TRIAGE UNIT
TOPIC 4 – WORKSHEET 2
LINUX TRIAGE COMMANDS – RAM

Finding the Computer's Memory (RAM)

The computer's random access memory (RAM) is the space the processor uses to do its calculations. Every computer program is like a big math equation. If your computer is running 4 programs at the same time, each program needs its own space in memory. The more RAM your computer has, the more programs it can run (at the same time) and the faster it can process. RAM and the processor work hand in hand.

Think of the processor as a math professor and memory as a blackboard. Doing big calculations on a small blackboard is difficult. The bigger the blackboard the more room the professor has to spread out her work. Another way to look at RAM is using food. Memory is like a plate, data is like food and your mouth is like the processor. Think how messy it would be to eat (process) your food (data) without putting it on a plate (in memory).

Many of the commands for finding memory information are the same as the commands for processor information. The OS (operating system) also need to know the amount of computer memory so there is another file in the /proc folder called "meminfo." You can again, use the "cat" command to list the contents of this file with the following command:

```
user@host:~$  cat  /proc/meminfo
```

Unfortunately the output of this file is not very friendly. A better way to see the total memory, used and free memory is with the "free" command. To make the free command easier to understand is to use the "-h" flag that converts the number into a "human" readable format. Try the free command with and without the -h flag to see the difference.

```
user@host:~$  free  -h
```

Finally we can use our old friend "lshw" to to show detailed memory information. Don't forget to use the -c flag to specify the class of hardware you are looking for which in this case is memory. Also use the "sudo" or "super user" command to get detailed information.

```
user@host:~$  sudo  lshw  -c  memory
```

Questions

Which command do you prefer for finding memory information? _____

Why? _____

_____

_____

Can you explain the different output when using lshw with sudo and without? _____

_____

_____

_____

When you did the “sudo lshw” command, was there any information you did not understand?

(Yes / No) _____ If yes, What information would you like explained. _____

_____

_____

_____

Use the free command with -h and without. Which do you prefer? _____

Why does the free command offer the option for output in “human readable” and detailed “byte”

format? _____

_____