

# CS 250P Computer Systems Architecture Fall 2019

## **MIPS**

[Slides Adapted from Rajeev Balasubramonian's Slides on MIPS for CS 3810 at University of Utah]

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What is an ISA?

High Level Implementation

Machine Level Implementation

Processor Level Implementation

## High Level Implementation

### Machine Level Implementation

The ISA - defines an abstract model for machine level programming, which defines:

- how data is stored and addressed
- instruction set

### Processor Level Implementation

# RISC and CISC

RISC vs. CISC, Eric Roberts, Stanford University,  
<https://cs.stanford.edu/people/eroberts/courses/soco/projects/risc/riscisc/>

# What role does an Instruction Set serve?

[Rajeev's Slides - CS 3810](#)

(Some Examples of MIPS  
instructions - Slide 18 - 21)

Operand  
locations

# Register File



How many addresses  
can a 32-bit word  
encode?

# Accessing the Memory

[Rajeev's Slides - CS 3810](#)

(Slide 24 - 25)

# Immediate Operands

[Rajeev's Slides - CS 3810](#)

(Slide 12)

Thank you