Homework 4 report

Problem 1

For data processing algorithm the linked list is used. First the complete file is read and sorted. And then the alphabets which are less than 100 are added in the linked list. The linked list is hen traversed and then logged into the file.

The screenshot of process running

```
Mem: 30916K used, 466376K free, 100K shrd, 760K buff, 9288K cached
CPU:   97% usr    1% sys    0% nic    0% idle    0% io    0% irq    0% sirq
Load average: 0.47 0.18 0.16 3/61 10939
  PID  PPID USER     STAT   VSZ %VSZ %CPU COMMAND
10503   751 root      S    5564   1%  93% ./pthread_sub
  718   121 root      S    1008   0%   1% /usr/sbin/dropbear -R
10793  2260 root      R    1632   0%   0% top
    8     2 root      RW      0   0%   0% [rcu_sched]
  112     1 root      S    1144   0%   0% /sbin/dhcpcd -f /etc/dhcpcd.conf
 2243   121 root      S    1008   0%   0% /usr/sbin/dropbear -R
   14     2 root      IW      0   0%   0% [kworker/0:1]
```

The screenshot of threads executing

```
  PID USER      PR  NI    VIRT    RES    SHR S %CPU %MEM     TIME+  COMMAND
 8446 nachiket  20   0  156244   2152    752 R 99.7  0.0   0:30.96 pthread_sub
 8447 nachiket  20   0  156244   2152    752 R 99.3  0.0   0:30.96 pthread_sub
 8444 nachiket  20   0  156244   2152    752 S  0.3  0.0   0:00.04 pthread_sub
```

The screenshot of kill command

```
nachiket@nachiket-VirtualBox:~/AESD/HW4$ kill -10 8492
nachiket@nachiket-VirtualBox:~/AESD/HW4$ kill -10 8493
```

Problem 2

Logs files are attached in the git repository.

The file pthreadcase1.log shows the threads exiting normally and pthreadcase2.log shows the thread being killed from the command line.

In some cases while loops are there to demonstrate signal handling and is done the same.