**Assignment 1**

1. An **operating system** (**OS**) is [system software](https://en.wikipedia.org/wiki/System_software) that manages [computer hardware](https://en.wikipedia.org/wiki/Computer_hardware), [software](https://en.wikipedia.org/wiki/Computer_software) resources, and provides common [services](https://en.wikipedia.org/wiki/Daemon_(computing)) for [computer programs](https://en.wikipedia.org/wiki/Computer_program).

* Abstracts: to simplify how the hardware looks
* Arbitrates: control hardware use

1. Visual Metaphor: in this, they gave an example of a toy shop manager for the operating system

* Direct operational resources: control of the hardware components.
* Enforce working policies: limit to resource usage.
* Mitigates difficulty of complete tasks: system calls

1. OS hides hardware complexity, higher-level abstraction, resource management on behalf of one or more applications and provides isolation and protection.
2. Examples of operating system are Desktop(Microsoft Windows, UNIX) and embedded(Tabs, Android, IOS, Symbian)
3. OS elements:

* Abstractions:

1.hiding of data

2.process

3. Threads(file, socket, memory page)

* Mechanisms: depending on the operations we perform

1. Create

2. Schedule

3. Open

4. Write

5. Allocate

* Policies: Algorithms (LRU, EDF)

6.Given example for OS elements as memory management.

* Abstractions: memory page(hiding of details about memory)
* Mechanism:

Step 1: Allocate,

Step 2: Map to a process

* Policies: LRU(Least recently used)

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