

		Bubble Sort	Selection Sort	Insertion Sort	Merge Sort	Quick Sort	Heap Sort
TASK 1							
n = 100							
sorted input							
	no. steps	107	15545	1091	7000	16534	12689
	CPU time	0	38	2	10	13	10
reverse sort							
	no. steps	25249	17995	25841	6920	26534	10540
	CPU time	16	13	9	8	7	6
random permutation							
	no. steps	14691	15862	12281	7370	4844	11765
	CPU time	37	33	3	9	6	11
n = 300							
sorted input							
	no. steps	307	136645	3291	24816	139634	48287
	CPU time	1	282	0	34	138	26
reverse sort							
	no. steps	225749	158995	227541	24560	229634	41106
	CPU time	168	164	71	30	67	21
random permutation							
	no. steps	133574	137939	111141	26384	15956	44936
	CPU time	141	235	40	36	21	36
n = 500							
sorted input							
	no. steps	507	377745	5491	43944	382734	87895
	CPU time	2	705	2	45	368	55
reverse sort							

	no. steps	626249	1754995	629241	43832	632734	76205
	CPU time	3396	376	259	55	160	37
random permutation							
	no. steps	372148	380062	311391	47098	29068	82451
	CPU time	470	3549	101	52	32	65
n = 1000							
sorted input							
	no. steps	1007	1505495	10991	95904	1515484	197395
	CPU time	2	3292	4	137	1291	111
reverse sort							
	no. steps	2502499	1754995	2508491	95680	2515484	172668
	CPU time	1755	1593	632	119	583	70
random permutation							
	no. steps	1474024	1510679	1225521	103132	60231	186778
	CPU time	868	2555	340	145	91	126
n = 3000							
sorted input							
	no. steps	3007	13516495	32991	328464	13546484	700075
	CPU time	5	43937	14	495	21798	184
reverse sort							
	no. steps	22507499	43774995	22525491	325968	22546484	621354
	CPU time	29505	22478	11959	470	17004	462
random permutation							660583
	no. steps	13298386	13536206	10987606	354056	267285	314662
	CPU time	7202	22929	2612	766	389	538

n = 5000							
sorted input							
	no. steps	5007	37527495	54991	576648	37577484	1246529
	CPU time	15	115786	24	776	59542	431
reverse sort							
	no. steps	62512499	175049995	62542491	572248	62577484	1115350
	CPU time	80823	84235	86162	548	65736	381
random permutation							
	no. steps	36610492	37562608	30069106	623002	407005	1182485
	CPU time	28150	113485	7455	749	797	775
n = 10000							
sorted input							
	no. steps	10007	150054995	109991	1233312	150154984	2709315
	CPU time	25	489808	46	5783	295247	1071
reverse sort							
	no. steps	250024999	4375249995	250084991	1224512	250154984	2445292
	CPU time	517522	310316	125590	2921	121145	918
random permutation							
	no. steps	145658520	150133002	121470281	1336252	912257	2578288
	CPU time	483961	573541	88959	7678	1555	5191
n = 50000							
sorted input							
	no. steps	50007	3750274995	549991	7095136	3750774984	16027219
	CPU time	126	7161586 μ s	234	19501	7161586	5650
reverse sort							
	no. steps	6250124999	175049995	6250424991	7056256	6250774984	14711510
	CPU time	9426046	7536945	4282387	34606	3270630	5397

random permutation							
	no. steps	3938749045	3750746532	3362266891	7722160	5286182	15280212
	CPU time	11251716	13193352	1781988	20901	8327	12215
TASK 2							
n = 100							
	total time	408 µs	684 µs	0 µs	331 µs	1158 µs	323 µs
	avg time	8 µs	13 µs	0 µs	6 µs	23 µs	6 µs
	total steps	616500	1264750	29700	191850	1272200	313500
	avg steps	12330	25295	594	3837	4433	6270
n = 300							
	total time	5012 µs	6177 µs	5 µs	1908 µs	8221 µs	1518 µs
	avg time	100 µs	123 µs	0 µs	38 µs	164 µs	30 µs
	total steps	5765200	11294750	89700	682650	11317200	1182900
	avg steps	115304	225895	1794	13653	16351	23658
n = 500							
	total time	13405 µs	21584 µs	42 µs	1605 µs	51263 µs	2720 µs
	avg time	268 µs	431 µs	0 µs	32 µs	1025 µs	54 µs
	total steps	15236950	31324750	149700	1210850	31362200	2145100
	avg steps	304739	626495	2994	24217	29400	42902
n = 1000							
	total time	145166 µs	141787 µs	88 µs	4996 µs	194752 µs	5754 µs

	avg time	2903 μ s	2835 μ s	1 μ s	99 μ s	3895 μ s	115 μ s
	total steps	60749400	125149750	299700	2647050	125224700	4794100
	avg steps	1214988	2502995	5994	52941	66409	95882
n = 3000							
	total time	1182908 μ s	1046478 μ s	357 μ s	12394 μ s	1839866 μ s	23182 μ s
	avg time	23658 μ s	20929 μ s	7 μ s	247 μ s	36797 μ s	463 μ s
	total steps	563261170	1125449750	899700	9084250	1125674700	16916100
	avg steps	11265223	22508995	17994	181685	232959	338332
n = 5000							
	total time	3206661 μ s	3538282 μ s	641 μ s	21210 μ s	5870214 μ s	75164 μ s
	avg time	64133 μ s	70765 μ s	12 μ s	424 μ s	117404 μ s	1503 μ s
	total steps	1564678924	3125749750	1499700	15961450	3126124700	30095200
	avg steps	31293578	62514995	29994	319229	403196	601904
n = 10000							
	total time	16920707 μ s	14695909 μ s	1632 μ s	52050 μ s	23194806 μ s	158127 μ s
	avg time	338414 μ s	293918 μ s	32 μ s	1041 μ s	463896 μ s	3162 μ s
	total steps	6250034307	12501499750	2999700	34173250	12502249700	65243000
	avg steps	125000686	250029995	59994	683465	889949	1304860
n = 50000							
	total time	571022609 μ s	360604498 μ s	12727 μ s	444979 μ s	579945343 μ s	1289496 μ s
	avg time	11420452 μ s	7212089 μ s	254 μ s	8899 μ s	11598906 μ s	25789 μ s
	total steps	156229409002	312507499750	14999700	196990050	312511249700	383140000
	avg steps	3124588180	6250149995	299994	3939801	5274309	7662800