

## **CS 6301.002 IMPLEMENTATION OF ADVANCED DATA STRUCTURES AND ALGORITHMS**

### **SHORT PROJECT 3**

#### **SUBMITTED BY : GROUP 05**

##### **Array is distinct:**

Input Size (in millions)	Time (in milliseconds)		Memory (in MB)	
	Dual Pivot Quick Sort	Merge Sort	Dual Pivot Quick Sort	Merge Sort
1	122	320	16	39
2	252	550	26	88
5	649	1111	29	130

##### **Array is not distinct:**

Input Size (in millions)	Time (in milliseconds)		Memory (in MB)	
	Dual Pivot Quick Sort	Merge Sort	Dual Pivot Quick Sort	Merge Sort
1	138	308	14	35
2	225	520	22	83
5	334	1130	19	127

We have implemented the best version of quick and merge sort and found that the dual pivot quick sort is having an upper hand on all the input range.