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Question 1: Explain the difference between virtual memory and resident memory. What is virtual memory? What is resident memory?

Virtual memory is also known as VSZ. This includes the complete amount of memory that can be accessed by a process. Including swapped out, used/un-used memory and memory from shared libraries. In virtual memory, the processes are kept away from each other and the kernel. Therefore, the other processes or kernels memory cannot be accessed or modified. It is also advantageous to the CPU as it ensures that the CPU can execute at least one process.

Meanwhile, resident memory is also known as RSS. This displays the amount of memory that is located in the RAM and designated to a process. Both static and dynamic memory is included. RSS does not include swapped out memory and the memory given by shared libraries is included as long as its actually in memory.

Difference(s):

- Virtual memory includes swapped out memory while resident memory does not.
- Resident memory is usually RAM while Virtual memory is the total memory in the process.

Question 2: Research and report on any of the three of the processes returned by your program. Simply explain what these processes do.

	Process One	Process Two	Process Three
Name	vmtoolsd	VGAuthService	NetworkManager
PID	1767	713	749
VmSize	291380 kB	50136 kB	338652kB
VmRSS	40764 kB	10400 kB	21755kB
Function (What it does)	This performs the following tasks: <ul style="list-style-type: none">- Passing messages from the host to the guest OS- Running scripts that help automate guest OS operations	This process provides support for SAML based authentication for vSphere Guest Operations.	It is a multitasking computer operating system that sits on top of libudev and other Linux kernel interfaces and provides a high-level interface for the configuration of the network interfaces.

References:

Migration. (2021). *VMware Tools Service*. VMware.com. <https://docs.vmware.com/en/VMware-vSphere/5.5/com.vmware.vmtools.install.doc/GUID-0BD592B1-A300-4C09-808A-BB447FAE2C2A.html>

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