

Past-paper walk-through

File organisation and access ■ 13.2

eXercise

Questions in this set

- 9618/41 N25 Q3 ■ 25 marks
- 9618/31 J25 Q12 ■ 5 marks
- 9618/32 J25 Q13 ■ 5 marks
- 9618/33 J25 Q11 ■ 5 marks
- 9618/32 N24 Q2 ■ 3 marks
- 9618/33 N24 Q5 ■ 5 marks

Reading the mark scheme

- **B1** a mark that stands on its own – the point is either made or not.
- **M1** a *method* mark: the right approach, even if the number is wrong.
- **A1** an *answer* mark, and it usually needs its M mark first.
- **C1** a working mark on the way to the answer.
- **//** separates answers the examiner accepts equally.
- **ecf** = error carried forward: a later part is marked on your own earlier answer.
- **owtte** = “or words to that effect” – the wording need not match.

Question 3

9618/41 N25 ■ Q3 ■ 25 marks

A program stores records in the 2D array `HashTable`. Each record is stored at a specific index of the array that is calculated using a hashing algorithm with the record's key field.

The array has 100×10 elements. The hashing algorithm uses the key to generate an index between 0 and 99 (inclusive). If two key fields generate the same index, there is a collision. Any records that have a collision are stored in the next space in the same index.

For example: In this table two record keys generated the same hash value of 1. Four record keys generated the same hash value of 3.

Index	0	1	2	3	4	5	...	9
0	record							
1	record	record						
2								
3	record	record	record	record				
4								
...								
99								

Question 3

The program uses Object-Oriented Programming (OOP).

(a) The class Record stores data about the records:

Record	
Key : Integer	stores the integer key field for the data
Data : String	stores the string data
Constructor()	initialises Key and Data to its parameter values

Question 3

The attributes Key and Data are public.

Write program code to declare the class Record and its constructor.

Use your programming language appropriate constructor.

Save your program as **Question3_N25**.

Copy and paste the program code into part **3(a)** in the evidence document.

[2]

Question 3

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