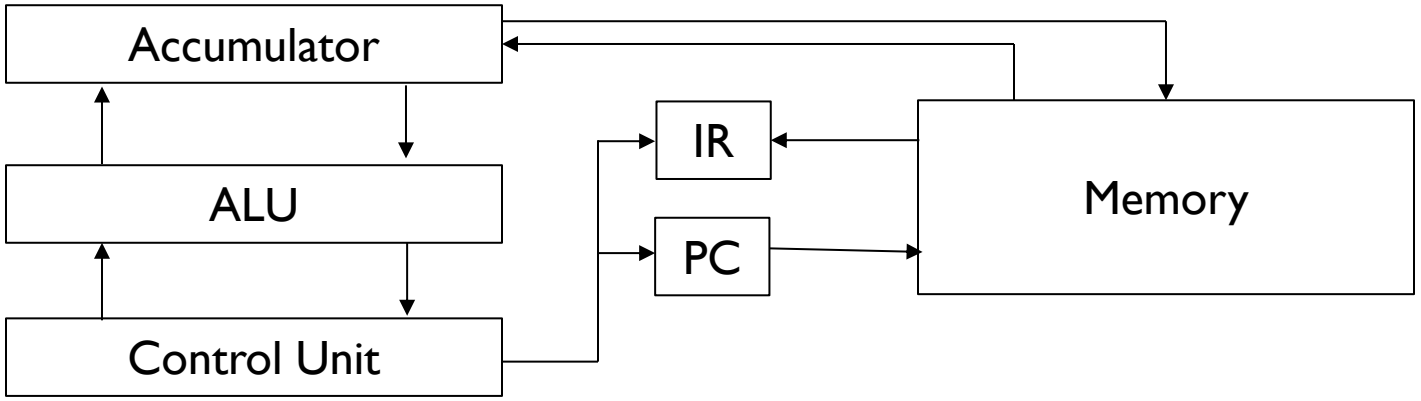
Announcements

- Progress Meeting
  - October 8 and 10
  - A 15-minute meeting to discuss your progress and learning goals
- Assignment 2
  - Due October 10
  - Building an accumulator-based system – Part I
  - Compile and run your program on a lab machine before submitting it.

