

0478 Computer Science Paper 2 - Databases

Topical questions | 24 questions

1. Question part 1/2 | 0478 Feb-March 2023 P2 V2 Q9

9 A shop that sells books has set up a new database table called `BookList` to store book details. Part of this table is given.

CatNo	Title	Fiction	Author	PaperBack	Price	StockLevel
BK01	The Princes' Story	Yes	B Penn	Yes	4.50	500
BK02	The Princesses' Story	Yes	B Penn	Yes	4.50	350
BK03	Computer Science	No	Way Yu	Yes	19.99	20
BK04	The Modern World	No	P Patel	No	25.00	5
BK05	The Ancient World	Yes	P Patel	No	25.00	5
BK06	Computer Science	No	R Dale	Yes	27.35	8
BK07	The Princes' Story	Yes	B Penn	No	12.50	3
BK08	The Princesses' Story	Yes	B Penn	No	12.50	0
BK12	Famous Five	Yes	E Bly	Yes	2.75	45
BK15	Secret Seven	Yes	E Bly	Yes	2.75	25
BK16	The Last Knight	Yes	P Mann	Yes	5.99	7
BK17	The Dark Tower	Yes	P Mann	Yes	5.99	5
BK19	The Final Chase	Yes	P Mann	Yes	5.99	5
BK21	Maths Today Part 1	No	B Ward	Yes	6.75	25
BK22	Maths Today Part 2	No	B Ward	Yes	6.75	15
BK23	Maths Today Part 3	No	B Ward	Yes	6.75	10
BK26	Maths Today Workbook	No	B Ward	Yes	6.75	30
BK27	Knitting for Beginners	No	A Smith	Yes	6.99	3
BK30	Woodwork for Beginners	No	A Smith	Yes	6.99	4
BK31	Networking for Beginners	No	A Smith	Yes	6.99	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]

1. Question part 2/2 | 0478 Feb-March 2023 P2 V2 Q9

(c) Complete the table to identify the most appropriate data type for each field based on the data shown in the table `BookList`

Field	Data type
CatNo	
Title	
Fiction	
Price	

[2]

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

```
SELECT CatNo, Title, Author
FROM BookList
WHERE StockLevel = 0;
```

.....

.....

.....

..... [2]

(e) Complete this SQL statement to display all the titles by the author B Penn.

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

[2]

10 A database table called TVRange shows the main features and prices of a range of televisions.

TVCode	ScreenSize	Satellite	SmartTV	SoundBar	Price\$
TV90SaSmSd	90	YES	YES	YES	9750.00
TV75SaSmSd	75	YES	YES	YES	8500.00
TV75SaSd	75	YES	NO	YES	8000.00
TV65SaSmSd	65	YES	YES	YES	6000.00
TV65SmSd	65	NO	YES	YES	5000.00
TV65SaSd	65	YES	NO	YES	5000.00
TV55SaSmSd	55	YES	YES	YES	4000.00
TV55SaSd	55	YES	NO	YES	3500.00
TV55SmSd	55	NO	YES	YES	3500.00
TV50SaSmSd	50	YES	YES	YES	2500.00
TV50Sa	50	YES	NO	NO	1750.00
TV50Sm	50	NO	YES	NO	1750.00
TV40Sa	40	YES	NO	NO	1200.00
TV40	40	NO	NO	NO	950.00
TV32	32	NO	NO	NO	650.00

(a) Give the name of the field that is most suitable to be the primary key.

State the reason for this choice.

Field

Reason

.....

[2]

- (b) The database uses the data types:
- text
 - character
 - Boolean
 - integer
 - real
 - date/time.

Complete the table to show the most appropriate data type for each field.
Each data type must be different.

Field	Data type
TVCode	
ScreenSize	
SmartTV	
Price\$	

[2]

- (c) Complete the structured query language (SQL) query to return the television (TV) code, screen size and price of all Smart TVs in the database table.

```
SELECT TVCode, ..... , .....  
..... TVRange  
  
WHERE SmartTV = .....
```

[4]

- 10 A music streaming service has a new database table named `Songs` to store details of songs available for streaming. The table contains the fields:
- `SongNumber` – the catalogue number, for example AG123
 - `Title` – the title of the song
 - `Author` – the name of the song writer(s)
 - `Singer` – the name of the singer(s)
 - `Genre` – the type of music, for example rock
 - `Minutes` – the length of the song in minutes, for example 3.75
 - `Recorded` – the date the song was recorded.

