

## Programming Part Output

1.)

a. Sample A.

```
Parent Process 443 just started!  
[443]: Forked process 444  
[443]: Forked process 445  
[444]: Forked process 446  
[446]: Average: 7.850000  
[443]: Forked process 447  
[443]: Sum: 157  
[443]: Multiples of 5: 4  
[443]: Multiples of 7: 3
```

b. Sample B.

```
Parent Process 453 just started!  
[453]: Forked process 454  
[453]: Forked process 455  
[454]: Forked process 456  
[456]: Average: 6.400000  
[453]: Forked process 457  
[453]: Sum: 128  
[453]: Multiples of 5: 4  
[453]: Multiples of 7: 4
```

2.)

Results of cat command:

```
root:x:0:0:root:/root:/bin/bash
daemon:x:1:1:daemon:/usr/sbin:/usr/sbin/nologin
bin:x:2:2:bin:/bin:/usr/sbin/nologin
sys:x:3:3:sys:/dev:/usr/sbin/nologin
sync:x:4:65534:sync:/bin:/bin/sync
games:x:5:60:games:/usr/games:/usr/sbin/nologin
man:x:6:12:man:/var/cache/man:/usr/sbin/nologin
lp:x:7:7:lp:/var/spool/lpd:/usr/sbin/nologin
mail:x:8:8:mail:/var/mail:/usr/sbin/nologin
news:x:9:9:news:/var/spool/news:/usr/sbin/nologin
uucp:x:10:10:uucp:/var/spool/uucp:/usr/sbin/nologin
proxy:x:13:13:proxy:/bin:/usr/sbin/nologin
www-data:x:33:33:www-data:/var/www:/usr/sbin/nologin
backup:x:34:34:backup:/var/backups:/usr/sbin/nologin
list:x:38:38:Mailing List Manager:/var/list:/usr/sbin/nologin
irc:x:39:39:ircd:/var/run/ircd:/usr/sbin/nologin
gnats:x:41:41:Gnats Bug-Reporting System (admin):/var/lib/gnats:/usr/sbin/nologin
nobody:x:65534:65534:nobody:/nonexistent:/usr/sbin/nologin
systemd-timesync:x:100:102:systemd Time Synchronization,,:/run/systemd:/usr/sbin/nologin
systemd-network:x:101:103:systemd Network Management,,,:/run/systemd:/usr/sbin/nologin
systemd-resolve:x:102:104:systemd Resolver,,,:/run/systemd:/usr/sbin/nologin
```

```
messagebus:x:103:106::/nonexistent:/usr/sbin/nologin
syslog:x:104:109::/home/syslog:/usr/sbin/nologin
_apt:x:105:65534::/nonexistent:/usr/sbin/nologin
uidd:x:106:112::/run/uidd:/usr/sbin/nologin
usbmux:x:107:46:usbmux daemon,,,:/var/lib/usbmux:/usr/sbi
n/nologin
rtkit:x:108:114:RealtimeKit,,,:/proc:/usr/sbin/nologin
dnsmasq:x:109:65534:dnsmasq,,,:/var/lib/misc:/usr/sbin/no
login
cups-pk-helper:x:110:117:user for cups-pk-helper service,
,,:/home/cups-pk-helper:/usr/sbin/nologin
kernoops:x:111:65534:Kernel Oops Tracking Daemon,,,:/us
r/sbin/nologin
avahi:x:112:119:Avahi mDNS daemon,,,:/var/run/avahi-daemo
n:/usr/sbin/nologin
saned:x:113:120::/var/lib/saned:/usr/sbin/nologin
whoopsie:x:114:121::/nonexistent:/bin/false
colord:x:115:122:colord colour management daemon,,,:/var/
lib/colord:/usr/sbin/nologin
hplip:x:116:7:HPLIP system user,,,:/var/run/hplip:/bin/fa
lse
sddm:x:117:123:Simple Desktop Display Manager:/var/lib/sd
dm:/bin/false
geoclue:x:118:124::/var/lib/geoclue:/usr/sbin/nologin
pulse:x:119:125:PulseAudio daemon,,,:/var/run/pulse:/usr/
sbin/nologin
csc015:x:1000:1001:csc015:/home/csc015:/bin/bash
systemd-coredump:x:999:999:systemd Core Dumper:/:/sbin/no
login
```

```
login
vboxadd:x:998:1::/var/run/vboxadd:/bin/false
```

```
Results of wc command:
 30 156 data.txt
```

```
Results of head command:
Captain Hook -- Peter Pan
Harry Potter -- Harry Potter
Iron Man -- Avengers
Frodo Baggins -- Lord of the Rings
Wendy Darling -- Peter Pan
Sam Gamgee -- Lord of the Rings
```

```
Results of grep command:
3:Iron Man -- Avengers
8:Hulk -- Avengers
11:Captain America -- Avengers
13:Gamora -- Avengers
15:Black Widow -- Avengers
18:Maria Hill -- Avengers
20:Loki -- Avengers
23:Dr. Stephen Strange -- Avengers
26:Black Panther -- Avengers
29:Thor -- Avengers
```

```
Parent is out! Bye!
```