**Problem 4 – Sorting**

**Does the size of p change the analysis and when does 1 sort outperform the other?**

Yes the size of p significantly changes the analysis. The lower the value of p the more likely selection sort is to outperform mergesort. In my analysis when p was lower than 100 selection sort almost always had a lower time and operational analysis, once p was higher than 100 merge sort was more likely to outperform selection sort in timing and operation.

**What is the new BigO of Selection Sort**

O(n \* p). Selection sort has to run through all elements of the array but it will only run through it p amount of times instead if n amount times.

**How does this compare to Merge?**

This compare to Merge sort’s O(n log n) big O because selection sort big O is smaller in certain case where p is a small number.