H1: Pretty Curves Sophia Quick

1. Were you able to get quadratic and linear scaling with different input generators? What is it about those inputs that causes the scaling to be what it is?

I was able to achieve a quadratic and linear scaling with the different input generators. It was difficult to see the linear progression of the best case displayed on a graph with the other generators. Once I looked at the actual times on a separate graph that only looked at the best-case results, the linear scaling was obvious.

The different input generators varied how many times one of the while loops was utilized. In the base-case lists, since the list was already in order and therefore never went into one of the while loops. Therefore, it performed one linear function and one constant function. Thus, the scaling was linear. However, the worst-case lists had to go into the while loop *n* times because the list was backwards. Since these lists had to utilize both while loops *n* times each, the scaling was approximately quadratic, or n2.

1. For the random input, was the scaling closer to linear, closer to quadratic, or something else entirely?

The random input was always in between the linear and quadratic inputs. However, it did appear to be closer to the quadratic scaling.