**5-2 Journal: Memory Management in Practice**

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**Introduction:**

This journal assignment will explore memory management on the Windows operating system and assess the allocation of virtual memory using a standard command-line utility. I will identify a command-line utility available in Windows that displays information about the state of physical and virtual memory. By executing the chosen command, insight will be gained into how it presents details about memory allocation.

**Identifying Command-Line Utility for Memory Information**

The command-line utility that I used to display memory allocation on Windows is "tasklist." The "tasklist" command provides information about the processes running on the system, includingthe memory usage for each process.

A screenshot of a computer

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**Executing the 'tasklist' Command**

To begin, I opened the Command Prompt on the Windows computer, and I entered the ‘tasklist’ Command Prompt. The output of the 'tasklist' command provided insights into the memory allocation of running processes on the Windows computer. The information displayed includes the name of the executable or process, the process ID (PID), session name and number, memory usage (in kilobytes), and the status of each process. Notably, the "Mem Usage" shown in the output represents the physical memory (RAM) used by each process. However, the virtual memory information is not plainly displayed with this particular command. For a more detailed analysis of virtual memory, Windows provides the "Resource Monitor" tool. To access the Resource Monitor, I pressed "Windows key + R" to open the Run dialog, typed "resmon," and pressed ‘Enter’. The Resource Monitor offered a graphical representation of memory usage, including details about physical and virtual memory, as well as memory usage by individual processes. In the "Memory" tab, you can find information such as "Commit" (virtual memory) and "Working Set" (physical memory) for each process.

A computer screen with a white screen

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**Conclusion:**

I used memory management on Windows and the 'tasklist' command-line application in my journal assignment to investigate the allocation of physical memory used by running processes on the machine at hand. While the 'tasklist' command does not directly display virtual memory statistics, the Resource Monitor utility displays virtual memory in graphical form, allowing users to properly monitor memory consumption. Understanding memory allocation is critical for enhancing system performance and assuring resource use for the end project.