

16 How an OS shares resources – Part 1

—Answers

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Work through these after trying the questions yourself.

16.1 Any two of: CPU time, memory, disk, input/output.

16.2 Switches the CPU quickly between programs so several seem to run at once.

16.3 A program in execution.

16.4 It is waiting for I/O (or a lock), so it cannot run yet.

16.5 Ready.

16.6 A single core can run only one process at any instant. The OS switches between the two programs so quickly that, to a human, both seem to run together—but really they take rapid turns.

16.7 A process waiting for input cannot do useful work, so leaving it running would waste the CPU. Moving it to *blocked* frees the CPU, letting the scheduler give that time to other processes that are ready—keeping the whole system responsive.