(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 the fields in `Songs`

Field	Data type
<code>SongNumber</code>	
<code>Title</code>	
<code>Recorded</code>	
<code>Minutes</code>	

[2]

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

`SUM (Minutes) FROM Songs WHERE Genre = "rock";`

`COUNT (Title) FROM Songs WHERE Genre = "rock";`

.....
.....
.....
.....
.....
..... [3]

10 A database table called `Site1` stores details of some holiday homes at a holiday park. The database shows the type of home, number of guests, whether it is privately owned and the weekly rate to hire it.

Name	Type	Private	Rate\$	NumberGuest
Bay Lodge	Lodge	NO	1000	10
Bay View	Cabin	NO	400	4
Blue Skies	Cabin	NO	350	4
Cliff View	Cabin	NO	650	6
Coppice Lodge	Lodge	NO	1200	12
Green Lodge	Lodge	NO	1000	8
Henry	Cabin	YES	300	2
Hikers' Rest	Retreat	NO	750	6
Poppy	Cabin	NO	300	2
Summer Joy	Retreat	YES	750	6
Valley View	Cabin	NO	600	6
West Lodge	Lodge	YES	1200	12

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

Fields

Records

[2]

(b) Describe the purpose of a primary key.

.....

..... [1]

- (c) The database uses the data types:
- alphanumeric
 - character
 - Boolean
 - integer
 - real
 - date/time.

Complete the table to show the most appropriate data type for each field.

Field	Data type
Type	
Private	
Rate\$	
NumberGuest	

[2]

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

```
SELECT Name, NumberGuest, Rate$
FROM Site1
WHERE NumberGuest >= 10;
```

.....

.....

.....

.....

.....

.....

[3]

- 9 A model shop wants to set up a database to help with stock control of the model figures available for sale. The shop wants to store this information about the model figures:
- Field 1 – catalogue number, for example MD1234
 - Field 2 – description, for example ‘small white dog’
 - Field 3 – number in stock, for example 5
 - Field 4 – the price of each model, for example 7.40
 - Field 5 – if the model has already been painted, yes or no.

- (a) The shop needs **five** fields for each record.
Give a suitable name and data type for each field.

Field 1 name
Data type
Field 2 name
Data type
Field 3 name
Data type
Field 4 name
Data type
Field 5 name
Data type
[5]

- (b) (i) Give the name of the field that should be used for the primary key.
..... [1]
(ii) State why this field is used as the primary key.
..... [1]

- (c) Structured query language (SQL) is used to query data stored in this database.
State what these SQL commands are used for.
- SELECT
.....
FROM
.....
WHERE
.....
[3]

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10 A database table called `Horses` stores details about the horses kept at a horse sanctuary.

Code	Breed	BreedOrigin	Gender	Age	Arrived
H002	Arabian	Saudi Arabia	M	5	28/09/2022
H004	Percheron	France	M	5	30/10/2022
H010	Friesian	Netherlands	M	6	15/11/2022
H011	Fjord	Norway	F	4	17/11/2022
H012	Clydesdale	Scotland	M	10	18/11/2022
H015	Arabian	Saudi Arabia	F	5	15/12/2022
H016	Arabian	Saudi Arabia	F	5	15/12/2022
H017	Clydesdale	Scotland	F	4	16/01/2023
H019	Percheron	France	M	3	16/01/2023
H025	Percheron	France	M	7	16/01/2023
H026	Clydesdale	Scotland	F	9	20/01/2023
H030	Clydesdale	Scotland	M	12	20/01/2023
H032	Fjord	Norway	M	3	24/03/2023
H033	Arabian	Saudi Arabia	F	15	27/04/2023
H034	Clydesdale	Scotland	F	4	14/06/2023
H035	Fjord	Norway	M	7	15/06/2023
H036	Friesian	Netherlands	F	15	20/07/2023
H037	Friesian	Netherlands	M	12	20/07/2023

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

..... [1]

(b) Give the name of the field that is most suitable to be the primary key.

State the reason for this choice.

Field

Reason

..... [2]

- (c) The database only allows the data types:
- Boolean
 - character
 - date/time
 - integer
 - real
 - text.

Complete the table to show the most appropriate data type for each field.
Each data type must be different.

Field	Data type
Breed	
Gender	
Age	
Arrived	

[2]

- (d) Complete the structured query language (SQL) to return the code and breed of all the horses whose breed originated in Scotland.

```
..... Code, Breed,  
  
FROM .....  
  
WHERE ..... = "Scotland";
```

[3]

9 A sanctuary for pheasants has set up a new database table called `PheasantList` to store details of the different species of bird at the sanctuary. Part of this table is given, showing: species, description, number of birds at the sanctuary, if the birds are breeding or **not**, and number of young born this year.

