CS1110
Systems Organisation

23/11/2015

Memory Arrangement

Program counter is a register in the microprocessor that contains the address of the current instruction.
During the fetch cycle, the instruction is read from memory and the P.C. is incremented by the length of the instruction.
Many instructions also load data from memory or store data in memory.

A virtual memory management system... (missed it)

Common Instructions

Most Common

- Move: copy data from one register to another
  - Rarely destructive
- Load: put data from an external source into a register
- Store: put data from a register into an external source.
- Branch + Jump load the P.C. with an instruction that is not the next one
  - branch occurs on a given condition
  - jump occurs unconditionally
- Call: jumps to code independent of the main function/program
  - want to jump back to where the call happened
  - "Call" saves the address of the next instruction on the stack.
  - Typically the second-most-frequently used instruction.
- NOP: No operation. Waits a little while - useful for timing and preventing hazards.