

throughput_gcc					
dataset	numelements	hash	reducer	nanoseconds_total	nanoseconds_per_key benchmark_repeat_cnt
wiki_ts_200M_uint64	90437011	mult64	do_nothing	175167400	1.936899 5
wiki_ts_200M_uint64	90437011	mult64	fastrange32	71379400	0.789272 5
wiki_ts_200M_uint64	90437011	mult64	fastrange64	173085600	1.913880 5
wiki_ts_200M_uint64	90437011	mult64	modulo	708094400	7.829697 5
wiki_ts_200M_uint64	90437011	mult64	fast_modulo	196128200	2.168672 5
wiki_ts_200M_uint64	90437011	mult64	branchless_fast_modulo	122785600	1.357692 5
wiki_ts_200M_uint64	90437011	fib64	do_nothing	172098600	1.902966 5
wiki_ts_200M_uint64	90437011	fib64	fastrange32	70233400	0.776600 5
wiki_ts_200M_uint64	90437011	fib64	fastrange64	171979800	1.901653 5
wiki_ts_200M_uint64	90437011	fib64	modulo	705676000	7.802956 5
wiki_ts_200M_uint64	90437011	fib64	fast_modulo	161385600	1.784508 5
wiki_ts_200M_uint64	90437011	fib64	branchless_fast_modulo	113878200	1.259199 5
wiki_ts_200M_uint64	90437011	fib6_prime64	do_nothing	146228200	1.616907 5
wiki_ts_200M_uint64	90437011	fib6_prime64	fastrange32	70429400	0.778767 5
wiki_ts_200M_uint64	90437011	fib6_prime64	fastrange64	146648600	1.621555 5
wiki_ts_200M_uint64	90437011	fib6_prime64	modulo	740111000	8.183718 5
wiki_ts_200M_uint64	90437011	fib6_prime64	fast_modulo	161466000	1.785397 5
wiki_ts_200M_uint64	90437011	fib6_prime64	branchless_fast_modulo	123417000	1.364674 5
wiki_ts_200M_uint64	90437011	multadd64	do_nothing	196842600	2.176571 5
wiki_ts_200M_uint64	90437011	multadd64	fastrange32	120374400	1.331030 5
wiki_ts_200M_uint64	90437011	multadd64	fastrange64	197077000	2.179163 5
wiki_ts_200M_uint64	90437011	multadd64	modulo	800684200	8.853501 5
wiki_ts_200M_uint64	90437011	multadd64	fast_modulo	202144000	2.235191 5
wiki_ts_200M_uint64	90437011	multadd64	branchless_fast_modulo	197107400	2.179499 5
wiki_ts_200M_uint64	90437011	mult64_shift59	do_nothing	172504000	1.907449 5
wiki_ts_200M_uint64	90437011	mult64_shift59	fastrange32	95814400	1.059460 5
wiki_ts_200M_uint64	90437011	mult64_shift59	fastrange64	173250400	1.915702 5
wiki_ts_200M_uint64	90437011	mult64_shift59	modulo	735725600	8.135227 5
wiki_ts_200M_uint64	90437011	mult64_shift59	fast_modulo	127271000	1.309849 5
wiki_ts_200M_uint64	90437011	mult64_shift59	branchless_fast_modulo	141977200	1.569902 5
wiki_ts_200M_uint64	90437011	fib64_shift59	do_nothing	173476000	1.918197 5
wiki_ts_200M_uint64	90437011	fib64_shift59	fastrange32	96188800	1.063600 5
wiki_ts_200M_uint64	90437011	fib64_shift59	fastrange64	172699200	1.909608 5
wiki_ts_200M_uint64	90437011	fib64_shift59	modulo	731767400	8.091459 5
wiki_ts_200M_uint64	90437011	fib64_shift59	fast_modulo	197046400	2.178825 5
wiki_ts_200M_uint64	90437011	fib64_shift59	branchless_fast_modulo	141998400	1.570136 5
wiki_ts_200M_uint64	90437011	fib6_prime64_shift59	do_nothing	147083800	1.626367 5
