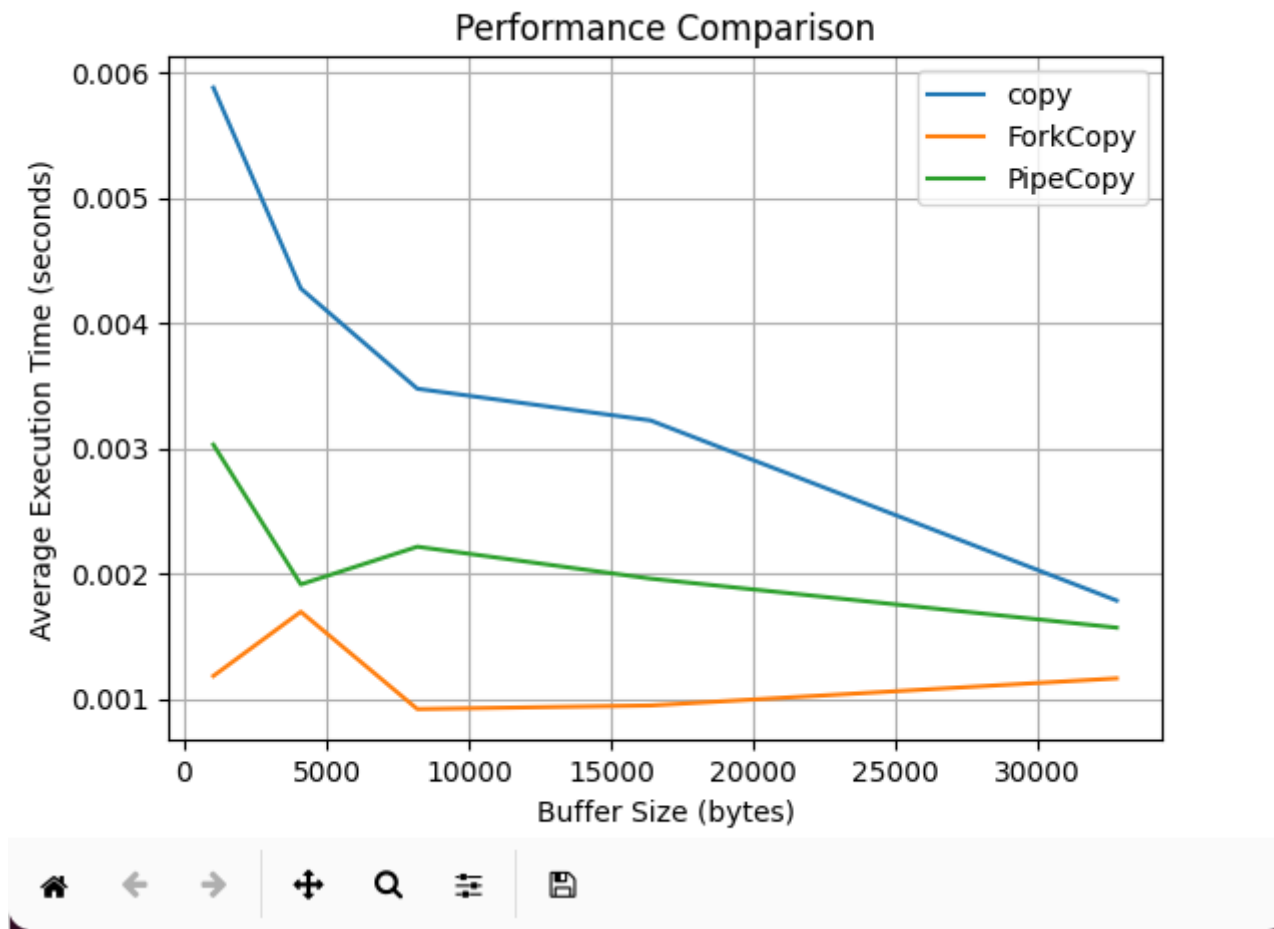


Test

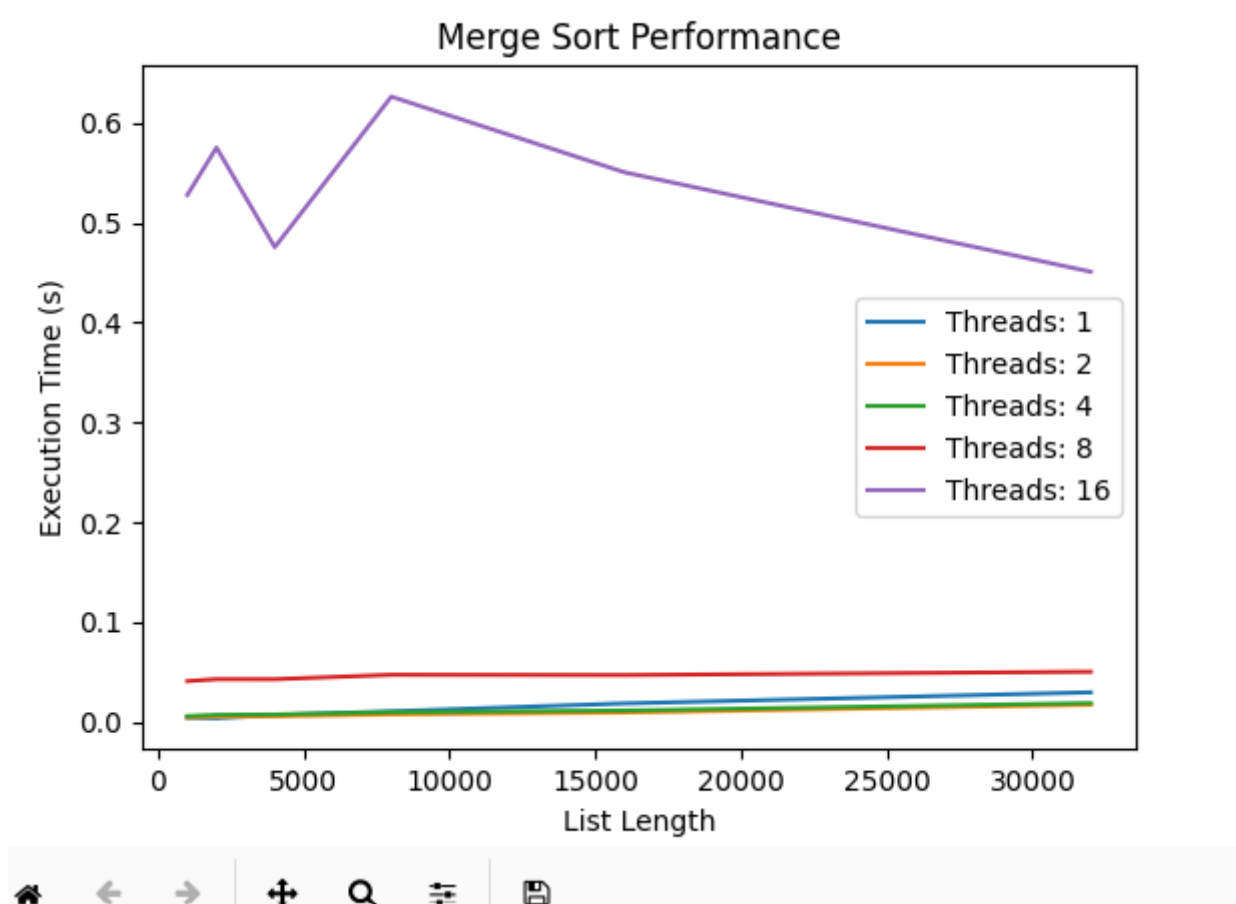
copy test

Within each figure, use buffer size as the x-axis and execution time as the y-axis. I use different colors to denote different implementation methods in three steps.



mergesort test

In the figure, use list length as the x-axis and use execution time as the y-axis. I use different colors to denote the different number of thread numbers. Please experiment with at least 4 values of thread numbers and 6 list lengths. Run 20 times for each configuration and take the mean execution time. Analyze the result below.



Shell test

```
ww@ww-virtual-machine:/home/ww/Desktop> ls -l | wc
  23    200   1073
ww@ww-virtual-machine:/home/ww/Desktop> ls -l | wc | wc
   1     3    24
ww@ww-virtual-machine:/home/ww/Desktop> find a.txt
a.txt
ww@ww-virtual-machine:/home/ww/Desktop> exit
chine:/home/ww/Desktop>
chine:~/Desktop$
```

```
ww@ww-virtual-machine:/home/ww/Desktop> ls
1.txt  b.txt  ForkCopy  MergesortMulti  PipeCopy  Shell.c
