Merge Sort Analysis

Below is the analysis for the merge sort algorithm take0, take3, take4 and take6 for multiple inputs.

With our time analysis, we can conclude that take4 performs the best compared to other merge algorithms.

Based on the memory used, take4 and take6 performs nearly similiar but much better than take3 and take0

Threshhold value for take4 = 32

Threshhold value for take6 = 17

	N(size of input)	Time (msec)	Memory
Take 0	0.1M	11839	56 MB / 4118 MB
	1 M	784262 (Very Large Time)	988 MB / 2495 MB
	16M	No output	
Take 3	16M	1048	376 MB / 1903 MB
	32M	2121	374 MB / 1764 MB
	64M	4492	2518 MB / 5284 MB
	128M	8583	5870 MB / 5995 MB
	256M	19839	15645 MB / 16400 MB
	512M	37222	21685 MB / 30717 MB
	1048M	77262	23594 MB / 28513 MB
	2048M	out ofMemory Error	
Take 4	16M	720	376 MB / 1963 MB
	32M	1465	753 MB / 2475 MB
	64M	3112	1241 MB / 2475 MB
	128M	6302	3438 MB / 3917 MB
	256M	13429	3926 MB / 4894 MB
	512M	27273	7833 MB / 9777 MB
	1048M	57357	15645 MB / 17589 MB
	2048M	out ofMemory Error	
Take 6	16M	772	376 MB / 1963 MB
	32M	1738	508 MB / 1963 MB
	64M	3640	987 MB / 1963 MB
	128M	7317	1973 MB / 2451 MB
	256M	14347	3926 MB / 4894 MB
	512M	30179	7833 MB / 9777 MB
	1048M	63302	15645 MB / 17589 MB
	2048M	out ofMemory Error	