2.3 Databases

Sunday, 6 December 2020 3:13 PM

2.3 Databases

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7 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
STR	STR	INT	INT	BOOL	BOOL	CURR.

PK

(a) Give the number of fields that are in each record. 7 [1]

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

Give a reason for choosing this field. Because it identifies a the records uniquely. [2]

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

Garage BOOLEAN

Number of Bedrooms INTEGER

Price in $ CURR. [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:	☐	☐	☐	☑	☑
Criteria:	= 'House'	>2	>1		
or:	AND	AND			

Show what would be output. [2]

399000 H13
450000 H10

(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:	Brochure No	Property Type	Price in $	Garage
Table:	PROPERTY	PROPERTY	PROPERTY	PROPERTY
Sort:				
Show:	☑	☑	☑	☐
Criteria:			<200000	= Yes
or:				

[4]

May/June 2015.P22

6 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

6 Records.

(a) Give the number of fields that are in each record. 7 [1]

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

Give a reason for choosing this field. Because ClassID identifies each record uniquely. [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:	☑	☐	☐
Criteria:		>60	
or:			>60

Show what would be output. [2]

Diana Abdur
Paul Smith

(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	Maths	English
Table:	Marks	Marks	Marks
Sort:			
Show:	☑	☐	☐
Criteria:		<40	<40
or:			

[3]

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6 A picture gallery owner has decided to set up a database to keep information about the pictures he has for sale. The database table, PICTURE, will contain the following fields:

Title; Artist; Description; Catalogue Number; Size (area in square centimetres); Price; Arrived (date picture arrived at gallery); Sold (whether picture is already sold)

(a) (i) State what data type you would choose for each field.

Title String
Artist String
Description String
Catalogue Number String (Primary key)
Size Real
Price Currency
Arrived Date
Sold Boolean. [4]

(ii) State which field you would choose for the primary key. [1]

(b) Give a validation check that you can perform on each of these fields. Each validation check must be different.

Catalogue Number ....

Size ....

Price ....

Arrived .... [4]

QBE

(c) Complete the query-by-example grid below to select and show the Catalogue Number, Title and Price of all unsold pictures by the artist 'Twister'.

Field:	Catalogue Number	Title	Price	Sold	Artist
Table:	PICTURE	PICTURE	PIC—	PIC—	PIC—
Sort:					
Show:	☑	☑	☑	☐	☐
Criteria:				=False	="Twister"
or:					

[5]

Oct/Nov 2015.P23

5 A motor boat hire company decides to set up a database to keep information about boats that are available for hire. The database table, BOAT, will contain the following fields:

Boat Name; Model; Engine Power (in hp); Number of Seats; Life Raft (whether there is a life raft kept on the boat); Day Price (price for a day's hire).

(a) Give the data type you would choose for each field.

Boat Name String
Model String
Engine Power Integer
Number of Seats Integer

Life Raft Boolean
Day Price Currency [3]

(c) Complete the query-by-example grid below to select and show the Boat Name, Model and Day Price of a day's hire for all boats with 4 seats and an Engine Power of more than 100 hp.

Field:	Boat Name	Model	Day Price	Number of Seats	Engine Power
Table:	BOAT	BOAT	BOAT	BOAT	BOAT
Sort:					
Show:	☑	☑	☑	☐	☐
Criteria:				=4	>100
or:					

[5]

Group By 2 or more sort orders on fields.

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

StaffID

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. [2]

Because data items are not unique in any given field.

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

Give a reason for choosing this field. [2]

It will identify every staff member uniquely.

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

Field:	Name	Department		
Table:	StaffPhone	StaffPhone.		
Sort:	Ascending	Ascending		
Show:	☑	☑	☐	☐
Criteria:				
or:				

May/June 2016.P22

7 A database, SOFASELECT, was set up to show the prices 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:	☑	☐	☐	☑	☑
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:	☐	☐	☐	☐	☐
Criteria:					
or:					

[5]

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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.

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. 6 [1]

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

Play Text/String

Number Seats Stalls Integer

Price Stalls Seats $ Currency. [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:	☑	☑	☐	☐
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 Date and Price Circle Seats $ in Performance Date order.

Field:	Play	Number Seats Circle	Performance Date	Price Circle
Table:	PL—	PlayP—	PP—	PP—
Sort:			Ascending	
Show:	☑	☐	☑	☑
Criteria:		>=6		
or:				

[5]

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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 a 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 seat prices in alphabetical order of town.

