

Executive Summary:

We compare the performance in terms of runtime between various memory allocation algorithms, against the malloc that comes with C.

Description of the algorithms implemented:

Test implementation:

Test results (Time shown):

Test1	FF	NF	BF	WF	Malloc
Real Time (s)	0.004	0.018	0.004	0.013	0.003
Test2					
Real Time (s)	0.011	0.011	0.011	0.011	0.004
Test3					
Real Time (s)	0.006	0.005	0.004	0.006	0.003
Test4					
Real Time (s)	0.005	0.006	0.013	0.006	0.003

Explanation and interpretation of the results including any anomalies:

The most interesting point of note is how much better the C included malloc is than my implementation. The results are not precise enough to come to conclusions from, but based on the results I suspect the built in malloc uses a form of best fit. This since the performance of my best fit implementation was more or less close to the built in, or at least the closest of the algorithms. I would say best fit over first fit, since there are some optimizations, I did not make to my best fit implementation that I didn't have time to get too, which would have narrowed the results.

Conclusion:

The built in malloc is highly optimized. It likely either uses a form of best fit or first fit. If I had to choose, I would say it uses best fit.