6. An athletics competition takes place between different clubs. The competition includes four throwing events which are shot put, discus, hammer and javelin.

The result for each competitor is stored in a CSV file. The file stores the competitor's name, club, event name and distance thrown in metres.

A program is required to read the data from the CSV file and then process it.

A sample of the data is shown below.

F Dean,Rothesay Rovers,Discus,58.04
J Smith,Hawick Harriers,Shot Put,17.23
K Singh,Rothesay Rovers,Javelin,71.75
...

(a) The data from the file is imported into an array of records.

   (i) Using a programming language of your choice, define a suitable data structure to store the data. **2**

(ii) The CSV file contains 800 results.

Using a programming language of your choice, declare a variable that can store the data for the 800 results. Your answer should include the data structure from part (i). **2**

[Turn over

6. (continued)

(b) In order to qualify for the javelin final, a competitor must throw a distance of 70 metres or more.

The event organisers would like the program to create a file with the name and club of all the competitors who have qualified for the javelin final.

Using a recognised design technique, design an algorithm that would create this file. **5**

6. **(continued)**

(c) The event organisers would like to be able to display the distance thrown by a competitor in a particular event.

Using a programming language of your choice, write code that:

- asks for the name of a competitor and the event

- displays the competitor name, distance and event, for example 'J Smith threw 17.23 in the Shot Put' or displays the message 'Competitor not found'.

Your answer should make use of the data structure defined in part (a). **6**

6. (continued)

(d) A participant manages to access the file and change their own score.

State two ways in which the participant has breached the Computer Misuse Act.

2