

Review and supplement for Lecture 1

Introduction to Computer

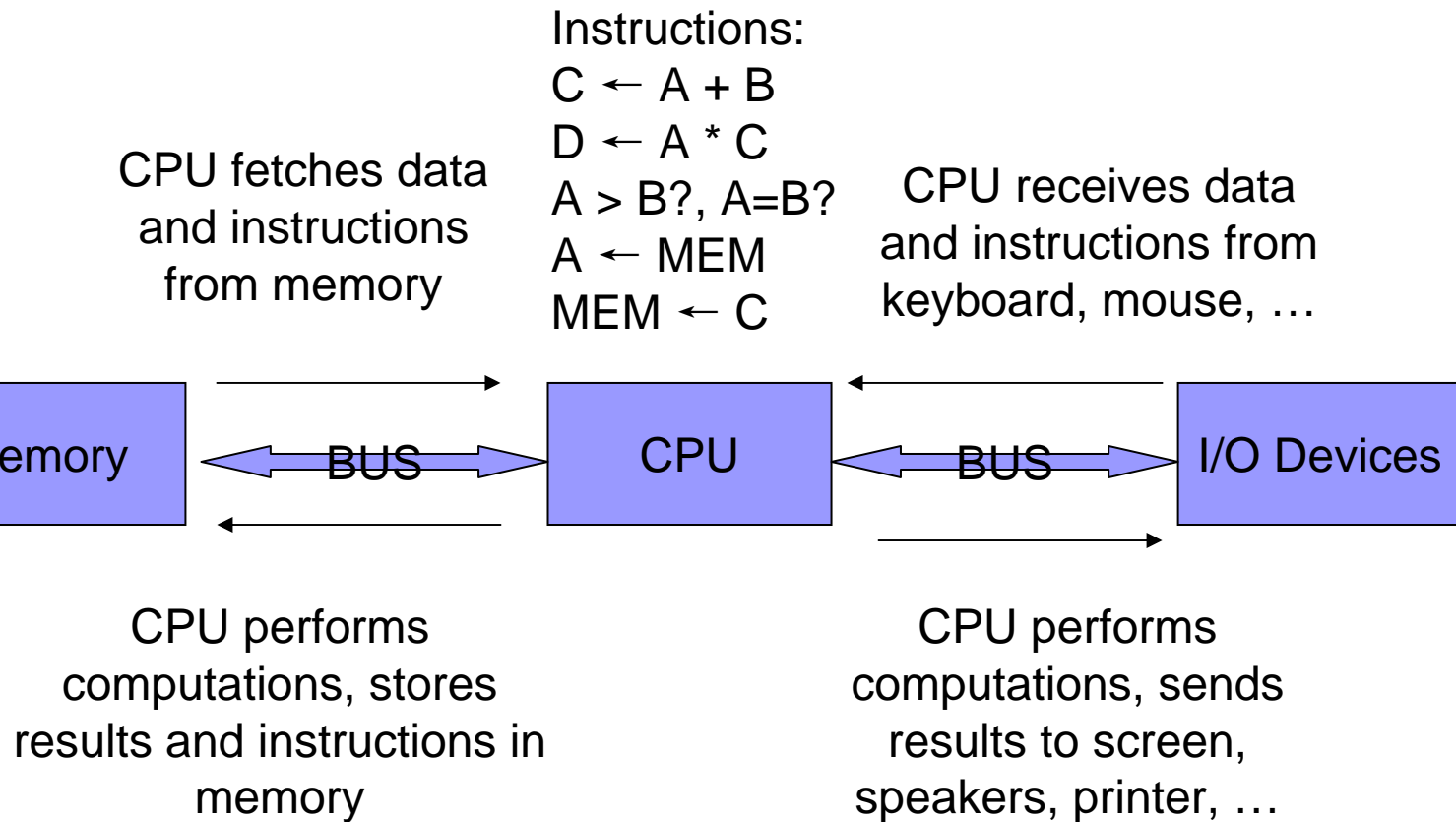
■ Hardware

- Central Processing Unit (CPU, or simply called processor)
- Memory
 - Internal memory (volatile)
 - CPU registers
 - CACHE
 - RAM (Random Access Memory): computer's main memory (or primary memory)
 - External memory (permanent), also called secondary memory
 - Hard drive
 - Floppy
 - Diskette
- Input / Output devices: keyboard, mouse, monitor, printer, etc.

■ Software

- Program
- Operating system
 - Manage the CPU and RAM allocation
 - File system: manage the secondary memory, directory, file
 - I/O devices management
 - Human-machine interface: GUI (Graphical User Interface)
- Application program: A computer program run on a computer directly targeting a task that the user wishes to perform

The von Neumann Architecture



Bit, byte, KB, GB

- Bit
 - unit of data held in memory
 - two potential values: 0 and 1
- Byte: a collection of 8 bits
 - E.g. 1101 1010
Or 1010 0110
- KB (kilobyte) = 1024 bytes
- MB (metabyte) = 1024 KBs
- GB (gigabyte) = 1024 MBs

Directory and file

- The storage space of external memory devices (hard drive, floppy, etc.) usually is organized into directories
- Each directory contains
 - A bunch of files (0 file is allowed)
 - A bunch of directories (0 directory is allowed)



LAB

- Desktop, window, icon, title bar, menu bar
- Minimize, maximize, restore, scroll bar
- Mouse: point, click, double click, drag
- Dialogue box
- Cut and paste
- Web browsing, Email