Databases Assessment Questions

1. Wordsworth Health Centre needs a data capture form to register new patients. Design a suitable form for this purpose. Your form should contain all the essential data likely to be required.

[9]

2. A car sales showroom keeps a database of its stock. The table below shows part of the database.

Car stock code	Colour	Type of car	Year of manufacture	Price	Sold
AC7E4	Blue	Estate	1998	£4,000.00	Yes
AC7E5	Red	Saloon	1997	£3,599.00	No
AC7E6	Blue	Hatchback	1999	£6,000.00	Yes
AC7E7	Green	Estate	2000	£8,000.00	No
AC7E8	Blue	Saloon	2001	£9,500.00	Yes
AC7E9	Silver	Hatchback	1996	£4,500.00	Yes
AE7E10	Grey	Convertible	2004	£14,000.00	Yes

(a) How many fields are shown in the table?

.....

[1]

(b) How many records are shown in the table?

.....

[1]

(c) When the database was designed, each field was given a field type. Tick (✓) **one** box in each row to show the most suitable field type for each of the fields.

	Field type chosen		
Field name	**Boolean**	**Alphanumeric**	**Numeric**
Price			
Sold			
Car stock code			
Type of car			

[4]

(d) Which field would be most suitable as a key field?

.....

[1]

(e) The data in the table could be sorted into ascending order of Year of manufacture. What is the price of the car that would appear at the top of the table?

.....

[1]

(f) The salesperson searches the data in the table for cars using this query:

Colour = Blue OR Type of car = Saloon

How many cars does he find?

.....

[1]

3. The following questions are about this database

Customer ID	Customer Last Name	Customer First Name	Magazine Title	Subscription
2105A	Parker	Jayne	Superheroes	£89.90
2106A	Driver	Paul	PC News	£54.95
2107A	Kumar	James	Hardware Focus	£62.00
2108A	Lloyd	Bryan	Strange Tales	£102.50
2109A	Jeffries	John	PC News	£54.95
2110A	Davies	Gwynedd	Hardware Focus	£62.00
2111A	Mitcherll	Audrey	The Alien	£78.00
2112A	Potter	Henry	Superheroes	£89.90
2113A	Bernstein	Louis	The Byte	£110.00
2114A	Malim	Rashida	Hardware Focus	£62.00

(a) The **Customer Last Name** entry 'Mitcherll' should be 'Mitchell'. This error should be corrected by

A inserting a field

B deleting a record

C inserting a record

D amending a record

[1]

(b) The search criterion to find all customers with a subscription to 'Superheroes' is

A Annual Subscription <£90.00

B Magazine Title ="Superheroes"

C Superheroes ="Magazine Title"

D Customer Last Name ="Parker, Potter"

[1]

(c) The data type of the **Customer ID** field is

A text

B date

C number

D currency

[1]

(d) Henry Potter's subscription for 'Superheroes' is

A £54.95

B £62.00

C £70.00

D £89.90

[1]

(e) To list the database so that the record for Potter comes first and the record for Bernstein comes last, the user should sort

A descending on Customer First Name

B descending on Customer Last Name

C ascending on Customer First Name

D ascending on Customer Last Name

[1]

4. The table shows part of a database of students in a school.

Student Number	Last name	First name	Age	Class
2107	Ali	Shakir	13	9H
3014	Bailey	Anne	14	10B
2116	Bailey	Anne	14	10A
4365	James	Norman	12	8F
3212	Jones	Alan	13	9H
3291	Smith	John	12	8B
3913	Webster	James	13	9J

(a) Ring **one** heading that is left-justified in the table above.

[1]

(b) How many records are shown in the table above?

.....

[1]

(c) (i) State **two** types of data used in the table.

1 .....

2 .....

[2]

(ii) Give **one** other type of data.

[1]

(d) Give **one** reason why each student has a student number.

.....

[1]

(e) Why would it be better for the school to use a date of birth column rather than the age column?

.....

[1]

5. A company has a database of all its computer hardware. Give **three** ways this database could be used.

Way 1 .....

.....

Way 2 .....

.....

Way 3 .....

.....

[3]

6. David is collecting data about the motor vehicles that pass his school. He stands at the school gates and records how many cars, vans, trucks and other vehicles go past.

(a) Use the space below to design a suitable data capture form that David could use to manually record his data each lunchtime for a week.

[6]

(b) Explain how David would fill in his form to record the number of each type of vehicle.

.....

.....

[2]

7. Megan is creating a database about a netball team.

a) Give a suitable data type for each of the fields shown in the table.

Write your answers in the spaces in the table.

Two have been done for you.