3.txt  copy   ForkCopy.c MergesortMulti.c PipeCopy.c test.py
4.txt  copy.c input.txt MergesortSingle README.md
a.txt  c.txt  makefile  MergesortSingle.c Shell
ww@ww-virtual-machine:/home/ww/Desktop> ls -l
total 368
-rw-rw-r-- 1 ww ww 30148 Apr  1 07:35 1.txt
-rw-rw-r-- 1 ww ww   15 Apr  1 04:24 3.txt
-rw-r--r-- 1 ww ww   15 Apr  1 07:48 4.txt
-rw-rw-r-- 1 ww ww 8368 Apr  1 08:12 a.txt
-rw-rw-r-- 1 ww ww 8368 Apr  1 08:18 b.txt
-rwxrwxr-x 1 ww ww 16336 Apr  1 08:30 copy
-rw-rw-r-- 1 ww ww 1005 Apr  1 08:16 copy.c
-rw-r--r-- 1 ww ww    1 Apr  1 08:15 c.txt
-rwxrwxr-x 1 ww ww 16352 Apr  1 08:30 ForkCopy
-rw-rw-r-- 1 ww ww 1029 Apr  1 08:17 ForkCopy.c
-rw-rw-r-- 1 ww ww 156487 Apr  1 07:40 input.txt
-rw-rw-r-- 1 ww ww  579 Apr  1 08:30 makefile
-rwxrwxr-x 1 ww ww 16568 Apr  1 07:16 MergesortMulti
-rw-rw-r-- 1 ww ww  2182 Apr  1 07:15 MergesortMulti.c
-rwxrwxr-x 1 ww ww 16512 Apr  1 07:08 MergesortSingle
-rwxrwxr-x 1 ww ww  1851 Apr  1 07:08 MergesortSingle.c
Trash
```