

**1. Nov/2020/Paper\_21/No.5**

A database table, AIRLINE, stores data used to compare airlines.

Code	Airline name	Number of employees	Number of countries	Head office	Share price
FJ	FastJet	60000	30	Europe	514.50
MA	MurphyAir	35000	8	Europe	152.67
JS	JetSeven	45000	22	Asia	257.44
K3	Koala3	22000	11	Australia	501.21
NS	NorthState	30000	4	America	108.22
SS	SouthState	30000	4	America	126.35
BJ	BlueJet	15000	7	Africa	215.45
SK	SkyKing	32000	27	Europe	506.12
PF	PandaFly	50000	35	Asia	317.88

(a) State how many fields and how many records are shown in the AIRLINE table.

Number of Fields .....

Number of Records .....

[2]

(b) Show the output that would be given by this query-by-example.

Field:	Airline name	Number of employees	Head office	Share price
Table:	AIRLINE	AIRLINE	AIRLINE	AIRLINE
Sort:				
Show:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Criteria:		< 35000		> 500.00
or:				

.....

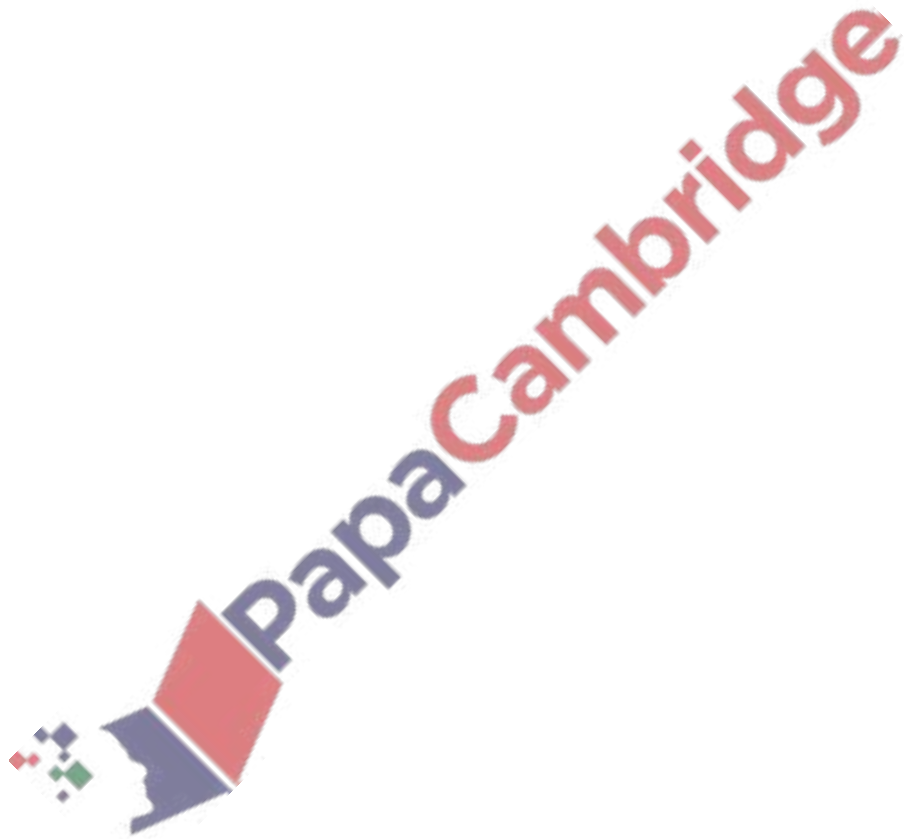
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..... [2]

(c) Complete the query-by-example grid to find every airline with a head office in Asia or Africa, and number of countries greater than 4. Only show the airline name and number of countries.

Field:				
Table:				
Sort:				
Show:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Criteria:				
or:				

[4]



The table AUDIOPARTS stores the part number, description, cost and quantity in stock of the items sold by a music shop.

PartNum	Description	Cost	Quantity
A01	Compact Amplifier Case	50.00	15
A02	Deluxe Amplifier Case	75.00	1
A03	Amplifier Standard	79.99	48
A04	Amplifier Midrange	149.99	50
A05	Amplifier Megablaster	299.99	48
S01	Tweeter	59.99	10
S02	Midrange Woofer	99.99	0
S03	Subwoofer	139.99	16
S04	Tower Speaker Basic	159.99	25
S05	Tower Speaker Skyscraper	219.99	9
S06	Centre Speaker	149.99	25
S07	Soundbar	89.99	2
S20	Soundbar	129.99	0
S21	Ceiling Surround Speaker	75.00	15
S22	Ceiling Full Range Speaker	100.00	1
S25	Surround Speaker	100.00	60
T19	Speaker Stands (Pair)	75.00	60

(a) State the number of records in the table AUDIOPARTS

..... [1]

(b) Identify the field that is most suitable to be a primary key and give a reason for your choice.

