

UECS2103/2403/2423 Operating Systems  
Tutorial 9

1. What is the purpose of disk cache?
2. A video editor application can be divided into 2 main parts, video and audio. Each part can be divided into multiple tasks, for examples, import and convert photo or video, apply transition effects, normalise the audio, etc.
  - a) Explain how could the application be beneficial from a multicore system?
  - b) Explain why the application should be implemented as multithreaded rather than multiprocessing.
3. A start-up company is using a desktop PC as a temporary server. The server is placed in a room without any additional lock or security feature. The server is not running a proper server operating system. The backup storage is yet to be setup. Although it is a start-up company, it handles a lot of sensitive data in the server because of its business nature.
  - a) Identify the security threats in the above scenario.
  - b) Propose actions that can be taken to improve the security and protection of the data.
4. Considering the following instructions for recovering from a virus attack:
  - a. Boot the infected system.
  - b. Back up all files to an external medium.
  - c. Run *fdisk* to format the disk.
  - d. Reinstall the OS from the original CD-ROM / DVD-ROM.
  - e. Reload the files from the external medium.

Briefly discuss two serious errors in the instructions.

5. Some programs or updates are self-extracting archives, which contain one or more compressed files packaged with an extraction program. Discuss the security implications of self-extracting archive.