

DATABASE

(MAY/JUNE 2015)

Q 1 A database, PROPERTY, was set up to show the prices of properties for sale and the features of each property. Part of the database is shown below.

Property Type	Brochure No	Number of Bedrooms	Number of Bathrooms	Garden	Garage	Price in \$
Bungalow	B17	7	4	Yes	Yes	750,000
Apartment	A09	2	1	No	No	100,000
House	H10	4	2	Yes	No	450,000
House	H13	3	2	Yes	No	399,000
Apartment	A01	2	2	No	Yes	95,000
Apartment	A16	1	1	No	No	150,000
House	H23	3	1	No	Yes	250,000
House	H46	2	1	Yes	Yes	175,000

a. Give the number of fields that are in each record.
[1]

b. State which field you would choose for the primary key.

Give a reason for choosing this field.
[2]

c. State the data type you would choose for each of the following fields.
 Garage
 Number of Bedrooms
 Price in \$ [3]

- d. The query-by-example grid below selects all houses with more than 1 bathroom and more than 2 bedrooms.

Field:	Property Type	Number of Bedrooms	Number of Bathrooms	Price in \$	Brochure No
Table:	PROPERTY	PROPERTY	PROPERTY	PROPERTY	PROPERTY
Sort:				Ascending	
Show:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:	= 'House'	>2	>1		
or:					

Show what would be output.

.....
 [2]

- e. Complete the query-by-example grid below to select and show the brochure number, property type and price of all properties with a garage below \$200,000.

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

[4]



Q 2 A database, MARKS, was set up to record the test results for a class of students. Part of the database is shown below.

Student Name	Class ID	Maths	English	Science	History	Geography
Paul Smith	0017	70	55	65	62	59
Ravi Gupta	0009	29	34	38	41	44
Chin Hwee	0010	43	47	50	45	52
John Jones	0013	37	67	21	28	35
Diana Abur	0001	92	88	95	89	78
Rosanna King	0016	21	13	11	27	15

a. Give the number of fields that are in each record.
[1]

b. State which field you would choose for the primary key.
 [1]

Give a reason for choosing this field.

.....
 [2]

c. The query-by-example grid below selects all students with more than 60 marks in History or more than 60 marks in Geography.

Field:	Student Name	History	Geography
Table:	MARKS	MARKS	MARKS
Sort:	Ascending		
Show:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Criteria:		>60	
or:			>60

Show what would be output.

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

- d. Complete the query-by-example grid below to select and show the student names only of all students with less than 40 marks in both Maths and English.

Field:	Student Name	History	Geography
Table:	MARKS	MARKS	MARKS
Sort:	Ascending		
Show:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Criteria:		>60	
or:			>60

[3]

(MAY/JUNE 2016)

Q 3 A database, STAFFPHONE, was set up to show the telephone extension numbers for members of staff working in a department store.

Name	Department	Extension number
Jane Smith	Toys	129
Sue Wong	Books	124
David Chow	Toys	129
Amy Tang	Household	123
Joe Higgs	Books	124
Jane Smith	Shoes	125
Adel Abur	Shoes	125
Peter Patel	Toys	129

a. Explain why none of the fields in the database can be used as a primary key.

.....

.....

.....[3]

b. State a field that could be added as a primary key.

..... [1]

Give a reason for choosing this field.

.....

..... [2]

- c. Use the query-by-example grid below to provide a list of all members of staff, in alphabetical order, grouped by department.

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

[5]



(MAY/JUNE 2016)

Q 4 A database, SOFASELECT, was set up to show the price of suites, sofas and chairs for sale from an online furniture warehouse. Part of the database is shown below.

Description	Brochure Number	Number of Seats	Number of Pieces	Material	Colour	Price in \$
Sofa	SF17	2	1	Leather	Red	950
Sofa	SF19	3	1	Vinyl	Black	1,000
Suite	SU10	4	3	Velvet	Green	1,500
Suite	SU23	5	3	Leather	Brown	950
Recliner chair	RC01	1	1	Leather	Cream	600
Chair	CH16	1	1	Vinyl	Red	250
Recliner sofa	RS23	4	1	Leather	Cream	1,200
Chair	CH10	1	1	Velvet	Red	175

a. How many fields are in each record?

.....[1
]

b. State which field you would choose for the primary key.

.....
...

Give a reason for choosing this field.

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

c. State the data type you would choose for each of the following fields.

Number of seats

.....

Price in \$

.....[2]

d. The query-by-example grid below selects all the furniture in cream leather.

Field:	Description	Material	Colour	Price in \$	Brochure Number
Table:	SOFASELECT	SOFASELECT	SOFASELECT	SOFASELECT	SOFASELECT
Sort:				Descending	
Show:	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:		= 'Leather'	= 'Cream'		
or:					

Show the output from the query-by-example.

.....
.....[

3]

e. Complete the query-by-example grid below to select and show the brochure number, material, colour and price of all the furniture with 3 or more seats.

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

[5]



Q 5 A database, PLAYPRODUCTION, was set up to show the performance dates, prices and number of seats available at a theatre specialising in Shakespeare productions.

