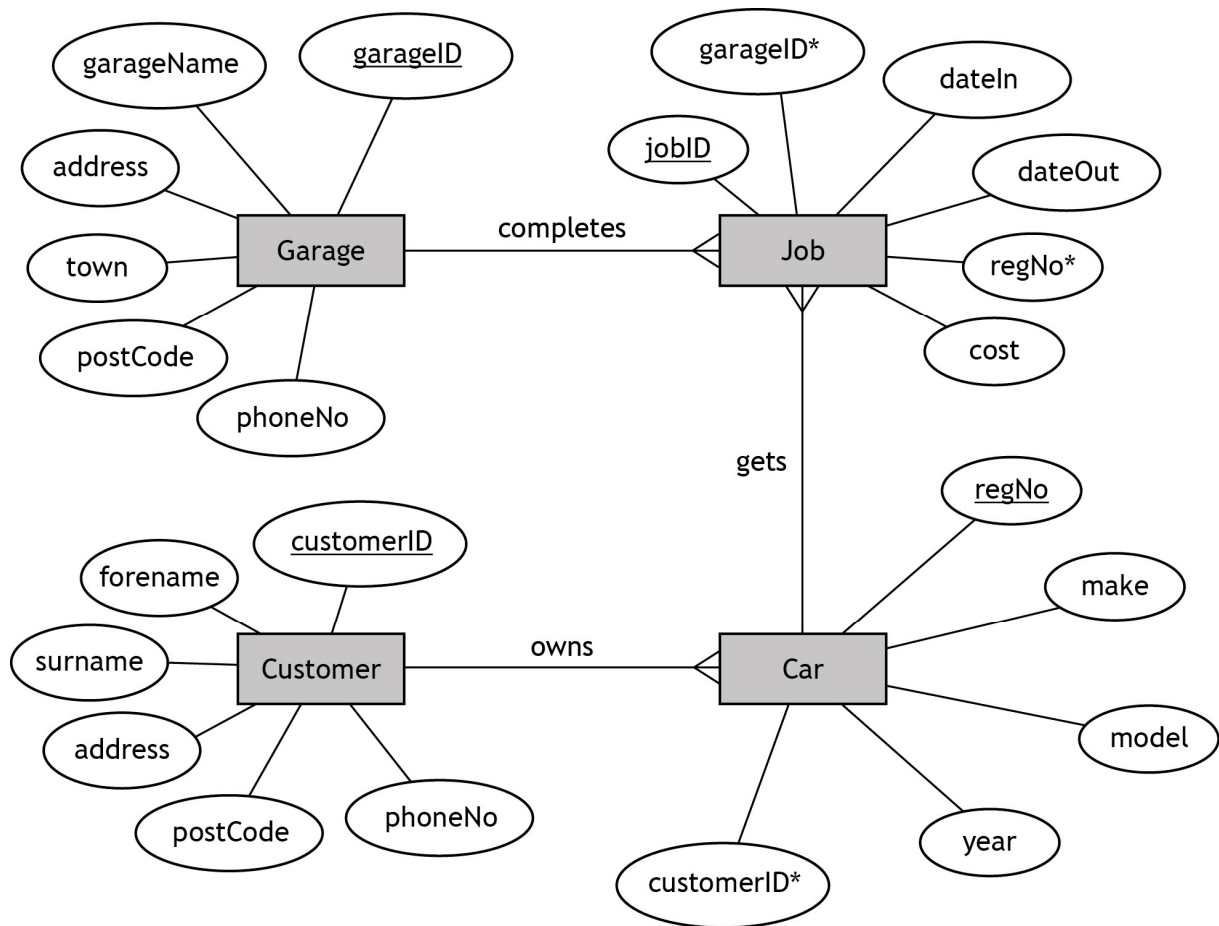# Task 1: database design and development (part B)

After further analysis, the developer creates the entity-relationship diagram shown below.

The design is then implemented.

Your teacher or lecturer will provide you with a completed and populated database file.

1b(i) Customers pay for completed jobs on the day they take their car out of the garage.

The company wants to list the total sales for each of its five garages on 19 January 2020.

Implement the SQL statement that will produce an output with the headings:

garageName	Total sales

(4 marks)

Print evidence of:

♦ the implemented SQL statement
♦ the output it produced

Ensure your name and candidate number is on all evidence.

1b(ii) The company wants to identify the details of the car that spent the most number of days in any of its garages.

Implement **two** SQL statements that will find the highest number of days, the registration number and the name of the garage where the car was repaired.

Number of days	regNo	garageName

(4 marks)

Print evidence of:

♦ the implemented SQL statements
♦ the output produced from each statement

Ensure your name and candidate number is on all evidence.

1c   The company wants to produce a list of all customers and the average cost of jobs carried out on their car(s).

They use the following SQL statement.

```
SELECT forename, surname, AVG(cost) AS [Average Job Cost]
FROM   Customer, Car, Job
WHERE  Customer.customerID = Car.customerID AND
       Car.regNo = Job.regNo
GROUP BY forename, surname
ORDER BY AVG(cost) DESC;
```

Part of the expected output is shown below.

forename	surname	Average Job Cost
Colin	Wilson	£701.10
Derek	Tsang	£657.41
Mark	Jones	£464.84
Angela	Smith	£434.49
Jennifer	Hart	£414.31
Angela	Smith	£408.85
Colin	Wilson	£249.99
Mark	Jones	£240.72
…	…	…

A query to test the above SQL statement is provided with the database.

Test the SQL statement by running the query then answer the questions on the next page.

(i)   Explain why the actual output does not match the expected output.

(1 mark)

(ii)   Describe the change needed to ensure that the SQL statement produces the correct output.

(1 mark)

Candidate name_____ Candidate number_____