



4.10.5 Client Server Database

1) Staff at different surgeries access a database using a client-server database.

a) Describe a problem that could occur if concurrent access to a database was not controlled.

[3 marks]

b) Two methods that can be used to manage concurrent access are:

- Record locks
- Timestamp ordering

Select **one** of these methods and describe how it manages concurrent access.

[2 marks]

2) A database system can be accessed by many users simultaneously.

Describe how timestamp ordering can be used to manage concurrent access to a database.

[3 marks]

3) It is possible that two users might try to access or update the system at the same time.

Explain the conditions under which simultaneous access to a database could cause a problem, and explain how serialisation can manage concurrent access to a database.

[3 marks]

