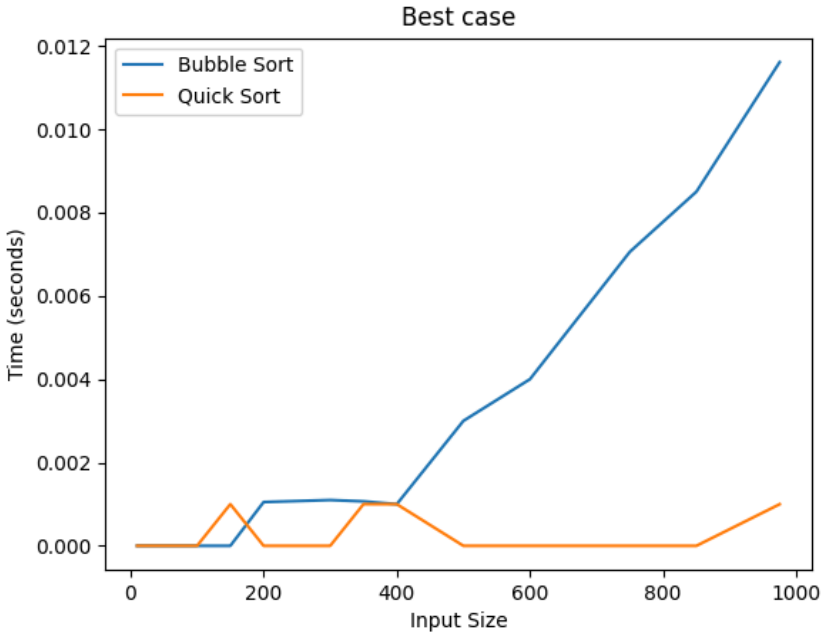
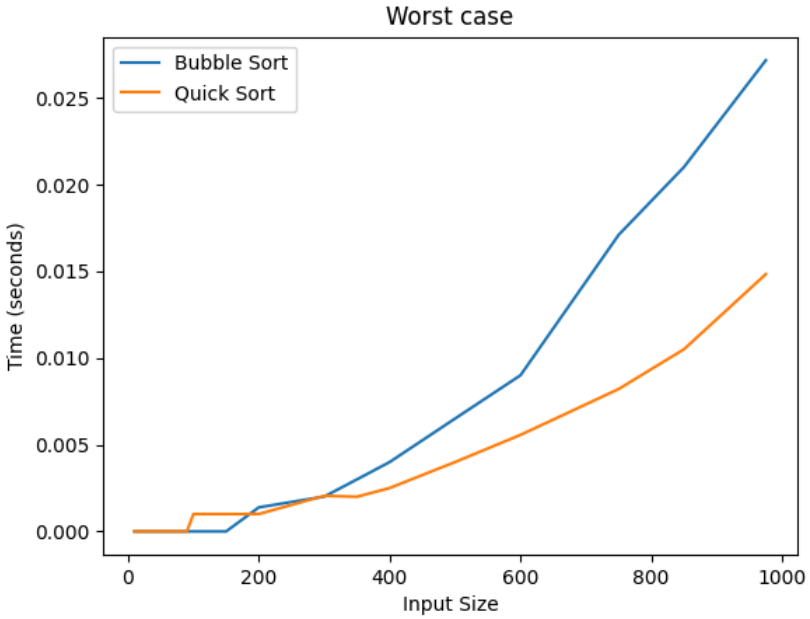
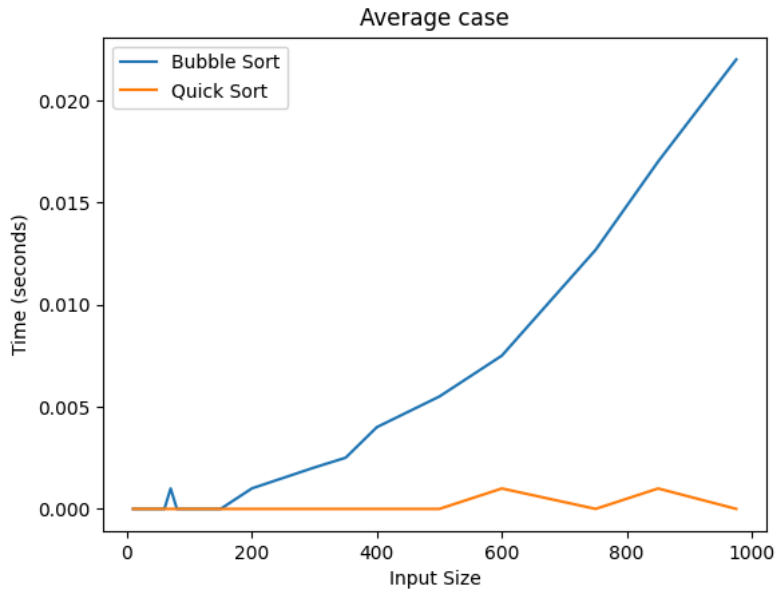
2.3


Best case
Bubble Sort
Quick Sort
Time (seconds)
0.012
0.010
0.008
0.006
0.004
0.002
0.000
0
200
400
600
800
1000
Input Size


Worst case
Bubble Sort
Quick Sort
Time (seconds)
0.025
0.020
0.015
0.010
0.005
0.000
0
200
400
600
800
1000
Input Size



Based on the performance plots generated, the best case and worst case scenario show that between 100 to 200 input size, the quick sort takes more time than the bubble sort, but around 200 inputs and beyond, the quicksort algorithm performs much better than the bubble sort algorithm as more and more inputs are used.

2.4

The threshold determined from the plots is around 100 inputs. This number is chosen because in several plots that are created, the bubble sort is sometimes faster than quicksort for inputs less than 100. After a list passes 100 elements, quick sort is faster than bubble sort. This is the threshold that determines whether the input is "small" or not.