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Chapter 9 Test: Databases

Q1

11 A database table, 2018MOV, is used to keep a record of movie details.

CatNo	Title	Genre1	Genre2	Blu-ray	DVD	Streaming
18m01	Power Rangers	Adventure	Fantasy	Yes	No	Yes
18m02	Baywatch	Comedy	Drama	Yes	No	Yes
18m03	Table 19	Comedy	Drama	Yes	Yes	No
18m04	Wonder Woman	Action	Fantasy	Yes	No	Yes
18m05	Justice League	Action	Fantasy	Yes	Yes	Yes
18m06	Twilight	Thriller	Action	Yes	Yes	No
18m07	Ant Man	Action	Fantasy	No	Yes	No
18m08	Venice Beach	Action	History	No	Yes	No
18m12	Fast Five	Action	Thriller	No	Yes	No
18m15	King Kong	Adventure	Fantasy	No	Yes	No
18m16	Transformers: The Last Knight	Action	Sci-Fi	Yes	Yes	Yes
18m17	The Dark Tower	Fantasy	Sci-Fi	Yes	Yes	No
18m19	Beauty and the Beast	Fantasy	Romance	Yes	Yes	Yes
18m21	The Mummy	Action	Fantasy	No	No	Yes
18m22	Star Wars: Episode VIII	Sci-Fi	Action	Yes	No	Yes
18m23	Guardians of the Galaxy	Action	Sci-Fi	Yes	Yes	Yes
18m26	Thor	Action	Sci-Fi	No	Yes	Yes
18m27	Twilight	Fantasy	Sci-Fi	No	No	Yes
18m30	Beneath	Action	Fantasy	Yes	No	No
18m31	Despicable Me	Animation	Action	Yes	Yes	No

(a) State the number of records in the database table.

20 [1]

(b) (i) Give the name of the field that would be used for the primary key.

CatNo [1]

(ii) State the reason for choosing this field for the primary key.

Each piece of data is unique [1]

- (c) Complete the table to identify the most appropriate data type for each field based on the data shown in the database table, 2018MOV.

Field	Data type
CatNo	Alphanumeric
Title	Text
Genrel	Text
Streaming	Boolean

[2]

- (d) Complete the structured query language (SQL) to return the category number and title for all Comedy movies.

SELECT CatNo, Title
 FROM 2018MOV
 WHERE Genrel = "Comedy";

[2]

Q2

A computer game shop records its stock levels in a database table called GAMES. The fields used in the stock table are shown.

Name	Description
GameID	primary key
GameName	the name of each game
AgeRestriction	the minimum age at which a person is allowed to play each game
GamePrice	the selling price for each game
NumberStock	the quantity of each game currently in stock
OnOrder	whether or not each game is on order from the suppliers
DateLastOrdered	the date the most recent order for each game was placed
GameDescription	a summary of the contents and purpose of each game

- (a) State the number of fields that are in the table GAMES.

8 [1]

- (b) State **one** important fact that must be true for a field to be a primary key.

Each piece of data has to be unique [1]

C) Write out the SQL to putput all games that have no stock that are on order from the suppliers. Select the following fields GameID, GameName, GamePrice ordered by the name of the game in ascending order, A-Z.

```
SELECT GameID, GameName, GamePrice
FROM GAMES
WHERE OnOrder = Yes AND NumberStock = 0
ORDER BY GameName Asc
ORDER
```

Q3]

Q3)

A school uses a database table, ASSESS, to keep a record of the internal assessments and the number of candidates for each of the subjects in its curriculum.

SubjectCode	SubjectName	Exams	Practicals	Candidates
COMP	Computer Science	2	1	200
INFO	Information Technology	1	2	200
MATH	Mathematics	3	0	350
PHYS	Physics	2	1	120
CHEM	Chemistry	2	1	120
BIOL	Biology	2	1	200
GEOG	Geography	2	0	200
HIST	History	2	0	250
GEOL	Geology	2	0	80
PHED	Physical Education	1	2	350
FREN	French	2	2	120
ENGL	English	2	2	350

This database only allows the data types:

- text
- number
- currency
- Boolean.

(a) (i) State the most appropriate data type for the fields SubjectCode and Exams.

SubjectCode Text
Exams Number

[1]

(ii) State one reason why the Candidates field could not be of the Boolean data type.

There are more than two data variables

[1]

b). Show the output of the following SQL statement:

```
SELECT SubjectName, Candidates
```

```
FROM ASSESS
```

```
WHERE Practicals < 1
```

<u>Subject Name</u>	<u>Candidates</u>
Mathematics	350
Geography	200
History	250
Geology	80

[3]

c) Write out the SQL to output the subjects with fewer than 150 candidates. Display only the SubjectCode, SubjectName and Candidates fields in order of the number of candidates from largest to smallest.

```
SELECT SubjectCode, SubjectName, Candidates
FROM ASSESS
WHERE Candidates < 150
ORDER BY DESC Candidates DESC
```

[3]

Q4

The table AUDIOPARTS stores the part number, description, cost and quantity in stock of the items sold by a music shop.

PartNum	Description	Cost	Quantity
A01	Compact Amplifier Case	50.00	15
A02	Deluxe Amplifier Case	75.00	1
A03	Amplifier Standard	79.99	48
A04	Amplifier Midrange	149.99	50
A05	Amplifier Megablaster	299.99	48
S01	Tweeter	59.99	10
S02	Midrange Woofer	99.99	0
S03	Subwoofer	139.99	16
S04	Tower Speaker Basic	159.99	25
S05	Tower Speaker Skyscraper	219.99	9
S06	Centre Speaker	149.99	25
S07	Soundbar	89.99	2
S20	Soundbar	129.99	0
S21	Ceiling Surround Speaker	75.00	15
S22	Ceiling Full Range Speaker	100.00	1
S25	Surround Speaker	100.00	60
T19	Speaker Stands (Pair)	75.00	60

(a) State the number of records in the table AUDIOPARTS

..... 17 [1]

(b) Identify the field that is most suitable to be a primary key and give a reason for your choice.

Fieldname PartNum

Reason Each piece of data is unique

[2]

c) Write out the SQL statement to count the total quantity of parts that cost £100.00 or more

..... ^{sum}
 SELECT ~~COUNT~~(Quantity)
 FROM AUDIOPARTS
 WHERE Cost >= 100.00

[3]

END OF TEST