

INSERTION SORT

N	Theoretical RT= $O(n^2)$	Simulated RT (μsec)
200	4×10^4	127.013
300	9×10^4	212.629
400	16×10^4	332.629
500	25×10^4	332.714
600	36×10^4	204.845
700	49×10^4	268.566
800	64×10^4	393.697
900	81×10^4	498.13
1000	100×10^4	573.482
1100	121×10^4	480.425

MERGE SORT

N	Theoretical RT= $O(n \log(n))$	Simulated RT (μsec)
200	$200 \log(200) = 1528.77$	61.069
300	$300 \log(300) = 2468.65$	91.859
400	$400 \log(400) = 3457.54$	125.473
500	$500 \log(500) = 4482.89$	87.583
600	$600 \log(600) = 5537.29$	117.947
700	$700 \log(700) = 6615.85$	160.455
800	$800 \log(800) = 7715.08$	164.304
900	$900 \log(900) = 8832.4$	185.772
1000	$1000 \log(1000) = 9965.78$	207.455
1100	$1100 \log(1100) = 11113.6$	323.648

QUICK SORT

N	Theoretical RT= $O(n^2)$	Simulated RT (μsec)
200	4×10^4	40.085
300	9×10^4	64.062
400	16×10^4	84.419
500	25×10^4	107.512
600	36×10^4	129.579
700	49×10^4	98.702
800	64×10^4	109.479
900	81×10^4	89.55
1000	100×10^4	98.788
1100	121×10^4	130.007