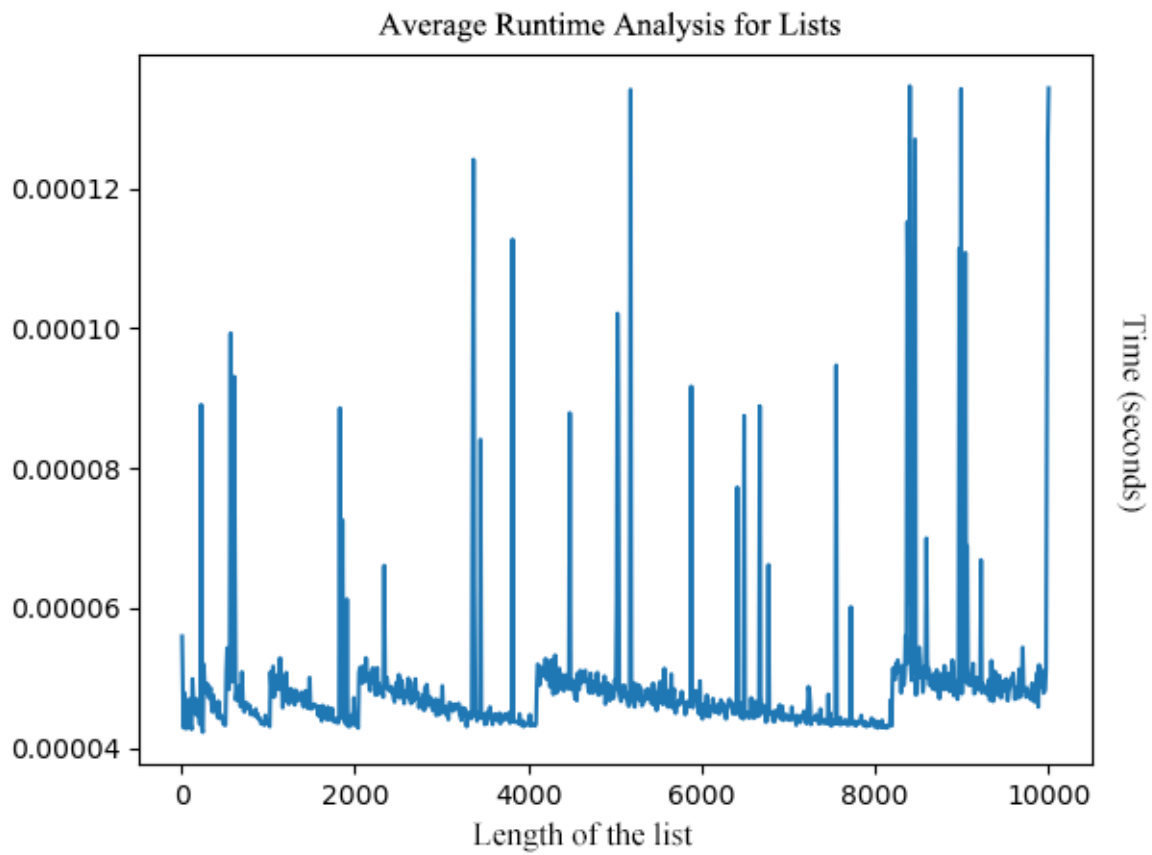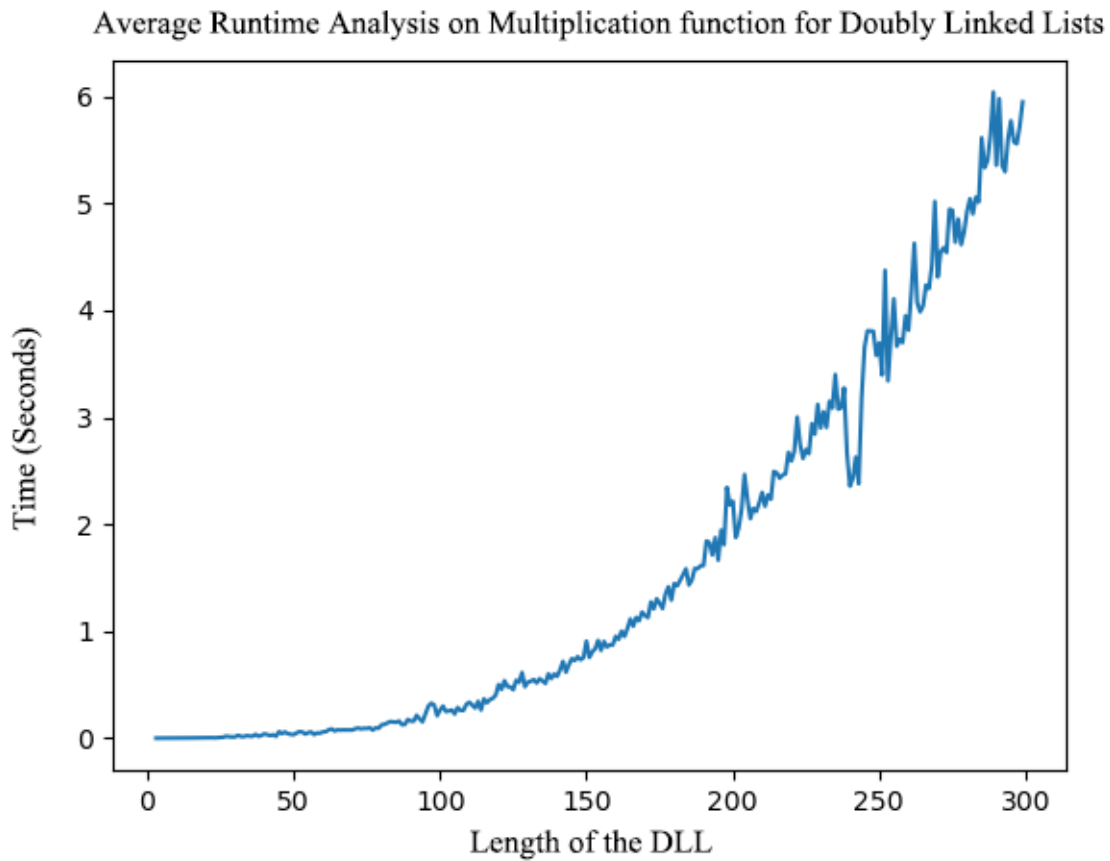Average Time Analysis on Doubly Linked Lists

For my implementation of the doubly linked list in python, I observe that there is a gradual increase in the runtime, as the length of the list grows. I deduce that the runtime for the doubly linked lists is linear, O(n), n being the length of the list, or the number of nodes present n the list.

Average Runtime Analysis for Lists

For lists in Python, I observe that indexing runtime is about constant O time (O(1)). The variations between different lengths of the list is in decimals of milliseconds, which is quite small.

Average Runtime Analysis on Multiplication function for Doubly Linked Lists

I observe that the slope for this graph is increasing for the tested length of the data structure – I conclude that the runtime for this multiplication operation on the doubly linked list is quadratic ($O(n^2)$, n being the list length). My reasoning for that is the involvement of two for loops to perform product calculations.