



1.2.1 Types of Operating Systems

1. A video game company uses many high end computers that each have multi-tasking operating systems installed.

Explain, giving an example, why the company's computers use operating systems capable of multi-tasking.

[2 marks]

- **Multi-tasking allows multiple processes to share processor time / make it appear that multiple programs are running at the same time**
- **E.g. Running a game engine while also browsing the internet**

2. A taxi firm is investigating replacing its drivers with self-driving cars.

Explain why the self-driving system will use a real-time operating system.

[3 marks]

- **Needs to be able to respond to inputs within a specified time limit...**
- **... such as stopping quickly if someone stepping in front of the car**
- **Real-time OS offers a guaranteed response time.**
- **A non real-time OS may be dealing with other tasks and not respond in time**

3. A company specialises in computer-generated imagery (CGI) for film. Producing CGI requires lots of processing power and so the company has a large number of high-performance computers.

Explain why the company would use a distributed operating system.

[3 marks]

- **To allow multiple computer/resources**
- **... to be treated as one/ work on the same problem**
- **Meaning all the computers can work of the same special effect**

4. Define the term 'embedded operating system'.

[3 marks]

- **A system software used to manage a device**
- **It is built into the device itself.**
- **... Stored in the device's ROM**
- **Specific to the hardware/purpose of the device**





5. A company produces digital photo frames (i.e. photo frames that display digital photographs).

Put a **one** tick in the table to indicate which operating system would be most appropriate for the company to use.

[1 mark]

Operating System	Tick one
Distributed	
Embedded	✓
Multi-user	

