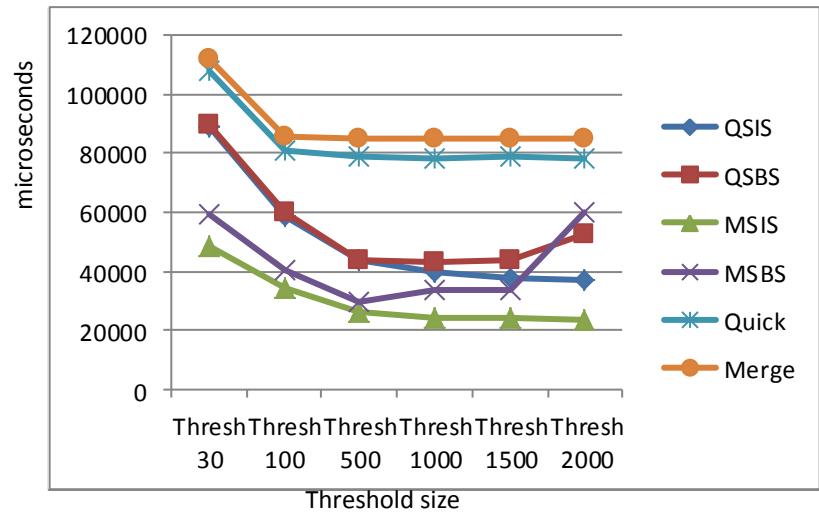


Report

Shown by the graphs I decided to run the pure quick and the pure merge six times so I would get a nice line to compare with the hybrids.

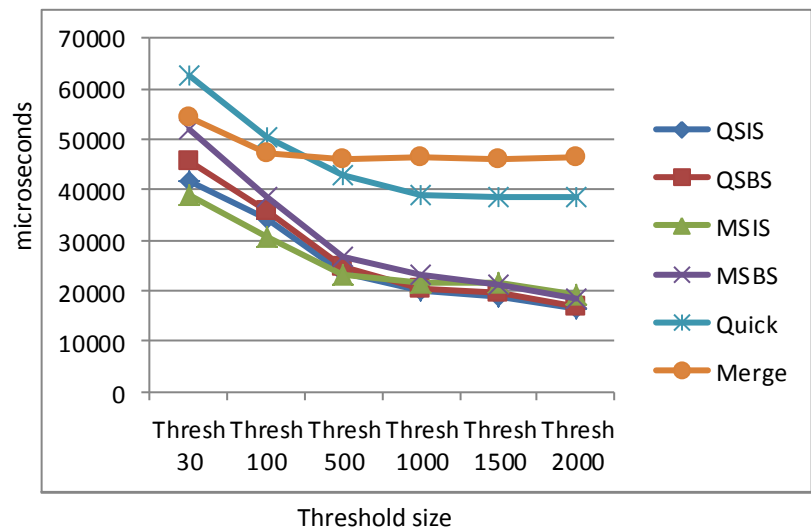
For the random cases you'll notice I tried to choose threshold points which would try to show the ideal ratio between the two sorts. All of the hybrids were faster than their pure counter parts and as you can see the hybrids that were part bubble seemed to start to slow down as the threshold was raised.

Random



In the ascending case the hybrids all kept decreasing time as the threshold was increased meaning that bubble and insertion's are better in the case of ascending than quick or merge sort. So I would bet they would only ever level off never really get slower as you increase the threshold.

Ascending



The descending case worked well with my chosen threshold values. The graphs show around when the ideal ratio between the two sorting algorithms in the hybrids were reached. For example for in merge-bubble sort it looks like right around a threshold of 500 or .1% of the array size was the ideal ration between bubble and merge. We can also see how the hybrids with bubble sort start to do worse as the threshold is increased this is because bubble sorts worse case is descending.

Descending

