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March 2024 (22)

- 9 A storage unit rental company wants to set up a new database table for the storage units that can be rented.

The table is called `StorageUnits` and needs to store these details:

- `SizeMetres` – size in square metres
- `Position` – first, second or third floor
- `Hoist` – whether there is a hoist available for the transfer of items
- `PriceMonth` – the price in dollars for a month's rental
- `StorageID` – the code to identify each storage unit, for example S123

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

..... [1]

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

.....

..... [1]

- (b) Complete the table to identify the most appropriate data type for these fields in the table `StorageUnits`

Field	Data type
<code>SizeMetres</code>	
<code>Position</code>	
<code>Hoist</code>	
<code>StorageID</code>	

[2]

- (c) Complete this structured query language (SQL) statement to display only the storage code, price and size in square metres of all the storage units where there is a hoist available.

SELECT

FROM

WHERE ;

[4]

June 2024 (21)

- 9 A database table called `softDrinks` stores details of the soft drinks sold by a small shop.

Field	Example data
Name	Cola
Supplier	Cambridge Beverages
Container	Can
SizeCl	330
NumberInStock	30
ReorderLevel	15
Reordered	Yes

- (a) State whether any of the given fields would be suitable as a primary key and give a reason for your answer.

.....
 [1]

- (b) Complete the structured query language (SQL) statement to return the number of cans the shop has in stock.

SELECT (.....)
 FROM
 WHERE = ;

[5]

June 2024 (22)

- 10 A television subscription service has a new database table named `Contract` to store details of their subscribers' contracts. The table contains these fields:

- `ContractNumber` – the contract number, for example CT567
- `Months` – the length of the contract in months, for example 6
- `EndDate` – the date the contract finishes, for example 30 November 2024
- `News` – the news service, yes or no
- `Movie` – the movie service, yes or no
- `Sport` – the sports service, yes or no
- `Junior` – the children's service, yes or no.

- (a) Identify the field that will be the most appropriate primary key for this table.

..... [1]



- (b) Complete the table to identify the most appropriate data type for these fields in Contract

Field	Data type
ContractNumber	
Months	
EndDate	
Sport	

[2]

- (c) Explain the purpose of these structured query language (SQL) statements.

Statement 1: `SELECT SUM (Months) FROM Contract;`

Statement 2: `SELECT COUNT (News) FROM Contract WHERE News;`

Statement 1

.....

.....

Statement 2

.....

.....

[3]

- (d) Complete this SQL statement to find the contract numbers of the subscribers that take both the news and sports services.

`SELECT .....`

`FROM Contract`

`WHERE ..... AND ..... ;`

[2]



8 A database table called `Hangar1` stores details of a collection of historic aircraft at a museum.

ID	Make	Model	Year	Engines	Airworthy
JM1	Hawker Siddeley	Nimrod	1966	4	Y
JM2	Douglas	DC-10	1970	3	Y
JM3	Aérospatiale-BAC	Concorde	1973	4	N
PB1	De Havilland	DH-9	1918	1	Y
PB2	Hawker	Fury	1935	1	Y
PB3	Hawker	Nimrod	1934	1	Y
PM1	Fieseler	Storch	1942	1	N
PM2	Hawker	Hurricane	1942	1	Y
PM3	Supermarine	Spitfire	1942	1	N
PM4	Douglas	C-47 Dakota	1942	2	N
PS1	Boeing	314 Clipper	1936	4	N

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

Fields

Records [2]

(b) Give the output that would be produced by the structured query language (SQL) statement:

```
SELECT Model, Year, Engines
FROM Hangar1
WHERE Engines > 1
ORDER BY Year;
```

[4]

- (c) Complete the SQL statement to display only the ID and model of all the aircraft that are airworthy.

```
SELECT ID, .....  
.....  
.....  
.....;
```

[4]

- (d) Write a SQL statement to display the model of all the aircraft that produced on 1942 and order the models according to descending.

```
.....  
.....  
.....  
.....  
.....  
.....
```

[5]

- (e) Write a SQL statement to display the total engines of all the aircraft that produced on 1942.

```
.....  
.....  
.....  
.....  
.....
```

[4]

November 2024 (21)

- 10 A shop that sells cheese has set up a new database table called `CheeseStock` to store details of the cheeses available for sale. Part of this table is given.

ChNo	Name	InStock	SupplierCode	PricePerKg	WeightKg
CH01	American	Yes	XYZ	4.50	20.0
CH02	Brie	Yes	XYZ	7.50	21.0
CH03	Burrata	No	IMP	13.75	0.0
CH04	Camembert	No	ABC	16.85	0.0
CH05	Cheddar	Yes	ABC	5.00	50.0
CH06	Comté	No	SPC	7.35	0.0
CH07	Cottage	Yes	XYZ	4.50	3.0
CH08	Cream	Yes	XYZ	5.50	6.5
CH12	Emmental	Yes	IMP	2.75	1.5
CH15	Feta	Yes	IMP	12.75	12.0
CH16	Fontina	Yes	SPC	15.99	1.2
CH17	Gorgonzola	Yes	SPC	15.25	0.3
CH19	Gouda	Yes	SPC	7.99	2.5
CH21	Gruyère	No	SPC	16.75	0.0
CH22	Halloumi	Yes	IMP	4.75	15.0
CH23	Havarti	No	SPC	6.75	0.0
CH27	Manchego	No	IMP	13.99	0.0
CH30	Manouri	No	IMP	18.50	0.0
CH31	Mascarpone	No	SPC	12.99	0.0

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

..... [1]

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

..... [1]

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

.....
 [1]



- (c) Write the output from this structured query language (SQL) statement.

```
SELECT ChNo, WeightKg
FROM CheeseStock
WHERE SupplierCode = 'ABC';
```

.....
.....
..... [2]

- (d) (i) Complete this SQL statement to display only the name of all the cheeses that are out of stock.

```
SELECT .....
FROM .....
WHERE ..... ;
```

[3]

- (ii) Explain how **one** of the lines in your statement in part (d)(i) could be changed to display the same information.

