

Assignment 2

Question 2

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- A. It ticks 2,000,000,000 times a second.
- B. Because one clock tick takes  $1/2,000,000,000$  seconds, and a cycle takes takes  $2/1,000,000,000$  seconds, there are 4 ticks in a cycle.
- C. The ticks would represent the four steps of a CPU: Fetch, Load, ALU, and Store.
- D. A CPU with a 2 nanosecond cycle can perform 499,999,998.5 instructions in one second.
- E. It could execute 125,000,000 instructions in one second.
- F. The Pipeline CPU is faster because it uses all of its sections at the same time, whereas the Classical CPU only uses one of it's four sections at a time.