

1. Nov/2021/Paper_21/No.5

A database table, APPLIANCE, is used to keep a record of kitchen appliances available for sale.

The following data is stored for each appliance:

- CATEGORY – washer, dishwasher, fridge or freezer
- ECONOMYRATING – A, B, C or D
- MANUFACTURER – Baku or ABC
- PRICE – price in \$
- CODE – a unique code allocated by the manufacturer e.g. B982
- STOCK – number in stock.

The database management system uses these data types:

Text Number Currency Boolean

The ECONOMYRATING field and MANUFACTURER field have a data type of text.

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

CATEGORY data type

Reason

.....

PRICE data type

Reason

.....

CODE data type

Reason

.....

STOCK data type

Reason

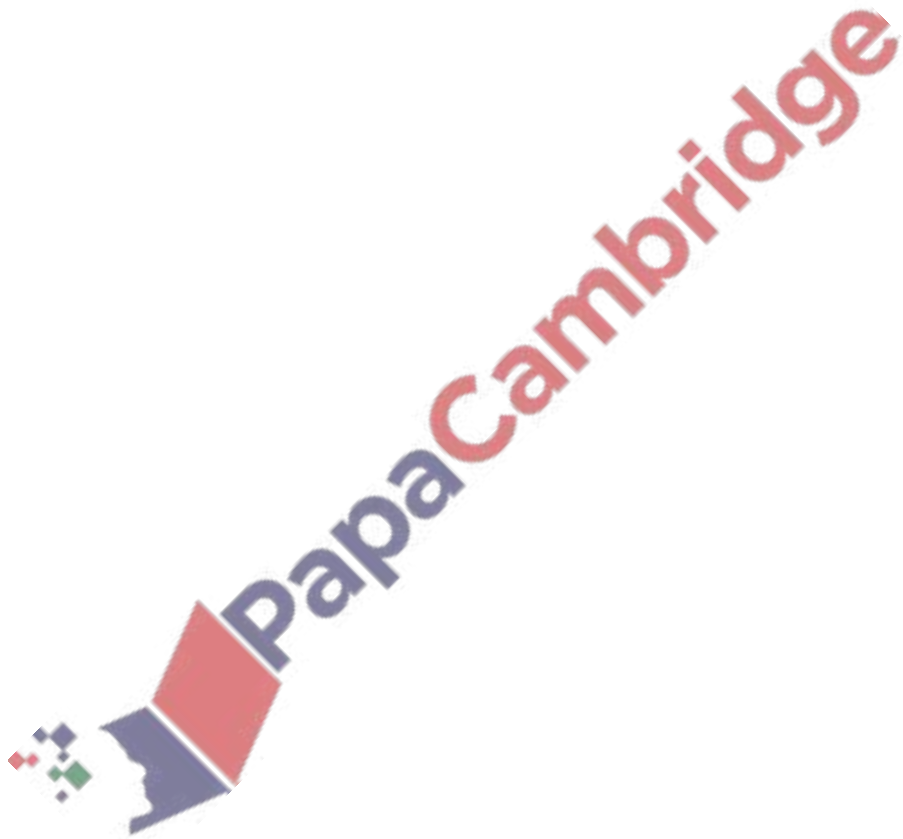
.....

[4]

(b) Complete the query-by-example grid to display only the category, manufacturer and code of the appliances with an economy rating of A.

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

[3]



A pet supplier uses the database table, STOCK, to keep records of its products for pets.

The fields are:

Field name	Description
ProductID	code to identify the product
ProductName	name of product
ProductDescription	information about the product
Animal	type of animal the product is for, e.g. cat, bird, horse
ProductType	type of product, e.g. food, toy, medicine
InStock	whether the product is in stock or not

(a) (i) Identify the field that could have a Boolean data type.

..... [1]

(ii) Identify the field that should be used as the primary key.

..... [1]

(b) Complete the query-by-example grid to output the products intended for a cat that are in stock. Display only the primary key and the name of the products. The output should be sorted by the primary key.

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

[4]

A database table, COMPUTER, is used to keep a record of computers available for sale.

The following data is stored for each computer:

- CATEGORY – desktop, laptop or tablet
- WEIGHT – weight in kilograms
- MANUFACTURER – ICN, Linoldo, Pear or JoeSing
- PRICE – price in \$
- CODE – a unique code allocated by the manufacturer, e.g. P771
- STOCK – quantity in stock.