Field:				
Table:				
Sort:				
Show:	☐	☐	☐	☐
Criteria:				
or:				

[4]

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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
TV55FTINN	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
TV50FTINN	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
TV20FTINN	20	NO	FT	NO	NO	$800.00
TV15FTINN	15	NO	FT	NO	NO	$400.00

Type → STR INT BOOL STR BOOL BOOL CURR.
Letters & Digits

(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:	TVID	Price	Screen Size	CurvedFlat	HDD
Table:	TVStock	—	—	—	—
Sort:		Ascending			
Show:	☑	☑	☑	☐	☐
Criteria:				= "CV"	= Yes
or:					

[5]

999 000 EARnnnn
EAR001 EAR002 EAR835 EAR999

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5 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 EarTag
Data type String
Data sample "Ear538"
Field 2 name BirthDate
Data type Date
Data sample #5-6-2000#
Field 3 name Gender
Data type Boolean | Char | String
Data sample True | 'M' 'F' | "Male" "Female"
Field 4 name weight

Explain
True = Male
False = Female

Data type Real
Data sample 30.8 [8]

(b) State the field that you would choose as the primary key. EarTag [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:	EarTag	Gender	Weight	
Table:	SHEEP	SHEEP	SHEEP	
Sort:				
Show:	☑	☐	☐	☐
Criteria:		= 'M'	>10	
or:				

[3]

= "Zafar" Exact Match
Name Like "*Ali*" Like "Z*" Loose

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6 A database table, TRAIN, is to be set up for a railway company to keep a record of the engines available for use. Each engine has a unique number made up of 5 digits, nnnnn. The engines are classified as freight (F) or passenger (P) together with a power classification that is a whole number between 0 and 9, for example F8. The railway company keeps a record of the date of the last service for each engine.

(a) Identify the three 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 EngineNumber
Data type String
Data sample "53219"
Field 2 Name Class
Data type String

nnnnn
00000
99999

Data sample "P2"
Field 3 Name LastServiceDate
Data type Date
Data sample #30-6-2015# [6]

(b) State the field that you should choose as the primary key. EngineNumber [1]

(c) Using the query-by-example grid below, write a query to identify all passenger engines that have not been serviced in the past 12 months. Only display the engine numbers.

Field:	EngineNumber	Class	LastServiceDate	
Table:	TRAIN	TRAIN	TRAIN	
Sort:				
Show:	☑	☐	☐	☐
Criteria:		Like "P*"	<=#12-12-14#	
or:				

[3]

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6 A wildlife park has a database table, called LIVESTOCK, to classify and record its animal species. Part of the database table is shown.

SpeciesID

Species	Classification	Diet	Legs
Giraffe	Mammal	Herbivore	4
Elephant	Mammal	Herbivore	4
Crocodile	Reptile	Carnivore	4
Ostrich	Bird	Omnivore	2
Gorilla	Mammal	Herbivore	2
Bear	Mammal	Omnivore	4
Rhinoceros	Mammal	Herbivore	4
Hippopotamus	Mammal	Herbivore	4
Flamingo	Bird	Omnivore	2
Lion	Mammal	Carnivore	4
Turtle	Reptile	Omnivore	4
Penguin	Bird	Carnivore	2

(a) Suggest another appropriate field that could be added to this database by stating its name and data type. State its purpose and give an example of the data it could contain.

Field name SpeciesID
Data Type String
Purpose To identify records uniquely.
Example of data "234" [2]

(b) Use the query-by-example grid below to provide a list of all four legged mammals that are herbivores, sorted alphabetically by species, with only the species displayed.

Do it yourself.

Field:					
Table:					
Sort:					
Show:	☐	☐	☐	☐	☐
Criteria:					
or:					

[4]

May/June 2018.P21

6 A database table, PERFORMANCE, is used to keep a record of the performances at a local theatre.

Show Number	Type	Title	Date	Sold Out
SN091	Comedy	An Evening at Home	01 Sept	Yes
SN102	Drama	Old Places	02 Oct	No
SN113	Jazz	Acoustic Evening	03 Nov	No
SN124	Classical	Mozart Evening	04 Dec	Yes
SN021	Classical	Bach Favourites	01 Feb	Yes
SN032	Jazz	30 Years of Jazz	02 Mar	Yes
SN043	Comedy	Street Night	03 Apr	No
SN054	Comedy	Hoot	04 May	No
String	String	String	Date	Boolean.

(a) State the number of fields and records in the table.

Fields 5

Records 8 [2]

(b) Give **two** validation checks that could be performed on the **Show Number** field.

Validation check 1

Validation check 2 [2]

(c) Using the query-by-example grid, write a query to identify jazz performances that are not sold out. Only display the date and the title.

Do it yourself.

