I/O management

- I/O devices vary greatly
  and new types of I/O devices appear frequently

- Various methods to control them
  and to manage their performances

➡ Ports, buses, device controllers connect to various devices

I/O Device Interfaces

Port - connection point for device (e.g. serial port)

Bus - daisy chain or shared direct access
e.g. Peripheral Component Interconnect Bus (PCI)
e.g Universal Serial Bus (USB)

Controller (host adapter) - electronics that operate port, bus, device
(e.g Northbridge, Southbridge, graphics controller, DMA, NIC, ...)

- Can be integrated or separated (host adapter)

- Contains processor, microcode, private memory, bus controller, etc