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Name: _____

Class: _____

CHAPTER TEST

Chapter 8 Data management

Section	Number of questions	Number of questions to be answered	Number of marks	Marks achieved
A	15	15	15	
B	5	5	25	
Total			40	

Grade: _____

Scale:

A+	36–40	A	32–35	B	28–31	C	24–27	D	20–23	E	11–19	UG	0–10

INSTRUCTIONS

Write your **name** and **class** in the space provided above. All written responses must be in English.

MATERIALS

- Question book of 9 pages.
- Students are permitted to bring into the examination room: pens, pencils, highlighters, erasers, sharpeners and rulers.
- Students are **NOT** permitted to bring into the examination room: blank sheets of paper and/or white out liquid/tape.
- Calculators are **NOT** permitted in this examination.
- Students are **NOT** permitted to bring mobile phones and/or any other unauthorised electronic devices into the examination room.

Section A

Multiple-choice questions

> **INSTRUCTIONS FOR SECTION A**
>
> - Circle the correct answer in pencil for multiple-choice questions.
> - Choose the response that is **correct** or that **best answers** the question.
> - A correct answer scores 1 and an incorrect answer scores 0.
> - Marks will **not** be deducted for incorrect answers.
> - No marks will be given if more than one answer is given for a question.

1 A database query is used to:

   A search for databases online.

   B find certain records in a database.

   C check that a database is working properly.

   D format database information for display.

2 Databases are particularly suited to:

   A storing information.

   B calculating statistics.

   C creating graphs and infographics.

   D creating websites.

3 A typical example of metadata is:

   A a customer's family name.

   B an incorrect postcode that needs to be corrected.

   C the coordinates of a site stored in Google Maps.

   D an album cover image inserted into an MP3 file.

4 Data redundancy refers to:

   A out-of-date data that needs to be cleansed.

   B irrelevant data.

   C data backups.

   D unnecessary copies of the same data.

5 One disadvantage of large electronic databases is that:

   A they hold a lot of data.

   B an accident could destroy all the data.

   C they cannot be protected against hackers.

   D they require so many filing cabinets.

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6 One efficiency benefit of electronic databases is that:

   A they calculate accurate information.

   B they are easy to use.

   C they can find data quickly.

   D they can be made very secure.

7 A record in a database consists of:

   A multiple fields of various data types.

   B one piece of data.

   C names, addresses and dates of birth.

   D ID values or account numbers.

8 In a database record, a field can contain:

   A several pieces of data of a pre-specified data type.

   B one piece of raw data of any data type.

   C a formula.

   D one piece of raw data of a pre-specified data type.

9 To store the data 'Mrs Maria Johnson of Fairfield, 3078', how many fields would you need?

   A 1

   B 2

   C 4

   D 5

10 To enter data into a database you would create a:

   A query.

   B form.

   C macro.

   D report.

11 A macro in a database is used to:

   A calculate answers.

   B identify relevant information.

   C zoom in on important data.

   D automate a series of instructions.

12 A field's data type refers to:

    A the sort of data the field is able to contain.

    B whether the data has integrity or not.

    C its timeliness.

    D whether it is typed in by users, or read from disk.

13 The most effective way to ensure a user enters a valid date of birth is to:

    A use three drop-down lists for day/month/year.

    B use a label to warn the user to enter a valid date.

    C use a calendar control.

    D email the user to confirm the date.

14 Good naming of objects in databases includes:

    A using spaces in names.

    B making names as long and descriptive as possible.

    C making names as short and easy to type as possible.

    D making names short but readable and meaningful.

15 An important design tool for planning the appearance of screen or printed output is:

    A a data structure chart.

    B a mock-up.

    C an IPO chart.

    D a site map.

Section B

Short-answer questions

INSTRUCTIONS FOR SECTION B

Answer **all** questions in the spaces provided.

---

1 Benito is creating a database to keep track of the customers at his model railroad shop. Benito refers to his paper-based sales records to locate the data to enter into his electronic database. He creates two fields and fills in the data of his first customer.

Field	Sample data
Name	Jack Puccini
Address	34 Garibaldi St, Boort, 3537

Benito's friend, Mao, comes by and looks at the database. 'Hmmm, that's not a good idea.' he says, and offers some advice.

What advice might Mao have given Benito, and how would it improve the database?

(5 marks)

2 John Hillier has a database of international companies with which his company does business. A sample of the raw data looks like this:

Company	NumStaff	Country	CompanyID
Faucibus Leo Institute	66	Equatorial Guinea	G1Y 3H4
Vitae Company	59	Wallis and Futuna	J8R 0X2
Libero Morbi Accumsan Institute	36	Guatemala	A5J 1K4
Amet Massa Quisque Limited	69	Libya	B1M 9M2
Accumsan Convallis Associates	74	Burundi	G7F 4U8
Tortor Corp.	41	Grenada	D9N 2J9
Risus Industries	30	French Southern Territories	C7Y 3Z0
Massa Limited	33	Anguilla	M1Z 1V4
Urna Vivamus Corporation	74	Jordan	V4N 0R6

