Computer Design

Gordon Moore’s law originally applied to memory size (in bits), but also applies to processor speed (in MIPS). However, main memory access latency does not follow Moore’s law.

(a) What is Moore’s law? [4 marks]

(b) Why doesn’t main memory latency decrease in proportion to processor cycle time? [6 marks]

(c) What mechanisms are used to hide poor main memory access times and why do these mechanisms work? [10 marks]