Field:					
Table:					
Sort:					
Show:	☐	☐	☐	☐	☐
Criteria:					
or:					

[4]

May/June 2018.P22

6 A database table, TREES, is used to keep a record of the trees in a park. Each tree is given a unique number and is examined to see if it is at risk of dying. There are over 900 trees; part of the database table is shown.

Tree Number	Type	Map Position	Age in Years	At Risk
TN091	Acacia	A7	250	Y
TN172	Olive	C5	110	N
TN913	Cedar	B9	8	N
TN824	Banyan	A3	50	Y
TN021	Pine	D5	560	Y
TN532	Teak	C8	76	Y
TN043	Yew	B1	340	N
TN354	Spruce	D4	65	N
TN731	Elm	B10	22	Y
TN869	Oak	C9	13	N
TN954	Pine	E11	3	N

(a) State the number of fields in the table. [1]

field width
TNnnnn ??
TN---
TZ--- TNnnn TN000 → TN999
TMnnn

(b) The tree numbering system uses TN followed by three digits. The numbering system will not work if there are over 1000 trees.

Describe, with the aid of an example, how you could change the tree numbering system to allow for over 1000 trees. Existing tree numbers must not be changed. [2]

TN1234
TM000
TM999

(c) Using the query-by-example grid, write a query to identify at risk trees over 100 years old. Display only the type and the position on the map.

Field:					
Table:					
Sort:					
Show:	☐	☐	☐	☐	☐
Criteria:					
or:					

[4]

Oct/Nov 2018.P22

6 A database table, PORTRAIT, is used to keep a record of the portraits available from a photographic studio. Each portrait has a unique reference number PICnnn, where n is a single digit, for example PIC123. The studio keeps a record of the size (for example 20 × 15), the type (black and white or colour), and the price in dollars.

Str Char 'B' 'C'

(a) Complete the table to show the most appropriate data type for each of the fields

Field	Data type
Reference Number	STR
Size	STR
Type	CHAR
Price in $	CURR

[4]

(b) The results from the query-by-example grid should show the reference number, price, type and size of all portraits under $50. Identify the **three** errors in the query-by-example grid.

Field:	Reference No	Price in $	Type	Size
Table:	PORTRAIT	PORTRAIT	PORTRAIT	PORTRAIT
Sort:				
Show:	☑	☑	☑	☑
Criteria:		>50.00		
or:				

Number

Error 1

Error 2

Error 3 [3]

Oct/Nov 2018.P23

6 An online fruit tree specialist sells fruit trees in various sizes. A database table, TREETAB, shows the tree type and, for each size, the price and whether they are in stock.

Tree Type	Size1	Size1 In	Size2	Size2 In	Size3	Size3 In
Apple	10.95	Yes	14.95	Yes	29.95	Yes
Apple	12.95	Yes	14.95	Yes	29.95	Yes
Cherry	24.95	No	34.95	No	59.95	Yes
Fig	19.95	Yes	29.95	Yes	49.95	Yes
Guava	19.95	No	29.95	No	59.95	No
Nectarine	8.50	Yes	11.95	Yes	19.95	Yes
Olive	19.95	No	39.95	Yes	59.95	Yes
Peach	9.25	No	11.95	Yes	19.95	Yes
Pear	10.95	Yes	14.95	Yes	29.95	Yes
Plum	8.95	Yes	11.95	Yes	19.95	Yes
Pomegranate	12.95	Yes	18.95	Yes	34.95	No
Quince	34.95	Yes	44.95	Yes	84.95	No
STR	REAL	BOOL	REAL	BOOL	REAL	BOOL.

(a) State whether any of the fields shown would be suitable as a primary key.

Explain your answer. [2]

(b) Complete the table to show the most appropriate data type for each of the fields based on the data shown in the table at the start of question 6.

Field	Data type
Tree Type	
Size3	
Size2 In	

[3]

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

Field:	Tree Type	Size1	Size1 In		
Table:	TREETAB	TREETAB	TREETAB		
Sort:		Descending			
Show:	☑	☑	☑	☐	☐
Criteria:		<10.00			
or:					

[4]

(d) Using the following query-by-example grid, write a query to identify all types of the fruit trees that are out of stock for all three sizes. Make sure the type of the tree and the various 'in stock' fields are shown. The trees should be listed in alphabetical order by type.

Do it yourself.

Field:					
Table:					
Sort:					
Show:	☐	☐	☐	☐	☐
Criteria:					
or:					

[4]

May/June 2019.P21

5 The table, BEVERAGES, shows the number of calories in 100ml of a range of popular beverages. It also shows the availability of these drinks in a can, a small bottle and a large bottle.