Field	Example data	Data type
Player ID	2342	
First name	Megan	alphanumeric
Date of birth	15/10/1992	
Position played	Goal defence	
Telephone number	01223 24293	
Available after school	Yes	Boolean

[4]

(b) (i) Which field would be most suitable as a key field?

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[1]

(ii) Why is this field suitable?

.....

[1]

(c) Data is validated as it is entered into her database.

What is meant by validation?

.....

.....

[2]

(d) Give **one** validation check that could be used on the Player ID field.

.....

[1]

8. Before creating a database the file structure has to be designed. Give **two** items that need to be included in the design of the file structure.

Item 1 .....

.....

Item 2 .....

.....

[2]

9. A school keeps a database of the names and addresses of its pupils. The table below shows part of this database.

Forename	Surname	Contact Telephone Number	Gender	Address	Date of Birth	Pupil ID Number	Stay for School Dinners
Alice	Begum		F	72a East Rd Cambridge CB7 OA1	12-6-1992	50	Yes
Alastair	Brown		M	16 North St Cambridge CB12 PO2	13-8-1993	11	Yes
Stefan	Bury		M	20 Upper Side St Cambridge CB9 AP3	11-10-1992	22	Yes
Anne-Marie	Smith		F	22 Lower West St Cambridge CB13 6AT	16-5-1993	13	Yes
Sian	Williams		F	66 Southside Cambridge CB4 7SD	12-4-1991	4	No
Darren	Martin		M	101 Hull Rd Cambridge CB1 2TY	18-3-1991	161	Yes

(a) Give the most suitable field type for each of these fields:

Stay for School Dinners .....

Pupil ID Number .....

Address .....

Contact Telephone Number .....

[4]

(b) It is not a good idea to store the address as shown in the table above.

(i) Give **one** reason why it is not a good idea.

.....

(ii) Suggest **one** improvement.

.....

.....

[2]

(c) A search is performed on the database to find all the girls who stay for school dinners. Write down the search criteria to do this.

.....

.....

[3]

(d) Why is Pupil ID Number chosen for the key field in this database?

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[1]

Each pupil has been asked to write down a contact telephone number on a form. The school secretary enters the telephone numbers into the database.

The secretary carries out verification of the data.

(e) What is meant by verification?

.....

[1]

(f) Give the **two** ways in which the secretary can verify the data.

1 .....

2 .....

[2]

10. Part of a database of customer details is shown below:

Ref	Name	Initials	Store	Internet
A435967	Smith	S	Birmingham	Yes
A45577	Cushing	B	Middletown	No
A122726	Amale	B	Birmingham	Yes
B566777	Duran	K	Middletown	Yes
C988992	White	L	Birmingham	Yes
D455555	Rodriguez	E	Middletown	Yes
F678111	Patel	S	Birmingham	Yes

(a) State which field would be used as a key field and state why.

.....

.....

[2]

(b) State **two** useful pieces of information that can be obtained from the database by Cambridge Retail and in each instance state why it could be useful to them.

One .....

.....

.....

[2]

Two .....

.....

.....

[2]

11. Jessica is married with two children. She works as a designer in a local engineering company. She owns her own house. She pays for most of her shopping using a credit card. She has a mortgage of £50,000. She is a member of Spanish Connection's mail order services and often orders clothes from them.

(a) Use the information about Jessica to list four facts about her that could be stored in a computer database.

Fact One .....

.....

Fact Two .....

.....

Fact Three .....

.....

Fact Four .....

.....

[4]

(b) Explain the difference between data and information.

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[2]

12. The following questions are about this database.

Product Name	Pack Quantity	Product ID	Category	Supplier	Contract Start Date	Trade Price
Chocolate Shell	60	WA01	Cones & Wafers	Wardleys	12/04/93	£4.00
Chunky Choc	5	RO02	Desserts	Roberto	30/09/99	£4.50
Chunky Choc	20	RO01	Desserts	Roberto	30/09/99	£4.50
Duo Cones	100	WA02	Cones & Wafers	Roberto	12/04/93	£9.62
Frosty	60	SH06	Children's Lines	Shelley & Co	07/10/97	£7.00
Heavenly Choc	5	IC02	Ice Cream Cones	Ices R Us	03/02/01	£8.39
Heavenly Plum	4	IC03	Ice Cream Cones	Ices R Us	03/02/01	£8.39
Purple Pops	50	SH04	Children's Lines	Shelley & Co	07/10/97	£8.00

Vanilla Treat	4	RO03	Desserts	Wardleys	30/09/99	£7.04

(a) To list the product details in A to Z order of supplier, showing the product name in A to Z order for each supplier, the user should sort