A database management system uses these data types:

Text Number Currency Boolean

The CATEGORY field and MANUFACTURER field have a data type of text.

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

WEIGHT data type

Reason

PRICE data type

Reason

CODE data type

Reason

STOCK data type

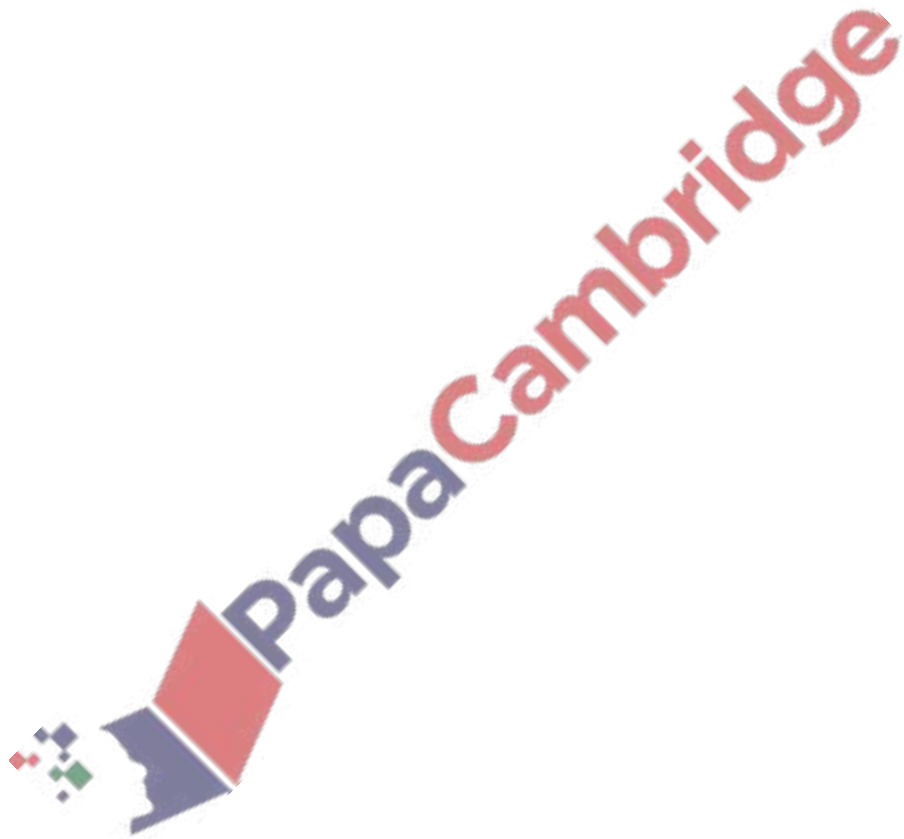
Reason

[4]

(b) Complete the query-by-example grid to display only the category, manufacturer, price and code of the computers with weight of less than 2.5 kilograms.

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

[3]



A database table, CHOCBAR, is used to keep a record of chocolate bars sold. Chocolate bars are categorised by:

- SIZE – small or large
- FILLING – brief description, for example mint crunch
- PRICE – price in Rupees, for example ₹2.50
- NUMBERSOLD – how many sold

A database management system uses these data types:

Text Number Currency Boolean

(a) Select the most appropriate data type for these three fields from the four data types shown. Each data type must be different. State the reason why you chose the data type.

SIZE data type

Reason

PRICE data type

Reason

NUMBERSOLD data type

Reason

[3]

(b) Complete the query-by-example grid below to display only the price, filling and number sold of small chocolate bars that have sold fewer than 10 bars.

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

[3]

A library uses a database table, GENRE, to keep a record of the number of books it has in each genre.

ID	GenreName	Total	Available	Loaned	Overdue
ABI	Autobiography	500	250	250	20
BIO	Biography	650	400	250	0
EDU	Education	20200	10000	10200	1250
FAN	Fantasy	1575	500	1075	13
GFI	General Fiction	35253	23520	11733	0
GNF	General Non-Fiction	25200	12020	13180	0
HFI	Historical Fiction	6300	3500	2800	0
HNF	Historical Non-Fiction	8000	1523	6477	0
HUM	Humour	13500	9580	3920	46
MYS	Mystery	26000	13269	12731	0
PFI	Political Fiction	23561	10523	13038	500
PNF	Political Non-Fiction	1823	750	1073	23
REF	Reference	374	374	0	0
ROM	Romance	18269	16800	1469	0
SAT	Satirical	23567	12500	11067	0
SCF	Science Fiction	36025	25000	11025	0
SPO	Sport	45720	32687	13033	3256
THR	Thriller	86000	46859	39141	0

(a) State the reason ID could be used as a primary key in the table GENRE.

