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DWD420

Chapter 2 review questions

2.1) Pipelining: implementation technique where multiple instructions are overlapped in execution.

Branch prediction: predicting the outcome of a branch so that those instructions may be executed in parallel with the current instructions.

Superscalar execution: The ability to issue more than one instruction in every processors clock cycle.

Data flow analysis: The processor analyzes which instructions are dependent on each other’s results, to create an optimized schedule of instructions.

Speculative execution: is an optimization where a computer system performs some task that may not be actually needed.

2.2) All components do not increase performance at the same rate as others so you have to plan accordingly. You have to compensate for mismatches among the capabilities of the various components. The keys to balancing is because of constant and unequal changes in: processor components, main memory, I/O devices, and interconnection structures.