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Chapter 17 review questions

1. Single instruction, single data stream: a single processor executes a single instruction stream to operate on data stored in a single memory.

Single instruction, multiple data stream: a single machine instruction controls the simultaneous execution of a number of processing elements on a lockstep basis.

Multiple instruction, single data stream: a sequence of data is transmitted to a set of processors, each of which executes a different instruction sequence.

1. There are two or more similar processors of comparable capability. These processors share the same main memory and I/O facilities and are interconnected by a bus or other internal connection scheme, such that memory access time is approximately the same for each processor. All processors share access to I/O devices, either through the same channels or through different channels that provide paths to the same device. All processors can perform the same functions. The system is controlled by an integrated operating system that provides interaction between processors and their programs at the job, task, file, and data element levels.