Fieldname .....

Reason .....

.....

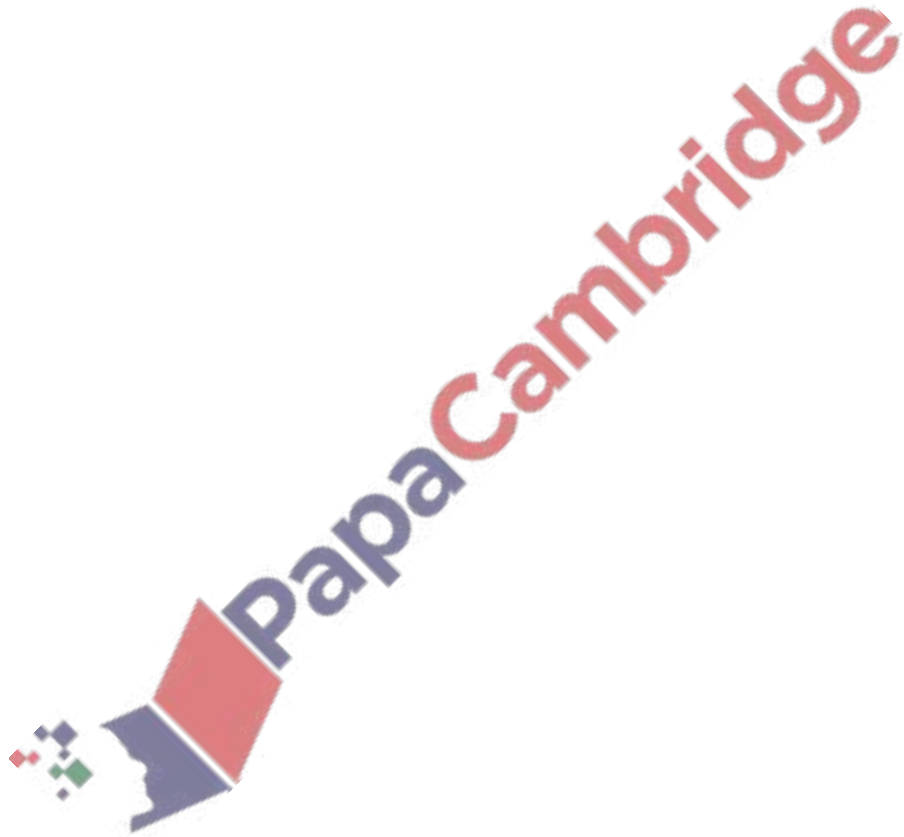
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[2]

(c) Complete the query-by-example grid to show the items where the quantity in stock is fewer than 10. Show all the fields from the database table in descending order of cost.

Field:				
Table:				
Sort:				
Show:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Criteria:				
or:				

[4]



A marine wildlife rescue centre uses a database table, MARINE, to keep records of its creatures.

Creature	Class	Quantity	Ready for release	Offspring
Manta Ray	Fish	3	Y	N
Short-tailed Albatross	Bird	4	Y	N
Emperor Penguin	Bird	50	Y	Y
Bluefin Tuna	Fish	2	N	N
Manatee	Mammal	4	Y	N
Hawksbill Turtle	Reptile	10	Y	Y
Hammerhead Shark	Fish	3	Y	N
Yellow-eyed Penguin	Bird	4	Y	N
Kemp's Ridley Sea Turtle	Reptile	1	Y	N

(a) State how many fields and how many records are shown in this table.

Number of fields .....

Number of records .....

[2]

(b) Show the output that would be given by this query-by-example.

