Hw21

**Q: Perform the experiment. Tabulate the computing times in your homework report.**

Round 1:

left bheap

n=100 0.000443 0.000464

n=500 0.000455 0.000521

n=1000 0.000467 0.000442

n=2000 0.000655 0.000429

n=3000 0.000414 0.000456

n=4000 0.000368 0.000438

n=5000 0.000432 0.000476

Round 2:

left bheap

n=100 0.000751 0.000466

n=500 0.000476 0.000443

n=1000 0.000374 0.000485

n=2000 0.000447 0.000430

n=3000 0.000388 0.000490

n=4000 0.000351 0.000436

n=5000 0.000362 0.000427

Round 3:

left bheap

n=100 0.000322 0.000419

n=500 0.000308 0.000466

n=1000 0.000357 0.000414

n=2000 0.000308 0.000430

n=3000 0.000317 0.000411

n=4000 0.000322 0.000414

n=5000 0.000313 0.000433

number of operation respectively after 3 rounds:

(7\*5000\*3/2~=52500)

# of leftest delete:52542 # of leftest insert: 52458

# of bheap delete:52542 # of bheap insert: 52458

**Q: Based on your experiments, make some statements about the relative merits of the two data structures?**

In leftist tree, the operation is easier and simpler to perform, but it may sometimes cost up to nearly twice its average performance time.

In binominal heap, the operation is more complicated to perform, but the performance time binominal heap consumes is more steady than leftist tree.