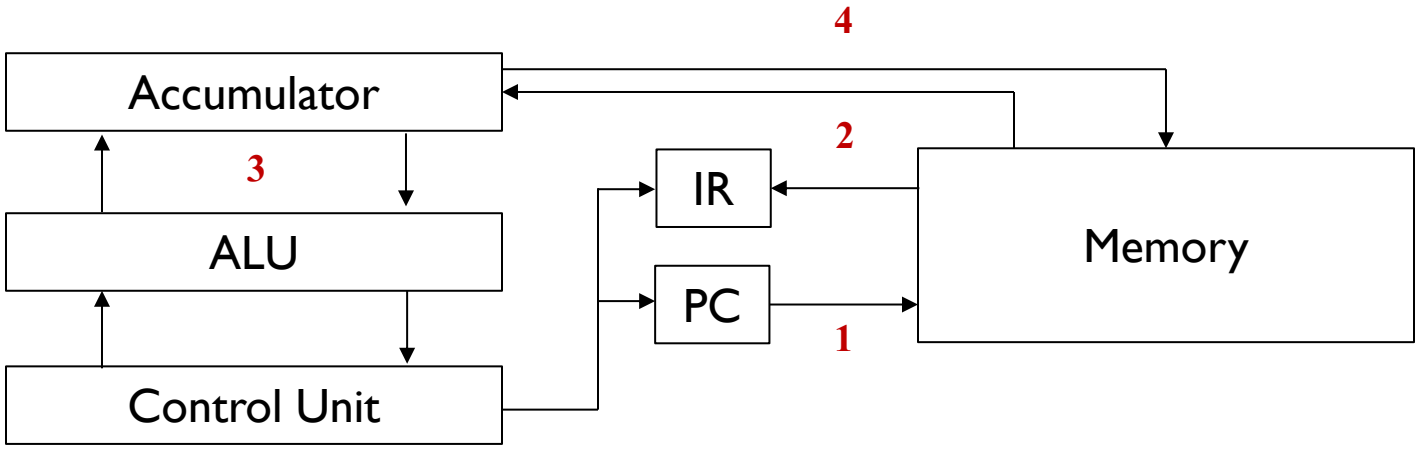
VSM Architecture



Instruction Cycle

1. **Fetch:** The CPU retrieves the next instruction from memory.
2. **Decode:** The control unit (CU) interprets the instruction to determine the required operation.
3. **Execute:** The Arithmetic Logic Unit (ALU) carries out the specified operation on the data.
4. **Store:** The result of the operation is written back to memory or a register.

