LECTURE 12

Instruction Set

Topics to be covered

- Instructions

8051 Addressing Mode and Instruction Set

- Addressing Modes
- ☐ Register addressing
- ☐ Direct addressing
- ☐ Indirect addressing
- ☐ Immediate constant addressing
- ☐ Relative addressing
- ☐ Absolute addressing
- ☐ Long addressing
- ☐ Indexed addressing
- ☐ Instruction Types
- ☐ Arithmetic operations
- ☐ Logical operations
- ☐ Data transfer instructions
- ☐ Boolean variable instructions
- ☐ Program branching instructions

- A computer instruction is made up of an operation code (opcode)
- followed by either zero, one or two bytes of operands
- ☐ The op-code identifies the type of operation to be performed
- while the operands identify the source and destination of the
- data
- ☐ The operand can be:
- ☐ The data value itself
- ☐ A CPU register
- ☐ A memory location
- ☐ An I/O port
- ☐ If the instruction is associated with more than one operand,
- the format is always:
- *Instruction Destination, Source*