Species	Description	NumberBirds	Breeding	Young
Edwards	blue-black with white tail	5	Yes	0
Japanese green	dark green with pale grey tail	2	Yes	2
Reeves	golden, white and red scaled plumage	4	Yes	1
Crawfords Kalij	glossy blue-black plumage	4	No	0
Crested fireback	blue-black with black tail	3	No	0
True silver	white laced top half and black lower half	7	Yes	1
Siamese fireback	grey plumage with crimson legs and feet	5	No	0
Mikado	iridescent plumage with white striped wings	3	Yes	4
Red junglefowl	many colours	2	Yes	0
Himalayan monal	many colours with metallic green crest	3	Yes	2
White eared	white with ear tufts	5	Yes	3
Brown eared	brown with ear tufts	9	Yes	1
Ring necked	long tail with white ring neck	2	Yes	2
Golden	rainbow coloured	3	Yes	4

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

Records
Fields [2]

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

..... [1]

(ii) Explain why the sanctuary might decide **not** to use the field in (b)(i) as the primary key.

.....
..... [1]

(iii) A new field `SpeciesID` is added to the database table.
This field contains a six-character code, for example `Ph0001`.

Give a reason why this field would be a better primary key.

.....
..... [1]

(c) Write the output that would be given by this structured query language (SQL) statement:

```
SELECT Species, Description
FROM PheasantList
WHERE NumberBirds > 6;
```

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

(d) Complete this SQL statement to display all the species of pheasant where the birds are breeding and there were no young born this year:

```
SELECT .....
FROM .....
WHERE .....
..... ;
[4]
```

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]

1 Tick (✓) **one** box to complete this sentence.

A validation check to make sure that an email address contains an '@' sign is a

A range check.

☐

B visual check.

☐

C presence check.

☐

D format check.

☐

[1]

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]

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11. Question part 1/2 | 0478 May-June 2024 P2 V2 Q10

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
<code>ContractNumber</code>	
<code>Months</code>	
<code>EndDate</code>	
<code>Sport</code>	

[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]

11. Question part 2/2 | 0478 May-June 2024 P2 V2 Q10



11



(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]
```

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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

- Fields

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

..... [4]

12. Question part 2/2 | 0478 May-June 2024 P2 V3 Q8

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

```
SELECT ID, .....  
.....  
.....  
..... ;  
[4]
```

13. Question part 1/2 | 0478 Oct-Nov 2024 P2 V1 Q10

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]

13. Question part 2/2 | 0478 Oct-Nov 2024 P2 V1 Q10



(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]

14. Question part 1/2 | 0478 Oct-Nov 2024 P2 V2 Q11

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]

14. Question part 2/2 | 0478 Oct-Nov 2024 P2 V2 Q11



(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]

15. Question | 0478 Oct-Nov 2024 P2 V3 Q4

4 Complete the paragraph about databases. Use terms from the list. You may need to use a term more than once. Some of the terms in the list will **not** be used.

- fields
- comments
- columns
- constant
- key
- table
- primary key
- program
- records
- rows
- scripts
- database
- validation
- variable

Database tables consist of and

Rows are

..... are fields.

Structured query language (SQL) are used to query data.

A uniquely identifies a record.

16. Question part 1/2 | 0478 Oct-Nov 2024 P2 V3 Q11

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]

16. Question part 2/2 | 0478 Oct-Nov 2024 P2 V3 Q11



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17. Question part 1/2 | 0478 Feb-March 2025 P2 V2 Q8

8 A database table, `MajorCity`, stores some details about a number of cities from around the world.

Code	City	Capital	Country	Continent	Population
ASY6	Abu Dhabi	TRUE	United Arab Emirates	Asia	1,566,999
EUY3	Amsterdam	TRUE	Netherlands	Europe	1,174,025
ASY1	Beijing	TRUE	China	Asia	21,766,214
SAY1	Buenos Aires	TRUE	Argentina	South America	15,490,415
AFY1	Cairo	TRUE	Egypt	Africa	22,183,200
EUN1	Frankfurt	FALSE	Germany	Europe	796,437
ASY3	Jakarta	TRUE	Indonesia	Asia	11,248,839
ASN3	Karachi	FALSE	Pakistan	Asia	17,236,230
ASY4	Kuala Lumpur	TRUE	Malaysia	Asia	8,621,724
AFN2	Lagos	FALSE	Nigeria	Africa	15,945,912
SAY2	Lima	TRUE	Peru	South America	11,206,000
EUY1	London	TRUE	UK	Europe	9,648,110
EUY4	Madrid	TRUE	Spain	Europe	6,751,374
ASN2	Mumbai	FALSE	India	Asia	21,296,516
NAN1	New York City	FALSE	USA	North America	7,888,121
EUY2	Paris	TRUE	France	Europe	11,206,000
ASN1	Shanghai	FALSE	China	Asia	29,210,808
ASY5	Singapore	TRUE	Singapore	Asia	6,080,859
AUN1	Sydney	FALSE	Australia	Australia	5,120,894
ASY2	Tokyo	TRUE	Japan	Asia	37,194,104
NAN2	Toronto	FALSE	Canada	North America	6,371,958
EUN2	Valencia	FALSE	Spain	Europe	838,301
SAN1	Valencia	FALSE	Venezuela	South America	1,983,445

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

Fields

Records

[2]

17. Question part 2/2 | 0478 Feb-March 2025 P2 V2 Q8



(b) Identify the field in the database table that is most suitable to be the primary key **and** give **one** reason for your choice.

Primary key field

Reason

..... [2]

(c) Give the output from the structured query language (SQL) statement:

```
SELECT City, Country, Population
FROM MajorCity
WHERE Continent = "South America"
ORDER BY Population;
```

.....
.....
.....
.....
.....
..... [3]

(d) Complete the SQL statement to list only the code, city, country and continent of all the cities in the database table that are capital cities.

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

18. Question part 1/2 | 0478 May-June 2025 P2 V1 Q8

8 A bus company has set up a new database table called `BUS` to store details of the buses leaving the main bus terminal.

RouteID	Destination	Stops	Driver	Time	Return
BC01	Town Centre	10	B Smith	9:00	Yes
BC02	The Fountain	5	A Patel	9:10	Yes
BC03	The Palace	9	B Hayes	9:28	No
BC04	City Park	12	W Gao	9:55	Yes
BC05	City Mall	9	R Hussein	10:10	No
BC06	Swan Lake	14	S Clarke	10:33	No
BC07	Guildhall Square	7	J Page	11:34	No
BC08	Sunset Quay	6	A Patel	12:01	Yes
BC10	Fort Worthington	15	E Carr	12:01	Yes
BC12	The Observatory	18	B Smith	13:27	No
BC14	East Seaport	11	B Scott	14:07	No
BC15	The Football Ground	12	J Page	14:46	Yes
BC19	The Cricket Ground	11	B Hayes	15:14	No
BC23	Temple Ruins	14	W Gao	16:16	No
BC27	The University	9	A Patel	16:45	No

(a) (i) Identify **one** appropriate data type for the field `Return`

..... [1]

(ii) State the reason for the data type chosen.

.....

..... [1]

(b) Write the output from the structured query language (SQL) statement:

```
SELECT RouteID, Destination, Time
FROM BUS
WHERE Driver = "A Patel";
```

.....

.....

.....

.....

..... [2]

18. Question part 2/2 | 0478 May-June 2025 P2 V1 Q8



(c) Complete the SQL statement to display only the destination of the buses that have a return.

SELECT

.....

.....

..... [3]

19. Question part 1/2 | 0478 May-June 2025 P2 V2 Q9

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]
```

19. Question part 2/2 | 0478 May-June 2025 P2 V2 Q9



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20. Question | 0478 May-June 2025 P2 V3 Q5

- 5 (a) A computer store uses a database table `COMPONENT` to store the stock details of a range of components needed to build computer systems.

Complete the table by giving appropriate data types for each field.

Only the data types: text, character, Boolean, integer, real, date/time are available in this database.

Field	Data type	Description
ID		unique identifier
Name		component name
Description		component description
Price		selling price of component to 2 decimal places
NumberAvailable		number in stock
MinimumLevel		level at which the component is reordered
ReOrdered		whether or not the component has been reordered
DateOrdered		the date the component was reordered

[4]

- (b) Complete the structured query language (SQL) statement to list only the unique identifier, component name and reorder date of all the components that have been reordered.

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

[4]

21. Question | 0478 Oct-Nov 2025 P2 V1 Q1

1 **Four** descriptions of structured query language (SQL) keywords and **five** SQL keywords are given.