Company	NumStaff	Country	CompanyID
Fusce Feugiat Lorem Co.	54	Germany	K5I 8Q9
Id Ante Industries	83	Mexico	G8N 2M7
Scelerisque Scelerisque Dui PC	37	Uruguay	I1J 9B3
Lacus PC	29	France	T1R 7A8
Tellus Justo Consulting	12	Northern Mariana Islands	B2L 2Q0
Eu Odio Tristique Inc	59	Trinidad and Tobago	K1K 1O3
Nisi A Odio PC	91	Tajikistan	U1O 5S0
Faucibus Orci Corporation	12	Saint Martin	T0Y 5V7
Iaculis Quis Limited	34	Saint Barthélemy	U3G 0F4
Felis Purus Limited	88	Uzbekistan	G7Q 6I0
Nulla Institute	48	Virgin Islands, United States	R8X 9L9
Tellus Foundation	88	Cocos (Keeling) Islands	A4R 1U5
In Molestie Company	71	Guyana	Q7X 0A2
A Facilisis Non Foundation	78	Åland Islands	N6A 0E3
Suspendisse Industries	68	Tanzania	S1V 0F0
Lorem Donec Corp.	45	Saudi Arabia	A1B 5M3

John creates a query that creates a list that looks like this:

Company	NumStaff	Country
Molestie Company	33	Albania
Malesuada Ut Industries	39	Angola
Massa Limited	33	Anguilla
Adipiscing PC	38	Aruba
Dui Fusce Aliquam Institute	36	Djibouti
Risus Industries	30	French Southern Territories
Tempus Associates	31	Greece
Morbi Tristique Ltd	39	Greenland
Libero Morbi Accumsan Institute	36	Guatemala
Penatibus Limited	39	Kiribati
Orci Corporation	30	Lithuania
Dapibus Quam Quis LLC	38	Mauritius
Duis Gravida Corporation	36	Poland
Phasellus Ornare LLP	36	Reunion
Aliquet Company	36	Russian Federation
Iaculis Quis Limited	34	Saint Barthélemy
Senectus Foundation	33	South Sudan
Scelerisque Scelerisque Dui PC	37	Uruguay

Fill in the necessary cells in his query, shown below, that would generate the output shown above.

- In the SORT row, write 'Ascending' or 'Descending' where appropriate.
- Tick the appropriate fields in the SHOW row.
- In the CRITERIA row, insert relevant selection criteria.

FIELD	Company	NumStaff	Country	CompanyID
SORT				
SHOW				
CRITERIA				

(6 marks)

3 Scott, a database engineer, has been asked to inspect a database that has been causing trouble to Star Enterprises. In the database, he finds this:

```
1  BEGIN
2      OPEN Report 'rptOverduePayments'
3      SELECT Where Debt >= 0
4      SORT Ascending by FamilyName
5      PRINT Report to default printer
6      CLOSE Report
7  END
```

a What is the name of this type of database object?

(1 mark)

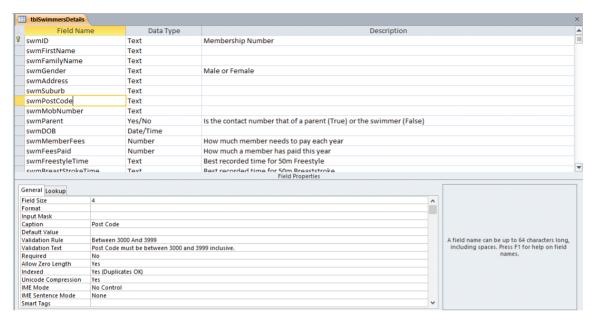**b** Describe what it is probably intended to achieve.

(3 marks)

c Scott notices a logical error in it. Identify the error and how it can be fixed.

(2 marks)

4 Mandy's Epic Swimming Club has a database that manages its members. Here is part of the database's table.

tblSwimmersDetails		
Field Name	**Data Type**	**Description**
swmID	Text	Membership Number
swmFirstName	Text	
swmFamilyName	Text	
swmGender	Text	Male or Female
swmAddress	Text	
swmSuburb	Text	
swmPostCode	Text	
swmMobNumber	Text	
swmParent	Yes/No	Is the contact number that of a parent (True) or the swimmer (False)
swmDOB	Date/Time	
swmMemberFees	Number	How much member needs to pay each year
swmFeesPaid	Number	How much a member has paid this year
swmFreestyleTime	Text	Best recorded time for 50m Freestyle
swmBreastStrokeTime	Text	Best recorded time for 50m Breaststroke

Field Properties

General	Lookup
Field Size	4
Format	
Input Mask	
Caption	Post Code
Default Value	
Validation Rule	Between 3000 And 3999
Validation Text	Post Code must be between 3000 and 3999 inclusive.
Required	No
Allow Zero Length	Yes
Indexed	Yes (Duplicates OK)
Unicode Compression	Yes
IME Mode	No Control
IME Sentence Mode	None
Smart Tags	

A field name can be up to 64 characters long, including spaces. Press F1 for help on field names.

a What does the validation rule applied to the swmPostCode field tell you about club membership rules?

(1 mark)

b What would happen if a postcode of 4444 were entered into this database?

(1 mark)

c If no postcode were entered for a member, would the database do anything? Explain why.

(2 marks)

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5 Lee manages top-secret a database of very sensitive information. The database is stored on a file server in a secured, secret location in Paris.

    a Identify one potential accidental threat to the database.

(1 mark)

    b Identify one potential deliberate threat to the database.

(1 mark)

    c Describe one method of preventing the accidental threat you identified above.

(1 mark)

    d Describe one method of preventing the deliberate threat you identified above.

(1 mark)