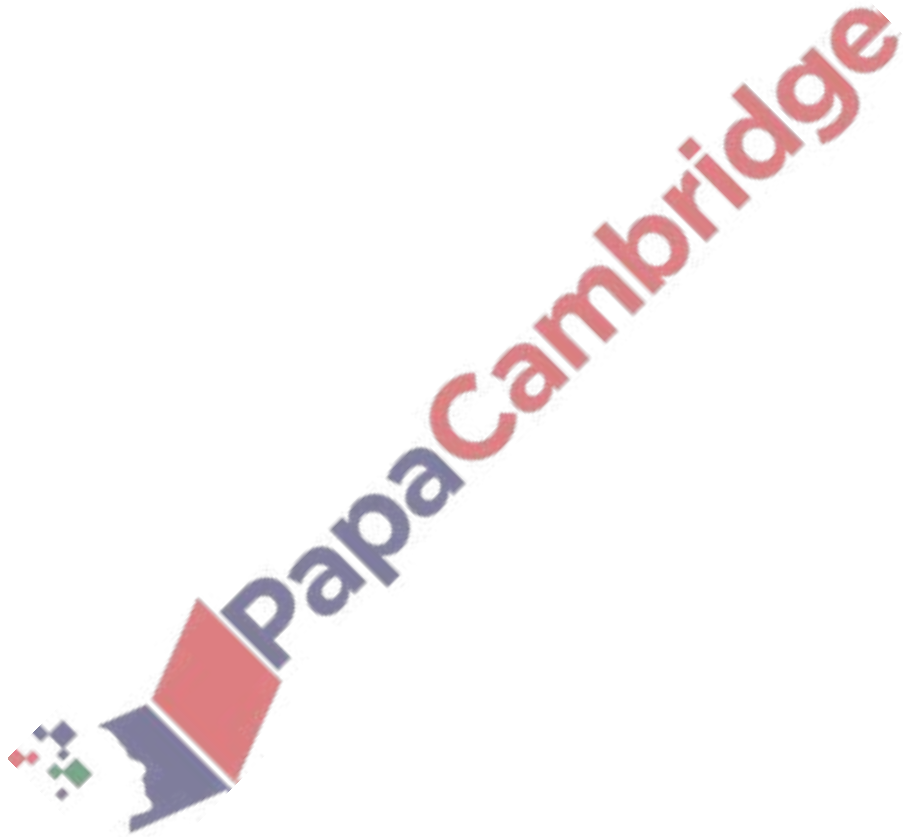
Field:	Creature	Class	Ready for release
Table:	MARINE	MARINE	MARINE
Sort:			
Show:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:		= "Bird"	
or:			

.....  
 .....  
 ..... [2]

(c) Complete the query-by-example grid to display the creatures, in ascending order of quantity, that have no offspring and are ready for release. Display only the creature field.

Field:					
Table:					
Sort:					
Show:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Criteria:					
or:					

[4]



4. June/2020/Paper\_21/No.6

A garden centre sells garden tools and stores details of these in a database table named TOOLS. Code is the primary key in the TOOLS table.

Code	Description	Price (\$)	Quantity_Stock	Quantity_Ordered
GFLG	Garden Fork	50.00	1	50
GSLG	Garden Spade	50.00	11	0
GHLG	Garden Hoe	45.00	8	0
HFSM	Hand Fork	9.99	42	0
HSSM	Hand Spade	9.99	40	0
HWSM	Hand Weeder	9.99	11	0
HS20	Hose (20 metres)	45.00	10	0
HS35	Hose (35 metres)	60.00	2	0
HS50	Hose (50 metres)	75.00	20	60
YBLG	Yard Brush	24.99	100	0
LMHD	Lawn Mower	99.99	5	0
LMBT	Lawn Mower (Battery)	249.99	7	0
LMPT	Lawn Mower (Petrol)	349.99	10	25
TRBT	Edge Trimmer (Battery)	79.99	15	0
TRPT	Edge Trimmer (Petrol)	59.99	20	0
SHSM	Shears	40.00	40	0
HCSM	Hedge Clippers	40.00	45	0

(a) State the purpose of the primary key in the TOOLS table.

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.....

..... [1]

- (b) List the output from the data shown in the table TOOLS that would be given by this query-by-example.

Field:	Code	Description	Price (\$)	Quantity_Stock	Quantity_Ordered
Table:	TOOLS	TOOLS	TOOLS	TOOLS	TOOLS
Sort:					Descending
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:			>40	>0	>0
or:					

..... [3]

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- (c) Complete the query-by-example grid to output the tools where the quantity in stock is below 25. Only show the Code, Description and Quantity\_Stock fields in ascending order of Code.

Field:				
Table:				
Sort:				
Show:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Criteria:				
or:				

[3]



A database table, JUICE, is used to keep a record of cartons of fresh fruit juice available for sale.

Juice code	Fruit 1	Fruit 2	Size	Volume (ml)	Stock level
LMO10	Mango	Orange	Large	1000	18
MOO05	Orange	Orange	Medium	500	8
SAM02	Apple	Mango	Small	200	25
SAA02	Apple	Apple	Small	200	50
SPP02	Pineapple	Pineapple	Small	200	10
MMM05	Mango	Mango	Medium	500	12
LMM10	Mango	Mango	Large	1000	5
MGG05	Guava	Guava	Medium	500	5
SMO02	Mango	Orange	Small	200	7
MOP05	Orange	Pineapple	Medium	500	12
LAA10	Apple	Apple	Large	1000	32
SGO02	Guava	Orange	Small	200	10
LPP10	Pineapple	Pineapple	Large	1000	3
LOO10	Orange	Orange	Large	1000	25
SOO02	Orange	Orange	Small	200	40

(a) Identify a suitable field to use as the primary key. State a reason for your choice.

