[mips]Assemblermorekeywords=[1]abs,abs.d,abs.ps,abs.s,add,add.d,add.ps,add.s,addi,addiu,addu,a

CS251: Intro to Computer Organization and Design

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Guiding Principals

- Abstraction to simplify design

- Moores Law: Expect Rapid change in technology

  - IC resources doubles every 18-24 months
  - # of transistors can fit on a circuit board will double

- Improvement via Parallelism

- Improve Performance via Pipelining

- Improve Performance via Prediction

Big Picture:

- Computer

- Control -¿ registers

- Datapath

- Processor

- Memory

- Input

- Output

Instruction Set Architecture

To connect to the hardware you must speak its lanuage (machine language/bytecode

Basic MIPS

$S1: f $S2: g $S3: h $S4: i $S5: j $S6 = TEMP $S7 = TEMP

$$f = (g + h) - (i + j)$$