A ascending on Supplier and then ascending on Product Name

B ascending on Product Name and then ascending on Product ID

C descending on Supplier and then descending on Product Name

D descending on Product Name and then descending on Supplier

[1]

(b) The number of characters that can be entered for a product name will be restricted by

A font size

B field size

C row height

D text alignment

[1]

(c) The search criterion to list all products with a **Trade Price** of £5.00 or more is

A Trade Price <5.00

B Trade Price >5.00

C Trade Price <=5.00

D Trade Price >=5.00

[1]

(d) The only field suitable for selection as the primary key is

A Product Name

B Product ID

C Category

D Supplier

[1]

(e) The search criteria to find all products from the supplier Roberto except those in the Cones & Wafers category are

A Supplier ="Roberto" AND Category <>"Cones & Wafers"

B Supplier ="Roberto" OR Category <>"Cones & Wafers"

C Supplier ="Roberto" OR Category <"Cones & Wafers"

D Supplier ="Roberto" AND Category <>"Desserts"

[1]

(f) The fields required to create a query that will list the suppliers that have had contracts for more than two years are

A Category and Supplier

B Supplier and Product ID

C Supplier and Contract Start Date

D Product Name and Contract Start Date

[1]

13. The following questions are about this database.

Cat No	Author	Title of publication	Publisher	Media	Stock	Price
19123H	Chivers J R	Fly Fishing	Yellowstone	Hardback	4	£29.99
32034T	Arches M	Living with Insecurity	BBC	Tape	3	£19.99
93885S	Smith K	Travels Around Europe	Purdue	Softback	8	£9.99
94446H	Johnson S	Selling	Yellowstone	Hardback	4	£29.99
37857S	Carr M	Humour in Teaching	BBC	Softback	5	£19.99
22868H	Seigel H	Travel in USA	C4	Hardback	12	£29.00
34277T	Taylor A	TV Quiz	C4	Tape	5	£6.99
23386S	Gozales M	Gardening for Beginners	BBC	Softback	4	£9.49
43397S	Coleman C	Behaviour Patterns	Yellowstone	Softback	3	£9.99
43398H	Coleman C	Behaviour Patterns	Yellowstone	Hardback	7	£30.00

(a) To list the database in A-Z order of **Publisher**, showing the number of books in **Stock** with the greatest number first, the user should

A sort descending on Publisher and sort ascending on Stock

B sort ascending on Publisher and search on Stock

C sort ascending on Publisher and sort descending on Stock

D sort descending on Publisher and search on Stock

[1]

(b) To find publications costing £19.99 or less, the search criteria is

A Price <£19.99

B Price >£19.99

C Price <=£19.99

D Price >=£19.99

[1]

(c) The **Cat No** of a softback book published by BBC where there are 5 in **Stock** is

A 23386S

B 34277T

C 32034T

D 37857S

[1]

(d) To list the publications by the BBC and by C4 the search criteria is

A Publisher = “BBC” AND Publisher =“C4”

B Publisher = “BBC” NOT Publisher =“C4”

C Publisher = “BBC” OR Publisher =“C4”

D Publisher = “BBC” AND “C4”

[1]

(e) Which field is most suitable as the primary key?

A Publisher

B Cat No

C Author

D Stock

[1]

(f) The data type of the **Cat No** field should be set as

A text

B date

C currency

D number

[1]

(g) The number of publications found by the search **Price** >= £17.50 and number in Stock >= 6 is

A 1

B 2

C 3

D 6

[1]

(h) To make sure that new records in the database have been entered correctly, the user should

A proof-read

B use a spellchecker

C use a grammar checker

D make regular backups of the data

[1]

14. Imran is a car dealer. He needs a database of the cars he has in stock so that he can quickly find suitable cars for customers.

Describe what must be done to create this database.

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[6]

15. A new database is being designed for a company. Give **three different** things that should be included in this design.

1 .....

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2 .....

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3 .....

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[3]

16. A car sales showroom keeps a database of its stock. The table below shows part of the database.

Car stock code	Colour	Type of car	Year of manufacture	Price	Sold
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AC7E9	Silver	Hatchback	1996	£4,500.00	Yes
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(a) When the database was designed, each field was given a field type. Tick (✓) **one** box in each row to show the most suitable field type for each of the fields.

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Sold			
Car stock code			
Type of car			

[4]

(b) Which field would be most suitable as a key field?

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(c) The data in the table could be sorted into ascending order of Year of manufacture. What is the price of the car that would appear at the top of the table?

.....

[1]

(d) The salesperson searches the data in the table for cars using this query:

Colour = Blue OR Type of car = Saloon

How many cars does he find?

.....

[1]