

Write a CPU bound C program and a I/O bound C program and observe the effect of their CPU share using the top command and its variants.

```
vaibhav@ubuntu:~$ ./a.out
Enter the any number : 4343
Enter the any number : 434
3
Current local time and date: Sun Nov 20 15:05:02 2022

Enter the any number : 343
Enter the any number : 4
3
Current local time and date: Sun Nov 20 15:05:04 2022
```

```
vaibhav@ubuntu:~$ top
```

```
top - 15:03:45 up 5 min, 1 user, load average: 0.33, 0.51, 0.28
Tasks: 201 total, 6 running, 195 sleeping, 0 stopped, 0 zombie
%Cpu(s): 28.7 us, 46.8 sy, 0.0 ni, 24.3 id, 0.0 wa, 0.0 hi, 0.2 si, 0.0 st
MiB Mem : 1975.8 total, 425.7 free, 759.2 used, 790.9 buff/cache
MiB Swap: 2890.0 total, 2890.0 free, 0.0 used, 1024.6 avail Mem
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
1722	vaibhav	20	0	4560472	383784	139004	R	45.5	19.0	2:07.42	gnome-shell
2292	vaibhav	20	0	577036	58672	44784	R	45.2	2.9	0:17.10	gnome-terminal-
2577	vaibhav	20	0	2772	1108	1020	R	36.9	0.1	0:01.11	a.out
96	root	20	0	0	0	0	I	10.0	0.0	0:00.97	kworker/u4:2-events_unbound
108	root	20	0	0	0	0	R	8.0	0.0	0:00.82	kworker/u4:5-events_unbound
80	root	20	0	0	0	0	D	5.2	0.0	0:00.01	kworker/u4:1-events_unbound

```
t=1053result=2421result=697result=8967result=929result=6816result=5316result=11343result=1402result=2970result=4574result=3243result=659result=4523resu  
lt=4073result=8163result=1053result=2421result=697result=8967result=929result=6816result=5316result=11343result=1402result=2970result=4574result=3243resu  
lt=659result=4523result=4073result=8163result=1053result=2421result=697result=8967result=929result=6816result=5316result=11343result=1402result=2970resu  
lt=4574result=3243result=659result=4523result=4073result=8163result=1053result=2421result=697result=8967result=929result=6816result=5316result=11343resu  
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lt=929result=6816result=5316result=11343result=1402result=2970result=4574result=3243result=659result=4523result=4073result=8163result=1053result=2421res  
ult=697result=8967result=929result=6816result=5316result=11343result=1402result=2970result=4574result=3243result=659result=4523result=4073result=8163res  
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sult=659result=4523res^C  
vaibhav@ubuntu:~$
```

```
top - 15:08:26 up 10 min, 1 user, load average: 1.17, 0.92, 0.53
Tasks: 201 total, 5 running, 196 sleeping, 0 stopped, 0 zombie
%Cpu(s): 34.4 us, 32.8 sy, 0.0 ni, 32.4 id, 0.2 wa, 0.0 hi, 0.2 si, 0.0 st
MiB Mem : 1975.8 total, 362.5 free, 807.4 used, 805.9 buff/cache
MiB Swap: 2890.0 total, 2890.0 free, 0.0 used. 967.0 avail Mem
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
2731	vaibhav	20	0	577980	60056	44244	R	72.8	3.0	0:14.37	gnome-termi+
1722	vaibhav	20	0	4611188	418196	146568	R	41.2	20.7	4:30.42	gnome-shell
2808	vaibhav	20	0	2772	936	848	S	18.3	0.0	0:02.43	a.out
2590	root	20	0	0	0	0	I	6.3	0.0	0:02.03	kworker/u4:+
89	root	20	0	0	0	0	I	5.3	0.0	0:04.87	kworker/u4:+

```
28793 prime number
28793 prime number
28793 prime number
28793 prime number
28794 prime number
28794 prime number
28794 prime number
28794 prime number
28795 prime number
28795 prime number
^C
```

```
vaibhav@ubuntu:~$
```

vaibhav@ubuntu: ~											
top - 17:17:44 up 9 min, 1 user, load average: 0.56, 0.37, 0.21											
Tasks: 196 total, 5 running, 191 sleeping, 0 stopped, 0 zombie											
%Cpu(s): 23.7 us, 73.4 sy, 0.0 ni, 2.9 id, 0.0 wa, 0.0 hi, 0.0 si, 0.0 st											
MiB Mem : 1975.8 total, 419.7 free, 755.3 used, 800.8 buff/cache											
MiB Swap: 2890.0 total, 2890.0 free, 0.0 used. 1026.5 avail Mem											
PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	%MEM	TIME+	COMMAND
2518	vaibhav	20	0	2772	924	832	R	89.4	0.0	0:07.02	a.out
1715	vaibhav	20	0	4560688	385000	140772	R	72.1	19.0	1:57.09	gnome-shell
2315	vaibhav	20	0	571720	61160	46560	R	22.6	3.0	0:10.93	gnome-terminal-
8	root	20	0	0	0	0	R	4.7	0.0	0:02.01	kworker/u4:0-events_unbound
89	root	20	0	0	0	0	I	4.0	0.0	0:01.02	kworker/u4:1-events_unbound
14	root	20	0	0	0	0	I	0.3	0.0	0:00.64	rcu_sched
274	root	51	0	0	0	0	S	0.3	0.0	0:00.23	iso/18-vmwgfx