

The textbook describes an O/S acting in three roles: Referee, Illusionist, and Glue.

For each question below circle which role is describe by:

1. (1 point) / / **G** Libraries.
2. (1 point) / **I** / Virtual machine.
3. (1 point) **R** / / Enforcing file access permissions.
4. (1 point) / **I** / Able to support multiple users simultaneously.
5. (1 point) / / **G** Represents the largest section of code in the O/S.
6. (1 point) **R** / / Controls communications between users and processes.

7 (2 points) What is the difference, if any, between Reliability and Availability?

Reliability is the correct operation of a system; and Availability the fraction of time (0.0 to 1.0) the system is working.

8 (2 points) What is the difference, if any, between Efficiency and Overhead?

Efficiency and Overhead are competing duals. Overhead is the cost (computation, memory, communication, storage, ...) of implementing an abstraction; and Efficiency is the lack of overhead.

9 (2 points) Older computer O/S' tended to be Batch systems (with 1 processor) and newer computer O/S' tend to be Interactive systems (with 2+ processors). Considering the users, what design feature has become more important in newer O/S'?

Response Time.

The Batch O/S focus on throughput and the Interactive O/S focus on Response Time.

Response Time is the time the users waits for a task to complete, irrespective of whether the task is running or waiting.