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Chapter 8 review questions

1. It manages the computer’s memory, processes, and all of its software and hardware. It also allows you to communicate with the computer without knowing how to speak the computer’s language.
2. Program creation: the OS provides a variety of facilities and services, such as editors and debuggers, to assist the programmer in creating programs.

Program execution: A number of steps need to be performed to execute a program.

Access to I/O devices: each I/O device requires its own specific set of instructions or control signals for operations.

Controlled access to files: in the case of files, control must include an understanding of not only the nature of the I/O device but also the file format on the storage medium.

System access: in the case of a shared or public system, the OS controls access to the system as a whole and to specific system resources.

Error detection and response: A variety of errors can occur while a computer system is running.

Accounting: a good OS collects usage statistics for various resources and monitors performance parameters such as response time.

Instruction set architecture: the ISA defines the repertoire of machine language instructions that a computer can follow.

Application binary interface: The ABI defines a standard for binary portability across programs.

Application programming interface: The API gives a program access to the hardware resources and services available in a system through the user ISA supplemented with high-level language library calls.