



1.2.1 Memory Management

1 A video game company uses many high end computers.

(a) Each computer has a multi-tasking operating system installed.

(i) Name and describe two methods of memory management that the operating system can use to divide the contents of RAM.

[4 marks]

- **Paging**
- ... memory is divided into fixed sized units.
- **Segmentation**
- ... memory is divided logically depending on its contents

(ii) Explain **one** benefit of memory management to the user.

[2 marks]

- **Multitasking**
- ... allows multiple programs to run at once
- **Security**
- ... does not let programs access memory reserved for other programs

(iii) The operating system needs to load a new program into memory but there is not enough space. Describe how the operating system would use virtual memory to load the new program.

[3 marks]

- **The operating system uses an area of secondary storage as virtual memory**
- **Move unused pages into virtual memory**
- **Load the new program into main memory**

