Introduction

Review Questions

Section 1.1

1.1 What are the four components of a computer system?

1.2 Provide at least three resources the operating system allocates.

1.3 What is the common name used to refer to the operating system program?

1.4 What do mobile operating systems often include in addition to the core kernel?

Section 1.2

1.5 What is an interrupt?

1.6 What special operation triggers a software interrupt?

1.7 What is one advantage of using a solid state disk over a magnetic disk?

1.8 What is the difference between volatile and nonvolatile storage?

Section 1.3

1.9 What is another term for multiprocessor system?

1.10 Provide at least two advantages of multiprocessor systems.

1.11 True or False? The most common multiple-processor system uses asymmetric multiprocessing.

1.12 What is the name of a multiprocessor system that uses multiple computing cores?

1.13 How does a clustered system differ from a multicore system?

Section 1.4

1.14 How does multiprogramming increase CPU utilization?

1.15   What is the term for a program that has been loaded and is executing?

1.16   What part of the operating system makes the decision with regards to which job will run?

Section 1.5

1.17   What are the two separate modes of operation?

1.18   What is the mode of the system at boot time?

1.19   What is the mode of the system when the operating system gains control?

1.20   What is the mode of the system when a user program is running?

1.21   Name at least two activities the operating system is responsible for in connection with memory management.

1.22   True or False? Managing files is one of the most visible aspects of an operating system.

1.23   Name at least two activities the operating system is responsible for in connection with file management.

1.24   Name at least two activities the operating system is responsible for in connection with disk management.

1.25   Of the following five forms of storage, rank them from fastest to slowest in terms of access time: (1) main memory, (2) magnetic disk, (3) registers, (4) solid state disk, (5) cache.

Section 1.6

1.26   What is the difference between protection and security?

Section 1.9

1.27   List at least four common kernel data structures.

1.28   True or False? A bitmap of length N can be used to represent the status of 2^N items.

Section 1.10

1.29   List at least five different types of computing environments.

Section 1.11

1.30   Provide an example of an open source operating system.