MAD/2016

Play	Performance Date	Number Seats Stalls	Number Seats Circle	Price Stalls Seats \$	Price Circle Seats \$
As You Like It	01/07/2016	120	90	20.00	30.00
As You Like It	02/07/2016	85	45	30.00	40.00
As You Like It	09/07/2016	31	4	30.00	40.00
Macbeth	14/07/2016	101	56	25.00	35.00
Macbeth	15/07/2016	50	34	25.00	35.00
Macbeth	16/07/2016	12	5	35.00	50.00
Julius Caesar	22/07/2016	67	111	20.00	20.00
Julius Caesar	23/07/2016	21	24	15.00	15.00
A Comedy of Errors	30/07/2016	45	36	35.00	45.00

a. Give the number of fields that are in each record.

..... [1]

b. State the data type you would choose for each of the following fields.

Play.....

Number seats stalls.....

Price stalls seats \$..... [3]

c. The query-by-example grid below selects all the productions with more than 100 seats left in either the stalls or the circle.

Field:	Play	Performance Date	Number Seats Stalls	Number Seats Circle
Table:	PLAYPRODUCTION	PLAYPRODUCTION	PLAYPRODUCTION	PLAYPRODUCTION
Sort:	Ascending			
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Criteria:			> 100	
or:				> 100

Show what would be output from the query-by-example.

.....

.....

..... [3]

- d. Complete the query-by-example grid below to select all the productions with at least six seats left in the circle and show the Play, Performance Data and Price circle seats \$ in Performance Date order.

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

[5]



(OCT/NOV 2016)

Q 6 A database, THEATRETOURS, was set up to show the tour dates, towns, number of seats and prices in local currency for a Shakespeare play.

Town	Tour Date	Number of Seats	Price Local Currency
Wigan	18/08/2016	120	15.00
Dumfries	20/08/2016	160	12.50
Turin	25/08/2016	200	17.00
Macon	27/08/2016	75	18.00
Bordeaux	29/08/2016	170	20.00
Algiers	01/09/2016	125	1350.00
Windhoek	05/09/2016	65	90.00
Windhoek	06/09/2016	65	90.00
Port Elizabeth	10/09/2016	200	110.00

a. Explain why none of the fields in the database can be used as primary key.

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

b. State a field that could be added as a primary key.

.....
.....

Give a reason for choosing this field.

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

- c. Use the query-by-example grid below to provide a list of tour dates and seats prices in alphabetical order of town.

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

[4]

(MAY/JUNE 2017)

Q 7 A television (TV) store has a database table, TVSTOCK, for its new range of televisions. The table stores the screen size of each TV, whether it will show 3D, whether the screen is curved or flat, if the internet is available on the TV, if it has a built-in hard disk drive and the price. Part of the database table is shown below.

TVID	ScreenSize	3D	CurvedFlat	Internet	HDD	Price
TV80CVINT	80	YES	CV	YES	YES	\$7,000.00
TV65CVINT	65	YES	CV	YES	YES	\$5,000.00
TV60CVINT	60	YES	CV	YES	YES	\$4,500.00
TV60FTINT	60	YES	FT	YES	YES	\$4,000.00
TV55CVINT	55	YES	CV	YES	NO	\$3,000.00
TV55FTINT	55	YES	FT	YES	NO	\$3,500.00
TV55FTNIN	55	YES	FT	NO	NO	\$3,000.00
TV50CVINT	50	YES	CV	YES	NO	\$2,500.00
TV50FTINT	50	YES	FT	YES	NO	\$2,000.00
TV50FTNIN	50	YES	FT	NO	NO	\$1,750.00
TV42FTINT	42	YES	FT	YES	NO	\$1,500.00
TV37FTINT	37	NO	FT	YES	NO	\$1,200.00
TV20FTNIN	20	NO	FT	NO	NO	\$800.00
TV15FTNIN	15	NO	FT	NO	NO	\$400.00

a. State the type of the field **TVID** and give a reason for your choice.

.....

.....

..... [1]

b. Complete the table with the most appropriate data type for each field.

Field name	Data type
ScreenSize	
3D	
CurvedFlat	
Internet	
HDD	
Price	

[3]

c. Use the query-by-example grid below to provide a list of all of the curved screen TVs that have a built-in hard disk drive. Make sure the list only displays the TVID, the price and the screen size in ascending order of price.

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

[5]

Q 8 A database table, SHEEP, is used to keep a record of the sheep on a farm. Each sheep has a unique ear tag, EARnnnn; n is a single digit. The farmer keeps a record of the date of birth, the gender and the current weight of each sheep in kilograms.

a. Identify the **four** fields required for the database. Give each field a suitable name and data type. Provide a sample of data that you could expect to see in the field.

Field 1 name

.....

Data type

.....

Field 2 name

.....

Data type

.....

Field 3 name

.....

Data type

.....

Field 4 name

.....

Data type

.....

[8]

b. State the field that you would choose as the primary key.

.....[1]

- c. Using the query-by-example grid below, write a query to identify the ear tags of all male sheep weighing over 10 kilograms. Only display the ear tags.

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

[3]

