Practical - 1

Aim : Collect the following basic information about your machine using proc.

a. How many CPU cores does the machine have?
$ cat /proc/cpuinfo
cpu cores   : 2

b. How much memory, and what fraction of it is free?
$ cat /proc/meminfo
MemTotal: 7946892 kB
MemFree: 3237876 kB
MemAvailable: 4489176 kB

Fraction of memory free : MemFree / MemTotal = 0.4074

c. How many context switches has the system performed since bootup?
$ cat /proc/stat | grep ctxt
ctxt 14770187

d. How many processes has it forked since bootup?
$ cat /proc/stat | ag processes
processes 7389

e. How many processors does your machine have?
$ lscpu
CPU(s):   4
OR
$ cat /proc/cpuinfo | grep processor
processor   : 0
processor   : 1
processor   : 2
processor   : 3
So, total number of processors are 4.
OR
$ getconf _NPROCESSORS_ONLN
4

f. What is the frequency of each processor?
$ cat /proc/cpuinfo | grep 'model name' | uniq
model name   : Intel(R) Core(TM) i5-7200U CPU @ 2.50GHz

g. Find out various states of process at time of observation.
$ top
[here ,in top command
S = sleeping
I = ideal
R = runnig
D = uninterruptible sleep
T = traced or stopped
Z = Zombie state
]

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                       bhishm@BhishmDaslaniya: ~ 80x28
top - 22:01:11 up  1:36,  2 users,  load average: 1.27, 1.23, 1.05
Tasks: 239 total,   1 running, 185 sleeping,   0 stopped,   0 zombie
%Cpu(s):  3.3 us,  1.6 sy,  0.0 ni, 94.8 id,  0.3 wa,  0.0 hi,  0.0 si,  0.0 st
KiB Mem :  7946892 total,   172240 free,  1883060 used,  5891592 buff/cache
KiB Swap:        0 total,        0 free,        0 used.  5209748 avail Mem

  PID USER      PR  NI    VIRT    RES    SHR S  %CPU %MEM     TIME+ COMMAND
 2530 bhishm    20   0 1119712 253200  98008 S   9.6  3.2  14:18.09 chrome
 1720 bhishm     9 -11  507992  12440   9132 S   5.0  0.2   3:32.22 pulseaudio
 2636 bhishm    20   0  769116  55844  45532 S   1.7  0.7   1:06.81 chrome
 1994 bhishm    20   0 1058556 254180 118296 S   1.0  3.2   1:58.02 chrome
 1065 root      20   0  478724 106368  75748 S   0.7  1.3   5:40.44 Xorg
 1796 bhishm    20   0 1503436 203520  54116 S   0.7  2.6   5:22.84 compiz
 1347 root      20   0 1101756  10600   9144 S   0.3  0.1   0:08.23 teamviewerd
 6721 bhishm    20   0 1202248 354732 111636 S   0.3  4.5   1:54.54 chrome
 7542 bhishm    20   0   48972   3800   3096 R   0.3  0.0   0:00.29 top
    1 root      20   0  185692   6296   3984 S   0.0  0.1   0:02.10 systemd
    2 root      20   0       0      0      0 S   0.0  0.0   0:00.00 kthreadd
    4 root       0 -20       0      0      0 I   0.0  0.0   0:00.00 kworker/0:+
    6 root       0 -20       0      0      0 I   0.0  0.0   0:00.00 mm_percpu_+
    7 root      20   0       0      0      0 S   0.0  0.0   0:00.11 ksoftirqd/0
    8 root      20   0       0      0      0 I   0.0  0.0   0:06.95 rcu_sched
    9 root      20   0       0      0      0 I   0.0  0.0   0:00.00 rcu_bh
   10 root      rt   0       0      0      0 S   0.0  0.0   0:00.00 migration/0
   11 root      rt   0       0      0      0 S   0.0  0.0   0:00.02 watchdog/0
   12 root      20   0       0      0      0 S   0.0  0.0   0:00.00 cpuhp/0
   13 root      20   0       0      0      0 S   0.0  0.0   0:00.00 cpuhp/1
   14 root      rt   0       0      0      0 S   0.0  0.0   0:00.01 watchdog/1
```