

	Query file: Worst Case: (999As, 1B)		
Sequence file:	Naive	KMP	Optimized KMP
1,000As	Loops = 0 Time Taken = 0ns	Loops = 0 Time Taken = 0ns	Loops = 0 Time Taken = 0ns
10,000As	Loops = 9000000 Time Taken = 29015700ns / 29.0157ms	Loops = 20998 Time Taken = 993000ns / 0.993ms	Loops = 11997 Time Taken = 3001100ns / 3.0011ms
100,000As	Loops = 99000000 Time Taken = 244537900ns / 244.5379ms	Loops = 200998 Time Taken = 7012900ns / 7.0129ms	Loops = 101997 Time Taken = 13935500ns / 13.9355ms
1,000,000As	Loops = 999000000 Time Taken = 2415151900ns / 2.4151519s	Loops = 2000998 Time Taken = 13961600ns / 13.9616ms	Loops = 1001997 Time Taken = 30916200ns / 30.9162ms
10,000,000As	Loops = 9999000000 Time Taken = 28161334800ns / 28.1613s	Loops = 20000998 Time Taken = 61835100ns / 61.8351ms	Loops = 10001997 Time Taken = 132705900ns / 132.7059ms
100,000,000As	Loops = 99999000000 Time Taken = 273379306100ns / 4.5563mins	Loops = 200000998 Time Taken = 521604800ns / 521.6048ms	Loops = 100001997 Time Taken = 912056900ns / 912.0569ms
1,000,000,000As	Loops = 999999000000 Time Taken = 3068731027100ns / 51.1455mins	Loops = 2000000998 Time Taken = 5177815900ns / 5.1778s	Loops = 1000001997 Time Taken = 8846126600ns / 8.8461s

	Query file: Best Case: (1B)		
Sequence file:	Naive	KMP	Optimized KMP
1,000As	Loops = 999 Time Taken = 0ns	Loops = 1,000 Time Taken = 0ns	Loops = 1,000 Time Taken = 0ns
10,000As	Loops = 9,999 Time Taken = 0ns	Loops = 10,000 Time Taken = 0ns	Loops = 10,000 Time Taken = 1027600ns / 1.0276ms
100,000As	Loops = 99,999	Loops = 100,000	Loops = 100,000

	Time Taken = 6981200ns / 6.9812ms	Time Taken = 4986700ns / 4.9867ms	Time Taken = 3980300ns / 3.9803ms
1,000,000As	Loops = 999,999 Time Taken = 19945800ns / 19.9458ms	Loops = 1,000,000 Time Taken = 10076900ns / 10.0769ms	Loops = 1,000,000 Time Taken = 9002100ns / 9.0021ms
10,000,000IAs	Loops = 9,999,999 Time Taken = 33942000ns / 33.942ms	Loops = 10,000,000 Time Taken = 29885000ns / 29.885ms	Loops = 10,000,000 Time Taken = 29977000ns / 29.977ms
100,000,000As	Loops = 99,999,999 Time Taken = 245835700ns 245.8357ms	Loops = 100,000,000 Time Taken = 221921100ns / 221.9211ms	Loops = 100,000,000 Time Taken = 219718900ns / 219.7189ms
1,000,000,000As	Loops = 999,999,999 Time Taken = 2331911400ns / 2.3319114s	Loops = 1,000,000,000 Time Taken = 2187453700ns / 2.1874537s	Loops = 1,000,000,000 Time Taken = 2181200900ns / 2.1812009s

	Sequence file: cds.fna (Length: 968458024)		
Query file: 100 random chars	Naive	KMP	Optimized KMP
Case 1	Loops = 1226896182 Time Taken = 5534689600ns / 5.535s	Loops = 1141068771 Time Taken = 4924138900ns / 4.9241s	Loops = 968458144 Time Taken = 5423966400ns / 5.4240s
Case 2	Loops = 1357604744 Time Taken = 7352527500ns / 7.3525s	Loops = 1250176385 Time Taken = 6374073800ns / 6.3741s	Loops = 968458143 Time Taken = 7237059300ns / 7.2371s

Cases where Optimized KMP is faster than KMP

Query file:	Sequence file: cds.fna (Length: 968458024)		
	Naive	KMP	Optimized KMP
A single 'B'	Loops = 968458023	Loops = 968458024	Loops = 968458024

	Time Taken = 2998986900ns / 2.9990s	Time Taken = 2427090500ns / 2.4271s	Time Taken = 2312799600ns / 2.3128s
55 Cs, 5 Ds and 9 Cs	Loops = 1172334391 Time Taken = 4641859700ns / 4.6419s	Loops = 1141068773 Time Taken = 4160643400ns / 4.1606s	Loops = 968458146 Time Taken = 4067143200ns / 4.0671s
100 Random characters of Ds and Es	Loops = 968457971 Time Taken = 2731895900ns / 2.7319s	Loops = 968458211 Time Taken = 2258672000ns / 2.2587s	Loops = 968458164 Time Taken = 2144828700ns / 2.1448s