wiki_ts_200M_uint64	90437011	fib6_prime64_shift59	fastrange32	86589800	0.957460 5
wiki_ts_200M_uint64	90437011	fib6_prime64_shift59	fastrange64	148226600	1.639004 5
wiki_ts_200M_uint64	90437011	fib6_prime64_shift59	modulo	741792200	8.202308 5
wiki_ts_200M_uint64	90437011	fib6_prime64_shift59	fast_modulo	175837400	1.944308 5
wiki_ts_200M_uint64	90437011	fib6_prime64_shift59	branchless_fast_modulo	142079600	1.571034 5
wiki_ts_200M_uint64	90437011	multadd64_shift59	do_nothing	249447600	2.758247 5
wiki_ts_200M_uint64	90437011	multadd64_shift59	fastrange32	182252000	2.125811 5
wiki_ts_200M_uint64	90437011	multadd64_shift59	fastrange64	249683600	2.760856 5
wiki_ts_200M_uint64	90437011	multadd64_shift59	modulo	915519200	10.123280 5
wiki_ts_200M_uint64	90437011	multadd64_shift59	fast_modulo	264375800	3.144463 5
wiki_ts_200M_uint64	90437011	multadd64_shift59	branchless_fast_modulo	254931400	2.818884 5
wiki_ts_200M_uint64	90437011	mult64_rotate5	do_nothing	174978200	1.934785 5
wiki_ts_200M_uint64	90437011	mult64_rotate5	fastrange32	99704400	1.102473 5
wiki_ts_200M_uint64	90437011	mult64_rotate5	fastrange64	175268200	1.938014 5
wiki_ts_200M_uint64	90437011	mult64_rotate5	modulo	733906000	8.115107 5
wiki_ts_200M_uint64	90437011	mult64_rotate5	fast_modulo	175828800	1.963608 5
wiki_ts_200M_uint64	90437011	mult64_rotate5	branchless_fast_modulo	151253200	1.672470 5
wiki_ts_200M_uint64	90437011	fib64_rotate5	do_nothing	196975800	2.166987 5
wiki_ts_200M_uint64	90437011	fib64_rotate5	fastrange32	100851000	1.115152 5
wiki_ts_200M_uint64	90437011	fib64_rotate5	fastrange64	196452200	2.172254 5
wiki_ts_200M_uint64	90437011	fib64_rotate5	modulo	754694800	8.344977 5
wiki_ts_200M_uint64	90437011	fib64_rotate5	fast_modulo	247449000	2.736147 5
wiki_ts_200M_uint64	90437011	fib64_rotate5	branchless_fast_modulo	151543600	1.675881 5
wiki_ts_200M_uint64	90437011	fib6_prime64_rotate5	do_nothing	148322400	1.640063 5
wiki_ts_200M_uint64	90437011	fib6_prime64_rotate5	fastrange32	99300000	1.098002 5
wiki_ts_200M_uint64	90437011	fib6_prime64_rotate5	fastrange64	154878400	1.712555 5
wiki_ts_200M_uint64	90437011	fib6_prime64_rotate5	modulo	712096200	7.873880 5
wiki_ts_200M_uint64	90437011	fib6_prime64_rotate5	fast_modulo	177528800	1.963010 5
wiki_ts_200M_uint64	90437011	fib6_prime64_rotate5	branchless_fast_modulo	151136400	1.671179 5
wiki_ts_200M_uint64	90437011	multadd64_rotate5	do_nothing	199524200	2.206223 5
wiki_ts_200M_uint64	90437011	multadd64_rotate5	fastrange32	151877400	1.679372 5
wiki_ts_200M_uint64	90437011	multadd64_rotate5	fastrange64	201529400	2.228995 5
wiki_ts_200M_uint64	90437011	multadd64_rotate5	modulo	853394200	9.436338 5
wiki_ts_200M_uint64	90437011	multadd64_rotate5	fast_modulo	233773000	2.584926 5