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 [1]

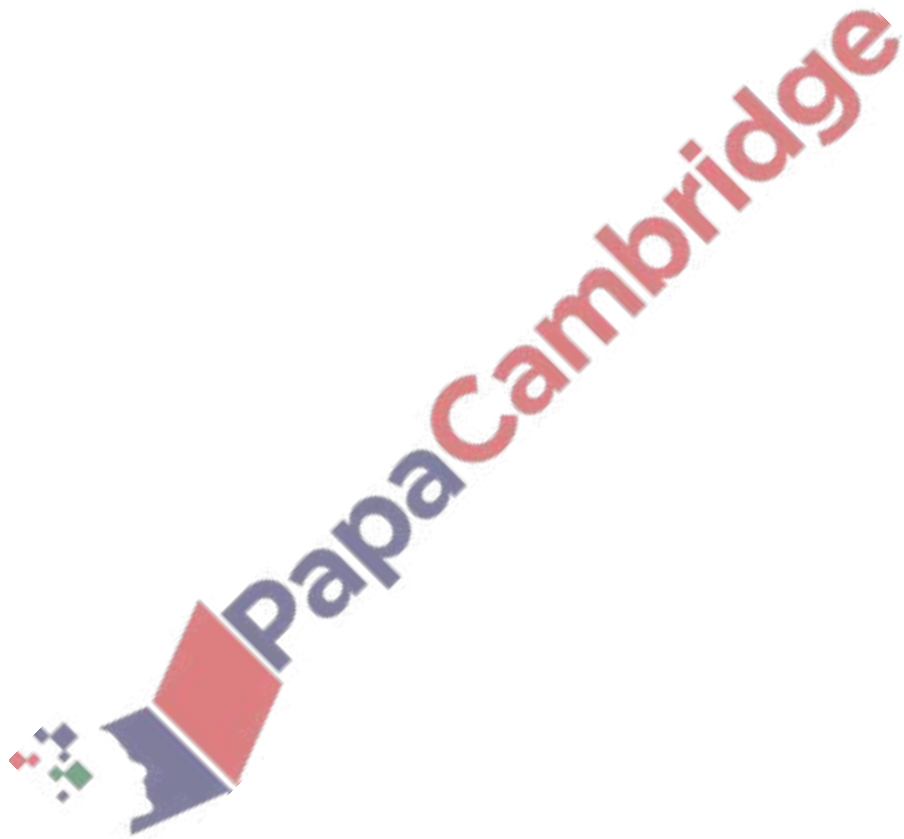
(b) State the number of records in the table GENRE.

.....
 [1]

(c) Complete the query-by-example grid to display any genres with overdue books. Only display the ID, GenreName and Overdue fields in order of the number of books overdue from largest to smallest.

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

[4]



A database table, PLANT, is used to keep a record of plants sold by a nursery. The table has these fields:

- NAME – name of plant
- FLOWER – whether the plant flowers (True) or not (False)
- POSITION – shade, partial shade or sun
- SIZE – small, medium or large
- PRICE – price in \$
- NUMBERSOLD – how many sold

A query-by-example grid has been completed to display only the price, name and number sold of small plants that do not flower.

Field:	NAME	PRICE	NUMBERSOLD	SIZE	FLOWER	POSITION
Table:	PLANT					
Sort:						
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Criteria:						= "shade"
or:						

Identify the errors in the query-by-example grid.

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.....

.....

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.....

Rewrite the corrected query-by-example grid.

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

[5]

7. June/2021/Paper_23/No.6

A car hire company uses a database table, TREAD, to store details of the cars. The table has fields to represent each car's licence number, mileage, and the tread depth of each of its four tyres.

(a) Suggest suitable names for each of the fields described.

Field name

[2]

(b) Complete the query-by-example grid to display cars where all four tyres have a tread depth of less than 2. Display all the fields, using the field names you created in part (a). The output should be sorted by licence number.

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

[4]