

CS/COE0447

Computer Organization & Assembly Language

Chapter 2 Part 1

Topics to cover in Chapter 2

- MIPS operations and operands
 - MIPS registers
 - Memory view
 - Instruction encoding
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- Arithmetic operations
 - Logic operations
 - Memory transfer operations

MIPS Operations/Operands

- “Operation” (instruction)
- “Operand”
- MIPS operations
 - Arithmetic operations (integer/floating-point) (add, sub,...)
 - Logical operations (and, or,...)
 - Shift operations (shift a certain number of bits to the left or right)
 - Compare operations (do something if one operand is less than another,...)
 - Load/stores to transfer data from/to memory
 - Branch/jump operations
 - System control operations/coprocessor operations
- MIPS operands
 - General-purpose registers
 - Fixed registers, e.g., HI/LO registers
 - Memory location
 - Immediate value