

# Assignment 1, Operating Systems

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- 1.1 (a) Processor: reads memory, executes a sequence of stored instructions, and writes to memory.
- (b) Memory: stores data.
- (c) IO Module: transfers data from internal memory to external memory.
- (d) System bus: transfers data among the components of the processor.
- 1.2 (a) User-visible: registers accessible by the programmer. Stores data and addresses of data.
- (b) Control and status: contains either the last instruction or the address of the next instruction. Not controlled by programmer.
- 1.3 (a) Processor-memory: read/write of internal memory.
- (b) Processor-IO: read/write of external memory.
- (c) Data processing: arithmetic or logic operations.
- (d) Control: alteration of instruction sequence.
- 1.4 An interrupt is a request to the processor that causes it to initiate an IO action and let it run in the background as the processor continues to work on other things.
- 1.6
- 1.7
- 1.10