

DISTRIBUTED SYSTEMS - ASSIGNMENT -3

1. 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% then it is overloaded, if it is between the range of 30% to 70% then it is moderately loaded and if it is less than 30% then it is lightly-loaded.

Code=>

```
brijesh@brijesh-GF75-Thin-9SCSR: ~/Documents/ds/ds-assign03
GNU nano 5.6.1 ds-assign03-q1.sh *
#Brijesh Rohit
#U19CS009

idle=$(top -bn2 | grep '%Cpu' | tail -1 | grep -P '(\.|\.) id,' | awk '{print $8}')
total=$(echo "100.0 - $idle" | bc)
high=70.0
low=30.0
echo "CPU Usage: $total%"
if [ $(echo "$total >= $high" | bc) -eq 1 ]; then
echo "Overloaded "
elif [ $(echo "$total <= $low" | bc) -eq 1 ]; then
echo "Lightly Loaded"
else
echo "Moderately Loaded"
fi
```

Output=>

```
brijesh@brijesh-GF75-Thin-9SCSR: ~/Documents/ds/ds-assign03
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/ds/ds-assign03$ chmod +x ds-assign03-q1.sh
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/ds/ds-assign03$ ./ds-assign03-q1.sh
CPU Usage: 11.1%
Lightly Loaded
brijesh@brijesh-GF75-Thin-9SCSR:~/Documents/ds/ds-assign03$
```

Explanation=>

Top command provides dynamic real time view of running system. So using grep command we can find real time view of CPU usage.

TOP command output :

```
brijesh@brijesh-GF75-Thin-9SCSR: ~/Documents
```

```
top - 14:57:55 up 2:06, 1 user, load average: 1.46, 1.42, 1.66
Tasks: 595 total, 1 running, 594 sleeping, 0 stopped, 0 zombie
%Cpu(s): 7.8 us, 3.2 sy, 0.0 ni, 88.9 id, 0.0 wa, 0.0 hi, 0.1 si, 0.0 st
MiB Mem : 15840.3 total, 5930.2 free, 7071.9 used, 2838.2 buff/cache
MiB Swap: 2048.0 total, 2048.0 free, 0.0 used. 7742.9 avail Mem
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
68133	brijesh	20	0	42.6g	249792	82732	S	53.3	1.5	25:08.10	brave
2534	brijesh	9	-11	4299852	16244	11196	S	18.8	0.1	8:42.91	pulseaudio
3076	brijesh	20	0	5194544	320868	80528	S	15.5	2.0	14:37.33	gnome-shell
104929	brijesh	20	0	13.0g	274432	103132	S	15.1	1.7	1:36.90	editors_helper
2596	brijesh	20	0	24.8g	142684	73640	S	7.9	0.9	12:46.42	Xorg
68160	brijesh	20	0	16.9g	58568	45540	S	6.9	0.4	3:15.45	brave
5662	brijesh	20	0	977884	227724	126220	S	6.6	1.4	7:49.06	Mailspring defa
5021	brijesh	20	0	561016	92332	61584	S	5.9	0.6	6:49.81	mailspring
104733	brijesh	20	0	3132468	208556	155356	S	3.9	1.3	0:24.42	DesktopEditors
318	root	-51	0	0	0	0	S	2.6	0.0	1:06.78	irq/137-CUST000
14074	brijesh	20	0	16.5g	318528	112280	S	2.6	2.0	12:48.41	brave
104830	brijesh	20	0	647648	122452	89124	S	2.6	0.8	0:20.94	editors_helper
14110	brijesh	20	0	16.4g	79024	55676	S	2.3	0.5	2:54.15	brave
108305	brijesh	20	0	22112	3400	2312	R	1.0	0.0	0:00.57	top
14109	brijesh	20	0	16.6g	101012	56080	S	0.7	0.6	28:28.99	brave
106320	root	0	-20	0	0	0	I	0.7	0.0	0:00.14	kworker/u25:1-i9
13	root	20	0	0	0	0	I	0.3	0.0	0:12.56	rcu_sched
605	root	1	-19	0	0	0	S	0.3	0.0	0:06.01	z_wr_iss
619	root	0	-20	0	0	0	S	0.3	0.0	0:01.93	z_wr_int
1289	root	-51	0	0	0	0	S	0.3	0.0	0:04.56	irq/144-iwlwifi