Endangered	1
22	Buffalo	Critically endangered	2
22	Buffalo	Critically endangered	4
26	Bubal Hartebeest	Extinct	0

Figure 12

7.	A new donor with DonorID **RK02** finds out that she has the same name as the donor with ID LA12. She therefore would like to make the same donation as the donor whose DonorID is **LA12**. Write a query to insert the new donor (RK02), with all other fields identical to the donor LA12. NOTE: You may only hardcode the DonorID. *Figure 13* shows the new donor (RK02), with identical data as donor LA12, inserted into **tblDonor**.	(6)

DonorID	DonName	Amount	AnID	Click to Add
CK63	Carl Kaine	$1,000.00	2	
JG66	John Green	$790.00	5	
JS35	Jay Singh	$650.00	8	
LA12	Leah Ash	$1,250.00	9	
LM20	Laurie Mann	$500.00	5	
RK02	Leah Ash	$1,250.00	9	
SK74	Sbu Khoza	$850.00	1	

Figure 13

8.	Write a query to create a code for each animal whose name ends in **bok** from **tblAnimal**. The code is made up of the first 2 characters of the Animal and the last three characters of the ScientificName fields, joined by an underscore(_) under a column named Animal Code. Display the animal name, the scientific name and the animal code created. Sample output is shown in *Figure 14*.	(6)

Animal	ScientificName	Animal Code
Blesbok	Damaliscus pygargus phillipsi	Bl_psi
Gemsbok	Oryx gazella	Ge_lla
Rietbok	Redunca arundinum	Ri_num
Steenbok	Raphicerus campestris	St_ris
Waterbok	Kobus ellipsiprymnus)	Wa_us)
Rooibok	Aepyceros melampus	Ro_pus
Springbok	Antidorcas marsupialis	Sp_lis

Figure 14

	Total:	[40]