

GCSE Computing

Revision Pack

EIGHT

Databases

Name:

Attempt One %

Attempt Two %

Attempt Three %

Areas of Strength

Areas for Development

A teacher uses a database to store the marks of pupils from all year 9 classes.

PUPIL and CLASS are two entities used in this database.

1. Explain the term entity. (2 marks)

The data for the first four pupils in the PUPIL table is shown below.

PupilNumber	Surname	FirstName	ClassCode
A01	Adams	Michelle	9DK
A02	Ali	Mohammed	9BH
A03	Ali	Shirelle	9DK
A04	Azor	Michelle	9FT

2. State the primary key for the PUPIL table and explain your answer.(3 marks)

3. The database also contains a CLASS table. The primary key for the CLASS table is ClassCode. Explain why ClassCode has also been included in the PUPIL table. (3 marks)

4. A grocery shop uses a database with a DBMS to keep records of its stock. Explain what is meant by a DBMS. (3 marks)

5. The database uses forms and reports. Describe each of these and give **one** example of how it would be used in the shop's database. (6 marks)

6. Here is some data from the supermarket's database.

ProductID	Description	Supplier	Quantity Left	Reorder Level	Discontinued	Price
0001	6 eggs	Hill Farm	50	20	FALSE	£0.98
0002	2 litres of milk	Hill Farm	17	20	TRUE	£1.20
0003	1kg apples	Killey's	42	50	FALSE	£0.79
0004	250g butter	Hill Farm	12	25	FALSE	£0.49
0005	500g Moku Flakes	Moku Foods	0	10	TRUE	£0.99
0006	6 salad tomatoes	Killey's	30	30	FALSE	£0.89
0007	580g can baked beans	Moku Foods	27	30	FALSE	£0.42

0008	Family tomato ketchup	Moku Foods	41	20	FALSE	£1.45
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The shop runs queries using logical operators to select data for different purposes.

7. State the ProductID of the products in the above sample which fit the following criteria. Supplier = Killey's , Price > £1.00 OR Supplier = Hill Farm (4 marks)
8. Write the criteria which can be used to select all products which are not discontinued and where the QuantityLeft is lower than the ReorderLevel. (3 marks)
9. A television set top box contains a database of television channels and programmes. Describe what is meant by a database. (2 marks)
10. Data about television channels are stored in the CHANNEL table. Part of this table is shown below.

ChannelID	ChannelName	ChannelType	Broadcaster	HD
346	ETV News	News	ETV	False
347	Screen One	Movies	ETV	True
349	BLING one	General	Bling	True
350	Vivo	Documentary	ETV	False
351	Nature	Documentary	Bling	False
355	Screen One	Movies	Bling	True

11. State the primary key for the CHANNEL table and give a reason for your choice(2 marks)
12. Data about programmes that will be broadcast are stored in the PROGRAMME table. The data about each programme includes the channel on which it would be broadcast. Explain how a foreign key can be used to connect the PROGRAMME table to the CHANNEL table. (2 marks)
13. Explain why the programme data is stored in a separate table from the channel data. (3 marks)
14. Mrs Smith runs a dog sitting service that looks after dogs whose owners are going away on holiday. Mrs Smith uses a database with two tables:• The table DOG stores the following data about each dog: DogID, name, sex, weight, date of arrival, date of departure. The table JOB stores the daily jobs that she needs to do with each dog. The DOG table contains fields for the sex and weight of the dog. Describe a validation check that can be done on the sex field. (2 marks)
15. Describe a **different** validation check that can be done on the weight field. (2 marks)

16. An extract of the JOB table is shown below:

JobNumber	DogID	JobType	Time	Details
35	SM13	Feed	Morning	250g of Hundex
36	BA12	Walk	Afternoon	At least 30 minutes
37	SM13	Walk	Afternoon	Keep on leash
38	GH14	Other	Morning	Medicine: 1 tablet of Depucine
39	HT19	Other	Evening	Brush fur

17. Explain why DogID has been included in this table. (3 marks)

18. Mrs Smith uses a query to select jobs using the following criteria:

(Time = "Afternoon") OR (Time = "Evening") List the JobNumbers of the jobs that will be selected from the extract shown. (1 mark)

19. Mrs Smith wants to use database management software to create a report of all the jobs that she needs to perform on any given day, using data from the DOG and JOB tables. In the space below, design a layout for the report. (6 marks)

A dentist uses a database to store the details of patients and their appointments.

20. A database management system (DBMS) is used which includes forms, queries and reports. Tick **one** box in each row to show whether each of the following statements best describes a form, a query or a report. (3 marks)

	Form	Query	Report
This can be used to print out all the appointments that the dentist has booked.			
This can be used to enter a patient's details when the patient registers with the dentist.			
This can be used to find out all the appointments that a certain patient has made.			

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21. When a patient makes an appointment, the start time of the appointment needs to be validated. State **two** validation checks which can be carried out on the start time of the appointment. (2 marks)

22. A DBMS is used to create customised data handling applications. State what the initials DBMS stand for. (1 mark)

23. Describe the features of a DBMS that can be used to create customised data handling applications and explain why using a DBMS is desirable. (6 marks)

A social networking site uses a database to store the details of the people who have joined the site.

24. Describe what is meant by a database. (2)
25. When a person joins the website, they need to enter some personal data which is validated using rules. For example, the date of birth must be in the past. State **one** rule that could be used when validating each of the following. Email address Gender Password (3)
26. Each user can upload several pictures. Each picture has a date and a comment. The personal data of users is stored in a table called USER. The data about the pictures is stored in a separate table called PICTURE. Explain why the data about the pictures should be in a separate table, and how the tables can be linked. (4 marks)
27. A school uses a database, which stores the attendance data of the pupils. The data is entered by teachers using a desktop data application and accessed by parents using a web page or mobile phone application. Define the term database. (1)
28. Explain **one** benefit of separating the data from the applications that use the school's attendance database. (3 marks)
29. The school uses a database management system (DBMS) to separate the data from the applications that use it. Describe **one** example of how each of the following features of a DBMS can be used in the school's attendance database. The ability to run queries, The ability to set validation rules (2 marks)