U18CO018
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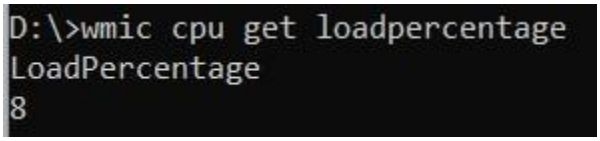
DA ASSIGNMENT 2

Calculate the CPU load for your machine and identify the state (under loaded or overloaded) of your machine. You have to find out the CPU usage of your computer using some Unix command.

Hint: With the help of grep Unix command, you can extract CPU usage. If CPU load is greater than 70% than it is overloaded, if it is between the range of 30% to 70% than it is moderately loaded and if it is less than 30% than it is lightly-loaded

CPU Usage from Windows Command Prompt

wmic cpu get loadpercentage



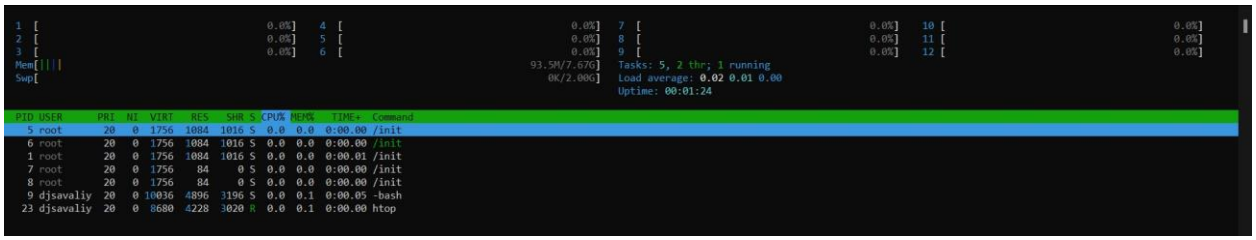
In Linux terminal:

top command is used to show the Linux processes. It provides a dynamic real-time view of the running system. Usually, this command shows the summary information of the system and the list of processes or threads which are currently managed by the Linux Kernel.

```
top - 23:26:52 up 0 min,  0 users,  load average: 0.04, 0.01, 0.00
Tasks:   5 total,   1 running,   4 sleeping,   0 stopped,   0 zombie
%Cpu(s):  0.0 us,  0.0 sy,  0.0 ni,100.0 id,  0.0 wa,  0.0 hi,  0.0 si,  0.0 st
MiB Mem :   7851.7 total,   7728.8 free,     92.2 used,     30.6 buff/cache
MiB Swap:   2048.0 total,   2048.0 free,      0.0 used.   7615.2 avail Mem

  PID USER      PR  NI    VIRT    RES    SHR S  %CPU  %MEM     TIME+ COMMAND
    1 root      20   0    1756   1084   1016 S   0.0   0.0   0:00.01 init
    7 root      20   0    1756     84      0 S   0.0   0.0   0:00.00 init
    8 root      20   0    1756     84      0 S   0.0   0.0   0:00.00 init
    9 djsaval+  20   0   10036   4896   3196 S   0.0   0.1   0:00.05 bash
   22 djsaval+  20   0   10876   3728   3176 R   0.0   0.0   0:00.00 top
```

htop – similar to top, just UI is better than top



Using sysstat package:

The iostat command reports CPU and I/O usage statistics.

```
Linux 5.10.16.3-microsoft-standard-WSL2 (Psi)   02/03/22        _x86_64_        (12 CPU)

avg-cpu:  %user   %nice %system %iowait  %steal   %idle
           0.00    0.00    0.11    0.01    0.00   99.88

Device             tps    kB_read/s    kB_wrtn/s    kB_dscd/s    kB_read    kB_wrtn    kB_dscd
sda              35.82         2.14     17769.63         0.00        225    1864212          0
sdb               3.87       141.08         3.51         0.72      14801        368         76
```

The **mpstat** tool is a part of the sysstat package. The tool reports the use of individual processors or processor cores.

```
Linux 5.10.16.3-microsoft-standard-WSL2 (Psi)   02/03/22        _x86_64_        (12 CPU)

23:28:11     CPU    %usr   %nice    %sys %iowait    %irq   %soft  %steal  %guest  %gnice   %idle
23:28:11     all    0.00    0.00    0.08    0.01    0.00    0.01    0.00    0.00    0.00   99.90
```