

# 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?

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- 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?

**Section 1.6**

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

**Section 1.7**

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

**Section 1.8**

- 1.23 True or False? Managing files is one of the most visible aspects of an operating system.
- 1.24 Name at least two activities the operating system is responsible for in connection with file management.
- 1.25 Name at least two activities the operating system is responsible for in connection with disk management.
- 1.26 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 1.9**

- 1.27 What is the difference between protection and security?

**Section 1.10**

- 1.28 List at least four common kernel data structures.
- 1.29 True or False? A bitmap of length  $N$  can be used to represent the status of  $2^N$  items.

**Section 1.11**

- 1.30 List at least five different types of computing environments.

**Section 1.12**

- 1.31 Provide an example of an open source operating system.