VSM Architecture

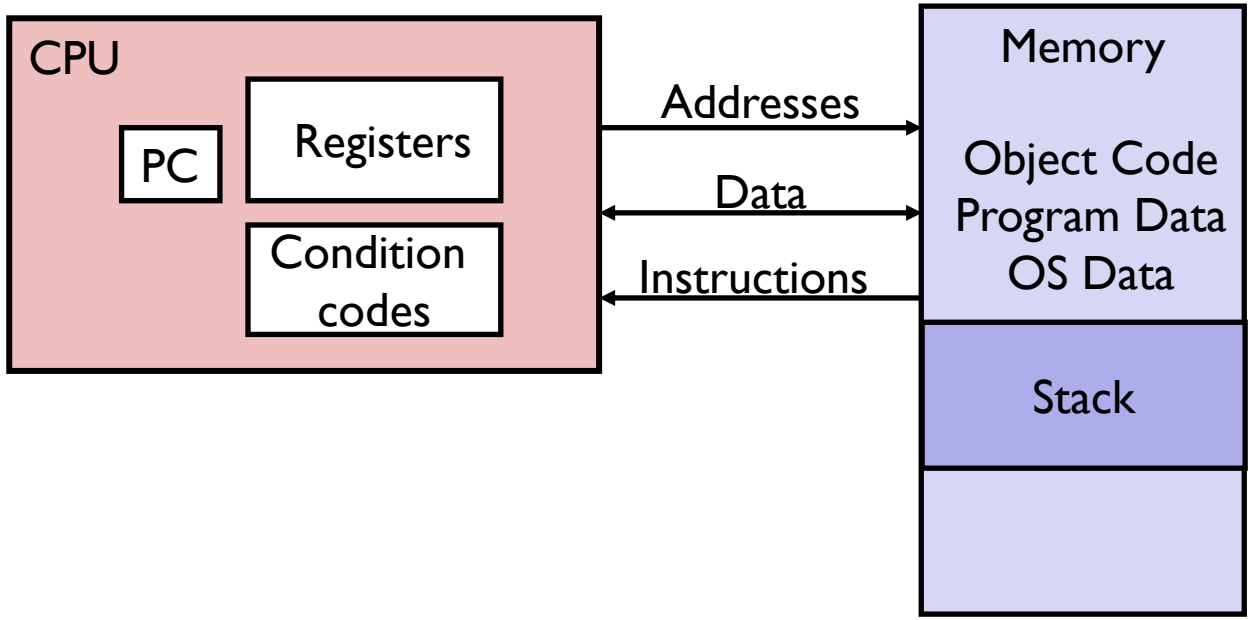


Lecture 13

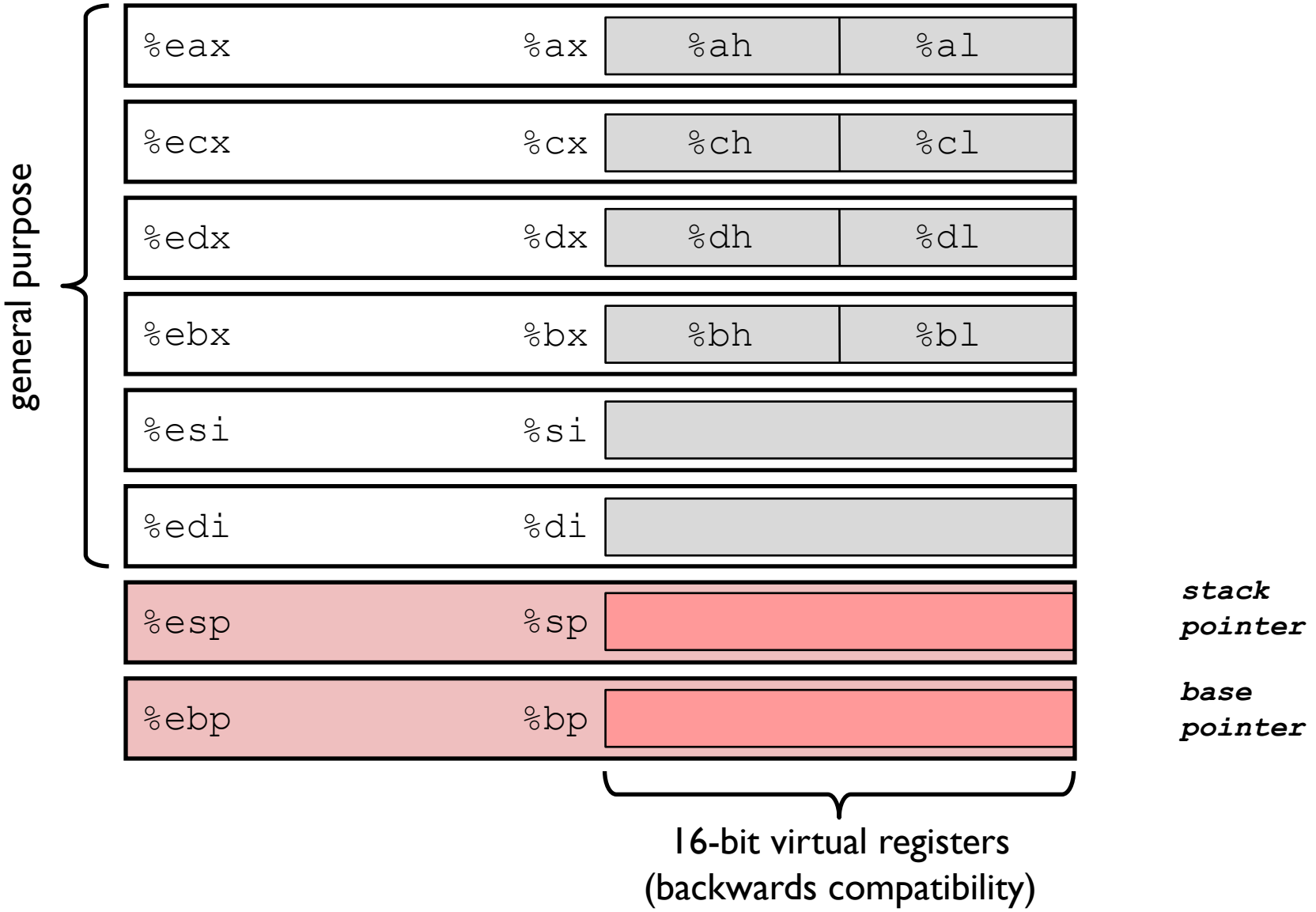
Registers and Data Types in IA-32

CPSC 275
Introduction to Computer Systems

Programmer's View on Computer System



Integer Registers



Assembly Characteristics: Data Types

- Integral data of 1, 2, or 4 bytes
  - Data values
  - Addresses
- Floating point data of 4, 8, 10, or 12 bytes (more on this later)
- No aggregate types such as arrays or structures
  - Just contiguously allocated bytes in memory