Field .....

Reason .....

[2]

(b) Complete the query-by-example grid to display only the stock level and size of all cartons containing only apple juice.

Field:				
Table:				
Sort:				
Show:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Criteria:				
or:				

[4]

6. June/2020/Paper\_23/No.7

A convenience store which sells general groceries wants to set up a database table called STOCK. The table will contain fields including a description of the item, the price of the item and the number in stock for each item. The STOCK table also has a fourth field to be used as a primary key.

- (a) Complete the table to suggest a suitable field name for each of the **four** fields in the table STOCK. Give the purpose of the data to be stored in each field.

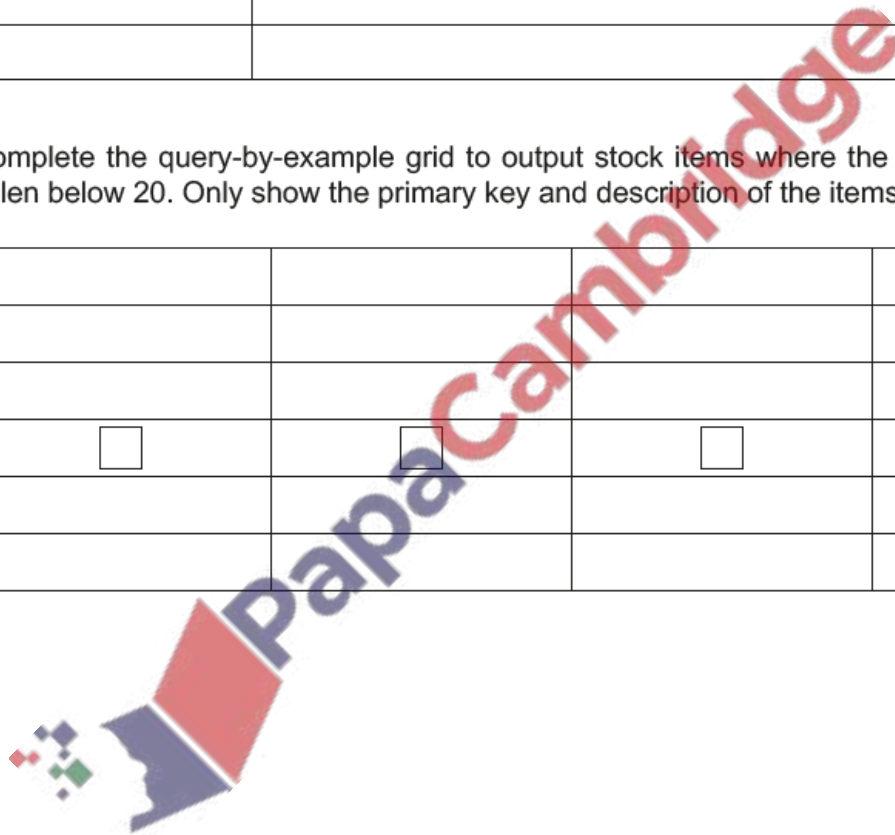
Field name	Purpose of field contents

[4]

- (b) Complete the query-by-example grid to output stock items where the quantity in stock has fallen below 20. Only show the primary key and description of the items.

Field:				
Table:				
Sort:				
Show:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Criteria:				
or:				

[3]



7. March/2020/Paper\_22/No.5

A database table, BOX, is used to keep a record of boxes made and sold by a craftsman. Boxes are categorised by:

- SIZE – small, medium or large
- SHAPE – brief description for example 'star shaped'
- WOOD – maple, beech, walnut or ebony
- PRICE – price in \$
- SOLD – whether the box is sold or not.

A database management system uses these data types:

Text      Number      Currency      Boolean

(a) Select the most appropriate data type for each field from the four types shown. State the reason why you chose the data type.

SIZE data type .....

Reason .....

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SHAPE data type .....

Reason .....

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WOOD data type .....

Reason .....

.....

PRICE data type .....

Reason .....

.....

SOLD data type .....

Reason .....

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[5]

- (b) (i) Complete the query-by-example grid below to only display the price of small walnut boxes.

Field:				
Table:				
Sort:				
Show:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Criteria:				
or:				

[3]

- (ii) The query-by-example grid from part (b)(i) needs to be changed to show both walnut and beech boxes and display the wood used. Only one column needs to be changed. Write the changed column.

Field:	
Table:	
Sort:	
Show:	<input type="checkbox"/>
Criteria:	
or:	

[2]