

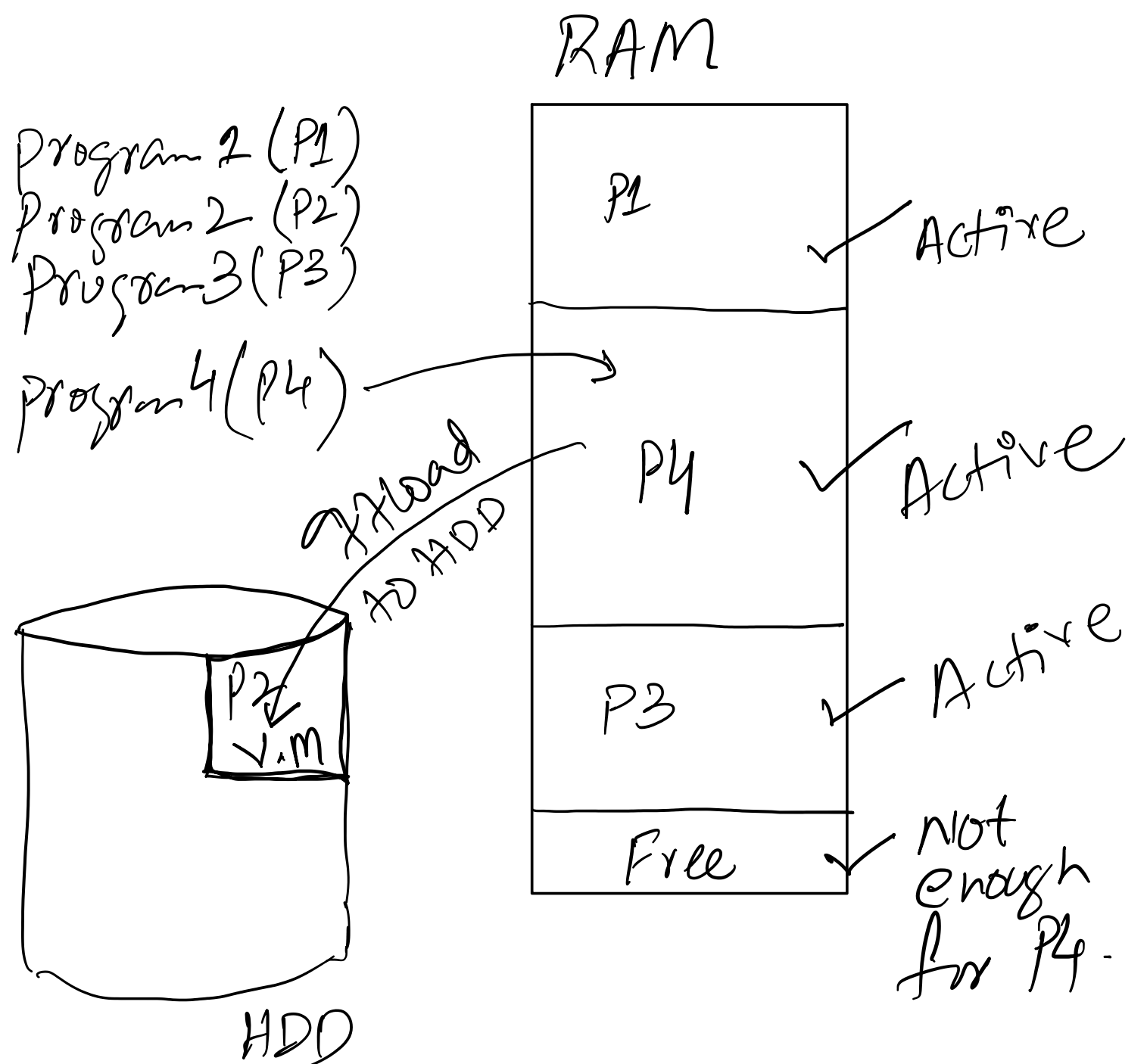
Virtual Memory

Wednesday, 16 November 2022

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Virtual memory is a common technique used in computer's O/S. Virtual memory uses both hardware and software to enable a computer to compensate for physical memory shortages, temporarily transferring data from RAM to disk storage.

Virtual memory is a section of volatile memory created temporarily on the storage device.



Example explained:

- Suppose 3 computer programs are already loaded in the RAM.
- P2 is loaded but inactive (not being used) for sometime.
- User of the system tries to load another program in RAM. P4 requires memory that isn't available in RAM.
- Operating system of this computer looks for the inactive programs. So that, those could be offloaded to the Hard Disk Drive (HDD).
- So, P2 that is inactive for sometime will be copied/offloaded into an area over the HDD, called virtual memory.
- This creates enough space for P4 to be loaded into RAM.
- Although P2 is not in RAM but still user thinks that it is loaded and available.
- When user requires P2 again, O/S finds an inactive program, shifts to VM and loads back P2 from VM to RAM.