

Software Design & Development: Revision Questions 2

1. A text file stores the names of pupils and the events they have taken part in. Pupils can choose to take part in the first event they attended more than once as shown in the text file extract below.

...

John, Space Cadets

John, Tech Tastic

Karen, Code Club

Karen, Tech Tastic

John, Space Cadets

Karen, Code Club

...

The following algorithm is used to access data in the file.

1. Enter target pupil's name
2. Open file
3. Start conditional loop
4. Read name and event from file
5. If name is equal to target pupil's name then
6. store event as target event
7. End if
8. Repeat until first instance of target pupil's name is found in the data file
9. Start conditional loop from current position in file
10. Read name and event from file
11. If name is equal to target player's name then
12. If event equal to target event then
13. increment counter
14. End if
15. End if
16. Repeat until end of file
17. Display target pupil's name, target event and counter
18. Close file

(a) Describe the purpose of the following steps in the algorithm

(i) Steps 3 to 8

(ii) Steps 9 to 16

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2. A text file stores the days of the week and temperature on each day in a year. There are 365 entries in the text file.

...
Mon, 18
Tue, 16
Wed, 17
...
Mon, 13
Tue, 15
...

The following algorithm is used to access data in the file.

1. Open file
2. Read day and temperature from file
3. store temperature as lowest temperature
4. Start conditional loop
5. Read day and temperature from file
6. If temperature is less than stored lowest temperature
7. store new lowest temperature
8. store lowest day
9. End if
10. Repeat until end of file
11. Display lowest temperature and lowest day
12. Close file

Describe the purpose of the following steps in the algorithm

- (a) Steps 1 to 3
- (b) Steps 5 to 10