
COSC1112/1114: Operating Systems Principles

Tutorial 01 (week 02)

1. List five services provided by an operating system. Explain how each provides convenience to the users. Explain also in which cases it would be impossible for user-level programs to provide these services.
2. What are the advantages and disadvantages of using the same system-call interface for manipulating both files and devices?
3. What is the purpose of interrupts? What are the differences between a trap and an interrupt? Can traps be generated intentionally by a user program? If so, for what purpose?
4. When multiple interrupts from different devices appear at about the same time, a priority scheme could be used to determine the order in which the interrupts would be serviced. Discuss what issues need to be considered in assigning priorities to different interrupts.
5. In a multiprogramming and time-sharing environment, several users share the system simultaneously. This situation can result in various security problems.
 - a) What are two such problems?
 - b) Can we ensure the same degree of security in a time-shared machine as in a dedicated machine? Explain your answer.