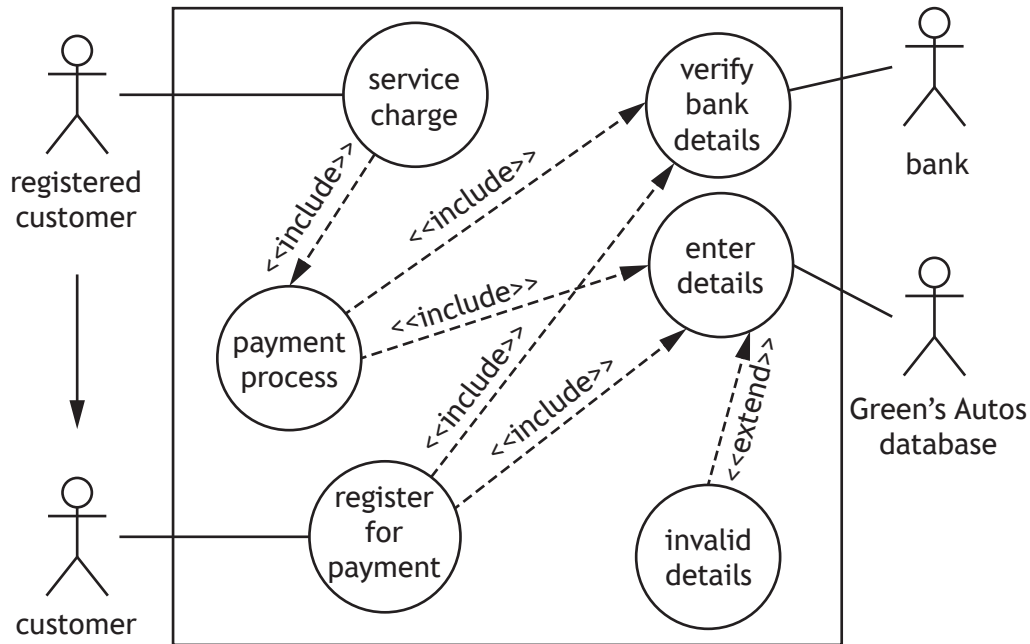**10.** Green's Autos offers a wide range of cars for sale and provides a range of car servicing, testing and repairs. They manage this using a database-driven website.

(a) Customers can pay for any servicing carried out using the company's database-driven website by providing the licence plate of their car and details of their bank payment card.

The UML use case diagram below illustrates the functionality of the car service payment facility.

(i) Describe the relationship between the actors 'customer' and 'registered customer'. **1**

(ii) Describe the use of the 'extend' relationship between the 'enter details' and 'invalid details' use cases. **1**

[Turn over

10. **(continued)**

(b) Green's Autos website also allows customers to search for details of cars for sale. The page below shows the results of one such search.

To request a test drive for the car being viewed, the customer clicks the 'Request a test drive' button. This loads a new page with the online form shown below. The customer then provides each of the details in the form.

(i) Write the HTML `<form>` statement used to submit the form details securely to the server-side script called `requestConfirm.php`.

2

10. **(b)** **(continued)**

(ii) Write the HTML statement used to generate the part of the form shown below.

1

Date	yyyy-mm-dd

(c) (i) The PHP script `requestConfirm.php` generates a seperate 'Confirm Page' of the website shown below. This is used to confirm that the customer's test drive request has been received.

Car Sales

Green's Autos
Thank you

Dear Melanie Peters

Thank you for requesting a test drive of a Yotoya Rocrolla.

We will check availability on 22/06/2021 and send an email to mp27@email.com to confirm your booking.

Click below to return to the car page.

Return to car page

Explain the term session variables, making reference to the page above.

2

(ii) The PHP script `requestConfirm.php` also forms a connection with the secure database server by performing the following tasks.

(1) Assign the connection details to server-side variables

(2) Create a connection called `$conn` with the secure database

Write the PHP code required to perform these two tasks. Your code should make use of the connection details below:

- server name = `serv1a`

- username = `root`

- password = `AQS20`

- database = `TestDrive`

2

10. **(continued)**

(d) (i) Once a connection has been created, details of a customer's test drive request are assigned to three variables:

- `$customerName`
- `$email`
- `$startDate`

The values in these variables will then be stored in a database table called `ClientTD48`. The structure of this table is shown below.

Attribute	Type	Size	Key	Required	Validation
id	int	4	PK	Y	Auto increment
customerName	varchar	50		Y	
email	varchar	30		Y	
startDate	date			Y	
requestStatus	varchar	12		Y	Restricted choice: one of pending, successful or unsuccessful

A single query is used to:

- store the details of a customer's test drive request in a new record of the `ClientTD48` table
- assign the initial value 'pending' to the `requestStatus` field of this new record.

Write the SQL statement for this query.

2

10. **(d)** **(continued)**

(ii) The variable `$result` is generated. It contains the following data.

id	customerName	email	startDate	requestStatus
1734	Sylvan Broad	brs@email.com	2021-06-22	pending
1735	Mo Ali	ma13@me.com	2021-06-22	pending
1736	Joanne Leach	lj12@email.com	2021-06-22	pending
1737	Melanie Peters	mp27@email.com	2021-06-22	pending
1738	Thomas Murtagh	murt@tmail.com	2021-06-22	pending
1739	Marge Smith	ma14@imail.com	2021-06-22	pending
1740	Scott Curran	scus@me.com	2021-06-22	pending

A maximum of five test drives is permitted on any given date.

Server-side code is used to set the `requestStatus` field of the `ClientTD48` table to 'successful' for the first five requests for any given date or 'unsuccessful' for all additional requests.

Using pseudocode, design an algorithm to process the `$result` variable and amend the `requestStatus` field of each relevant record in the `ClientTD48` table appropriately.

3

(e) All stored session data associated with a test drive request should be deleted as soon as the user has completed the session.

State how this can be achieved.

1