.....
.....
.....
..... [2]

- (e) Write a SQL statement to display the number of cheese in stock that are IMP.

.....
.....
.....
.....
..... [4]

- (f) Write a SQL statement to display all the records with weight is less than 3kg but not 0kg.

.....
.....
.....
.....
..... [4]



November 2024 (22)

- 11 A database table called `Booking28` stores details of hotel rooms and bookings for the week beginning Monday 7 July 2025.

RoomNo	Type	Guests	Rate\$	Mon	Tue	Wed	Thu	Fri	Sat	Sun
101D	Double	2	99.99	T	T	T	T	F	T	T
102D	Double	2	99.99	T	T	T	F	T	T	T
103F	Family	4	150.00	T	T	T	T	T	T	T
104S	Single	1	72.50	F	T	T	F	T	T	T
105S	Single	1	72.50	F	T	T	F	T	T	T
106T	Twin	2	120.00	T	T	T	T	F	T	T
201F	Family	4	160.00	F	F	T	T	T	T	T
202D	Double	2	120.00	T	F	T	T	T	T	T
203T	Twin	2	120.00	T	F	T	T	T	T	T
204T	Twin	2	125.00	T	F	T	F	T	T	T
205S	Single	1	79.99	T	F	T	T	F	T	T
301D	Double	2	200.00	F	T	T	F	F	T	T
302T	Twin	2	200.00	T	T	T	T	F	T	T
303P	Suite	4	500.00	T	T	T	T	F	T	T
304P	Suite	6	700.00	F	F	F	F	T	T	T

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

Fields

Records

[2]

- (b) State the reason why the `Type` field would **not** be suitable as a primary key.

.....

..... [1]



(c) The database uses only the data types:

- alphanumeric
- character
- Boolean
- integer
- real
- date/time.

Complete the table to show the fields that could have the given data types.

Only **one** field name is required in each box and each field name must be different.

Field	Data type
	alphanumeric
	Boolean
	real
	integer

[2]

(d) Give the output that would be produced by the structured query language (SQL) statement:

```
SELECT RoomNo, Type, Guests, Rate$  
  
FROM Booking28  
  
WHERE Mon <> T;
```

.....

.....

.....

.....

.....

.....

..... [3]



November 2024 (23)

- 11 Building materials are sold in bags. A new database table called `BuildStock` has been set up to store details about the materials for sale. Part of this table is given.

MtNo	Name	InStock	WeightKg	PricePerBag	NumberBags
MT01	Builders sand	Yes	50	4.50	50
MT02	Sharp sand	Yes	25	3.50	21
MT03	Red sand	No	50	2.75	0
MT04	Cement	No	25	6.85	0
MT05	Chippings	Yes	50	35.00	50
MT06	Cobbles	No	75	67.35	0
MT07	Pebbles small	Yes	50	34.50	3
MT08	Pebbles medium	Yes	25	25.50	10
MT12	Pebbles large	Yes	75	62.75	20
MT15	Washed gravel	Yes	50	12.75	12
MT16	Pea gravel	Yes	100	15.95	24

- (a) Write the output from this structured query language (SQL) statement.

```
SELECT MtNo, Name
FROM BuildStock
WHERE WeightKg = 75
ORDER BY PricePerBag;
```

.....

.....

..... [3]

- (b) (i) Complete this SQL statement to display only the names of all the materials that are out of stock.

```
SELECT .....
```

```
FROM .....
```

```
WHERE ..... [2]
```

- (ii) Explain how another SQL statement using a different field could be used to display the same information.

.....

.....

.....

..... [2]



June 2025 (22)

- 9 A database table, `CapitalCity`, stores data about capital cities from around the world.

Field	Description
Identification	a unique identifier
Name	the name of the city
Country	the name of the country in which the city is located
Continent	the name of the continent in which the city is located
Population	the number of people living in the city
Founded	the year the city was founded
AverageIncome	average income of the city's population, in \$, rounded to 2 decimal places
Subway	whether or not the city has an underground railway system

- (a) Complete the table by writing **one** appropriate field from `CapitalCity` for each data type.

Each field must be different.

Data type	Field
Boolean	
integer	
real	
text	

[2]

- (b) Complete the structured query language (SQL) statement to list only the name, country and population of all the cities in `CapitalCity` from the continent of Asia.

```
SELECT .....
..... CapitalCity
WHERE ..... = ..... ;
```

[4]



Additional Questions

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

ShowNumber	Type	Title	Date	SoldOut
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

a) Give two validation checks that could be performed on the ShowNumber field

.....
..... [2]

2. A database table contains the following fields:

- StudentID (integer)
- FirstName (text)
- LastName (text)
- DateOfBirth (date)
- Email (text)

a) Identify which field could benefit from a format check validation and **justify** your answer.

.....
.....
..... [2]



b) Identify which field would require a type check validation and justify your answer.

.....

.....

..... [2]