Draw **one** line from each description to its matching keyword.
Not all SQL keywords will be used.

Description	SQL keywords
identifies the database table	ORDER BY
sets the condition	COUNT
sorts the results	WHERE
returns the number of records	SUM
	FROM

22. Question | 0478 Oct-Nov 2025 P2 V1 Q8

8 A school has set up a database table `SchoolTrip` to record details of students that will go on a school trip.

StudentID	StudentName	ParentName	Permission	DateReceived
STU147	Amir	Mr Akar	True	03/03/2025
STU348	Filip	Mrs Johnson	True	04/03/2025
STU274	Matthew	Mr Smith	False	
STU873	Jafar	Mr Al-Saigh	True	21/03/2025
STU221	Hussein	Mr Alkasab	True	28/02/2025
STU553	Julie	Mrs Jones	True	25/02/2025
STU213	Julie	Mr Smith	False	

(a) State the reason why `ParentName` is **not** appropriate as the primary key.

..... [1]

(b) Give the name of the field that should be the primary key.

..... [1]

(c) The database only uses these data types:

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

Complete the table to show the most appropriate data type for each field.
Each data type must be different.

Field	Data type
<code>ParentName</code>	
<code>Permission</code>	
<code>DateReceived</code>	

[2]

(d) Complete the structured query language (SQL) statement to display only the names of the students who do **not** have permission to go on the trip.

SELECT

FROM

WHERE

[2]

23. Question part 1/2 | 0478 Oct-Nov 2025 P2 V2 Q7

7 A database table `WATERFOWL` stores some details of a range of birds found in the UK that live on or near water. The length and wingspan dimensions are in centimetres and the typical lifespan is in years.

Species	Family	Length	Wingspan	CoastalHabitat	Lifespan
Barnacle goose	Goose	63.5	130.0	FALSE	14
Bewick’s swan	Swan	120.2	190.5	TRUE	8
Brent goose	Goose	58.0	94.3	TRUE	11
Canada goose	Goose	78.5	160.0	FALSE	6
Eider	Duck	58.0	94.5	TRUE	8
Goldeneye	Duck	44.5	72.1	TRUE	6
Goosander	Duck	63.3	90.0	TRUE	7
Long-tailed duck	Duck	44.0	76.6	TRUE	5
Mallard	Duck	59.7	90.8	FALSE	3
Mute swan	Swan	150.0	220.2	FALSE	10
Pink-footed goose	Goose	69.6	150.0	TRUE	8
Pintail	Duck	60.0	88.6	TRUE	3
Smew	Duck	41.5	62.1	FALSE	7
White-fronted goose	Goose	71.5	140.0	FALSE	6
Whooper swan	Swan	150.0	230.0	TRUE	9

(a) State the purpose of a primary key in a database table.

.....

..... [1]

(b) Complete the table for each of the given data types, to identify **one** field from the table `WATERFOWL` that is most likely to use it.

Each field must be different.

Data type	Field
Boolean	
Integer	
Real	
Text	

[2]

23. Question part 2/2 | 0478 Oct-Nov 2025 P2 V2 Q7



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

```
SELECT Species, Length, Wingspan
FROM WATERFOWL
WHERE Family = "Swan"
ORDER BY Lifespan;
```

.....

.....

.....

.....

.....

..... [3]

(d) Complete the SQL statement to list only the species, family and lifespan of all waterfowl whose typical lifespan is at least 10 years, sorted in order of species.

SELECT

.....

.....

..... [4]

24. Question | 0478 Oct-Nov 2025 P2 V3 Q8

8 A school has set up a database table `EquipmentLoan` to record details of school equipment loaned to students.

EquipmentID	Description	Name	DateLoaned	Returned
Cam01	Digital camera	James	23/04/2025	No
Cam04	Digital camera	Amir	12/03/2025	Yes
Gra02	Graphics tablet	Nikita	27/04/2025	No
Tab01	Tablet	Holly	18/03/2025	Yes
Ext01	External Hard drive	Hussein	27/04/2025	Yes
Cam02	Digital camera	Emily	10/04/2025	Yes
Tri01	Tripod	Emily	10/04/2025	Yes

- (a) (i) Give the name of the field that is most appropriate to be the primary key.
- [1]
- (ii) State the reason for choosing this field for the primary key.
-
- [1]
- (b) Complete the structured query language (SQL) statement to list equipment **not** returned. The list must contain only the descriptions and student names.
- SELECT
- FROM
- WHERE ;
- [3]