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Assignment 3

Analysis of differing class implementations (32kb file)

* append()

StringBuilder was definitely the best class for appending characters. It was not very close; in a run with StringBuilder at 2048ns, MyStringBuilder2 was at 7026ns, MyStringBuilder was at 8197ns, and String was at 572,180,834ns. Since StringBuilder won this competition in every single run by a decent amount, it is the winner.

* delete(0,1)

MyStringBuilder2 was the best implementation for deleting the first character in the data structure. The competition was definitely closer than appending characters, but MyStringBuilder2 won the race in every run. In a sample run, MyStringBuilder2 took 878ns, MyStringBuilder took 1464ns, String took 2634ns, and StringBuilder took 4098ns. Although somewhat close, I won’t call it close because of the outright winning nature of MyStringBuilder2.

* insert()

This is by far the closest matchup thus far. In MOST test runs, MyStringBuilder2 won, but MyStringBuilder and StringBuilder were extremely close (within 100) or tied, whereas String was only a slightly behind by a couple hundred nanoseconds. In a test run, MyStringBuilder2 took 1464ns, StringBuilder took 1464ns, MyStringBuilder took 1464ns, and String took 2342ns.

Conclusion

Overall, I think MyStringBuilder2 is the best class implementation out of the four because it showed to be not only the winner of delete(), but also the best of insert(), and with a strong showing as second best in append().