BevNo	BevName	Calories	Can	Small Bottle	Large Bottle
Bev01	Cola	40	Yes	Yes	Yes
Bev02	Lime	45	Yes	No	Yes
Bev03	Energy Drink 1	52	Yes	Yes	No
Bev04	Energy Drink 2	43	Yes	No	No
Bev05	Mango	47	Yes	No	Yes
Bev06	Lemon Iced Tea	38	Yes	No	Yes
Bev07	Lemonade	58	Yes	Yes	Yes
Bev08	Orange Juice	46	Yes	Yes	No
Bev12	Apple Juice	50	Yes	Yes	No
Bev15	Chocolate Milk	83	Yes	Yes	No

(a) Give a reason for choosing BevNo as the primary key for this table. [1]

(b) State the number of records shown in the table BEVERAGES. [1]

(c) List the output that would be given by this query-by-example.

Field:	BevNo	BevName	Can	Small Bottle	Large Bottle	
Table:	BEVERAGES	BEVERAGES	BEVERAGES	BEVERAGES	BEVERAGES	
Sort:		Descending				
Show:	☑	☑	☐	☐	☐	☐
Criteria:			= "Yes"	= "Yes"	= "Yes"	
or:						

[3]

(d) Complete the query-by-example grid to output a list showing just the names and primary keys of all the beverages with a calorie count greater than 45. The list should be in alphabetical order of names.

Field:						
Table:						
Sort:						
Show:	☐	☐	☐	☐	☐	☐
Criteria:						
or:						

[4]

May/June 2019.P22 13-12-20

6 A database table, FLIGHT, is used to keep a record of flights from a small airfield. Planes can carry passengers, freight or both. Some flights are marked as private and only carry passengers.

Flight number	Plane	Notes	Departure time	Passengers
FN101	Caravan 1	Private passenger flight	08:00	Y
CN101	Caravan 2	Freight only	08:30	N
CN102	Piper 1	Freight only	09:00	N
FN104	Piper 2	Passengers only	09:20	Y
FN105	Piper 1	Freight and passengers	10:00	Y
FN106	Caravan 1	Passengers only	10:30	Y
CN108	Caravan 2	Freight only	10:00	N
CN110	Lear	Private passenger flight	08:00	Y

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

Field .... [1]

(b) A query-by-example has been written to display just the flight numbers of all planes leaving after 10:00 that only carry passengers.

Field:	Flight number	Passengers	Departure time	
Table:	FLIGHT	FLIGHT	FLIGHT	
Sort:				
Show:	☐	☑	☐	☐
Criteria:		= Y	= 10:00	
or:				

Explain why the query-by-example is incorrect, and write a correct query-by-example.

Explanation

Field:				
Table:				
Sort:				
Show:	☐	☐	☐	☐
Criteria:				
or:				

[7]

Oct/Nov 2019.P22

7 A database table, SALES, is used to keep a record of items made and sold by a furniture maker.

Item number	Order number	Notes	Amount	Status
CH001	1921	Smith – six dining chairs	6	Delivered
TB003	1921	Smith – large table	1	In progress
CH001	1924	Hue – extra chairs	4	In progress
CH003	1925	For stock	2	Cancelled
BN001	1927	Patel – replacement bench	1	Not started
ST002	1931	Sola – small table	1	Delivered
CH003	1927	Patel – eight dining chairs with arms	8	Not started
TB003	1927	Patel – large table	1	Not started

(a) Explain why the field **Item number** could not be used as a primary key. [1]

(b) A query-by-example has been written to display only the order number and item numbers of any items in progress or not started.

Field:	Item number	Order number	Amount	Status
Table:	SALES	SALES	SALES	SALES
Sort:				
Show:	☐	☑	☑	☐
Criteria:				Not Like "Delivered"
or:				

Explain why the query-by-example is incorrect, and write a correct query-by-example.

Explanation

Field:				
Table:				
Sort:				
Show:	☐	☐	☐	☐
Criteria:				
or:				

[5]

Oct/Nov 2019.P23

7 A teacher has decided to use a database table as her mark book for her Computer Science class, which she has called MARKBOOK. For each student, the following data will be recorded: first name, last name, their year 10 test score and their year 11 test score. The class has 32 students.

(a) State the number of fields and records required for this database.

Number of Fields ....

Number of Records .... [2]

(b) The data in MARKBOOK is stored under category headings: LastName, FirstName, Y10TestScore and Y11TestScore.

State, with a reason, whether any of these headings would be suitable as a primary key. [2]

(c) Complete the query-by-example grid to only display the first name, last name and year 10 test score of each student who achieved 50 or more in their year 10 test. The output should be in test score order with the highest marks at the top of the list.

Field:				
Table:				
Sort:				
Show:	☐	☐	☐	☐
Criteria:				
or:				

[4]