Exam 2 - Part B (short questions)

Started: Nov 29 at 9:12am

Quiz Instructions

Question 1 — 10 pts

Describe each step of mov instruction while it goes through different stages(such as fetch, decode etc.) for sequential execution.

Fetch - Read instruction from instruction memory

Decode - Reads the program registers

Execute - Computes address or value

Memory - Read or write data

Write back - write program registers

PC - update program counter

p 30 words

Question 2 — 10 pts

What is the difference between RISC and CISC?

RISC - Reduced Instruction Set Computer - If ISA has a set of attributes that allows it to have a lower CPI than CISC then the computer is considered RISC. RISC computers have simple and general instructions unlike CISC computers that are more complex. Another common RISC feature is that they use load/store architecture meaning they access memory only with specific instructions not as a part of most instructions.

CISC - Complex Instruction Set Computer is a design where one instruction can do a bunch of different tasks at once like loading from memory, an arithmetic operation and a memory storage. Therefore, it a processor design which is capable of giving one command that does multi step operations.

p 116 words

Question 3 10 pts

What is the principle of Locality? Explain.

Locality is a fundamental property of computer programs which bridges the CPU-memory gap. When programs use instructions and data which includes addresses near or equal to those they have used recently is called Principle of Locality.

p 36 words

Question 4 10 pts