wiki_ts_200M_uint64	90437011	multadd64_rotate5	branchless_fast_modulo	203620000	2.251512 5
wiki_ts_200M_uint64	90437011	murmur3_128_low	do_nothing	657119200	7.266043 5
wiki_ts_200M_uint64	90437011	murmur3_128_low	fastrange32	478799000	5.294282 5
wiki_ts_200M_uint64	90437011	murmur3_128_low	fastrange64	692121000	7.653072 5
wiki_ts_200M_uint64	90437011	murmur3_128_low	modulo	1257241600	13.901848 5
wiki_ts_200M_uint64	90437011	murmur3_128_low	fast_modulo	732892800	8.103903 5
wiki_ts_200M_uint64	90437011	murmur3_128_low	branchless_fast_modulo	578647000	6.398343 5
wiki_ts_200M_uint64	90437011	murmur3_128_upper	do_nothing	638043400	7.055114 5
wiki_ts_200M_uint64	90437011	murmur3_128_upper	fastrange32	474401000	5.245651 5
wiki_ts_200M_uint64	90437011	murmur3_128_upper	fastrange64	672405800	7.435073 5
wiki_ts_200M_uint64	90437011	murmur3_128_upper	modulo	1222859000	13.521665 5
wiki_ts_200M_uint64	90437011	murmur3_128_upper	fast_modulo	732741600	8.102232 5
wiki_ts_200M_uint64	90437011	murmur3_128_upper	branchless_fast_modulo	583162000	6.448267 5
wiki_ts_200M_uint64	90437011	murmur3_128_xor	do_nothing	691470800	7.645883 5
wiki_ts_200M_uint64	90437011	murmur3_128_xor	fastrange32	509229600	5.630765 5
wiki_ts_200M_uint64	90437011	murmur3_128_xor	fastrange64	713178600	7.859515 5
wiki_ts_200M_uint64	90437011	murmur3_128_xor	modulo	1341339200	14.831751 5
wiki_ts_200M_uint64	90437011	murmur3_128_xor	fast_modulo	776373400	8.584687 5
wiki_ts_200M_uint64	90437011	murmur3_128_xor	branchless_fast_modulo	614837800	6.799625 5
wiki_ts_200M_uint64	90437011	murmur3_128_city	do_nothing	785712400	8.687952 5
wiki_ts_200M_uint64	90437011	murmur3_128_city	fastrange32	632502800	6.993849 5
wiki_ts_200M_uint64	90437011	murmur3_128_city	fastrange64	827910600	9.154555 5
wiki_ts_200M_uint64	90437011	murmur3_128_city	modulo	1434543800	15.862353 5
wiki_ts_200M_uint64	90437011	murmur3_128_city	fast_modulo	895295200	9.899655 5
wiki_ts_200M_uint64	90437011	murmur3_128_city	branchless_fast_modulo	648070000	9.297156 5
wiki_ts_200M_uint64	90437011	murmur3_fin64	do_nothing	247522800	2.736964 5
wiki_ts_200M_uint64	90437011	murmur3_fin64	fastrange32	148255200	1.639320 5
wiki_ts_200M_uint64	90437011	murmur3_fin64	fastrange64	248043400	2.742720 5
wiki_ts_200M_uint64	90437011	murmur3_fin64	modulo	809395600	8.949827 5
wiki_ts_200M_uint64	90437011	murmur3_fin64	fast_modulo	249226800	2.755805 5
wiki_ts_200M_uint64	90437011	murmur3_fin64	branchless_fast_modulo	205936200	2.277123 5
wiki_ts_200M_uint64	90437011	xxh64	do_nothing	352816200	3.901237 5
wiki_ts_200M_uint64	90437011	xxh64	fastrange32	300384000	3.321472 5
wiki_ts_200M_uint64	90437011	xxh64	fastrange64	354816400	3.923354 5
wiki_ts_200M_uint64	90437011	xxh64	modulo	918680000	10.158230 5
wiki_ts_200M_uint64	90437011	xxh64	fast_modulo	428923600	4.742788 5
wiki_ts_200M_uint64	90437011	xxh64	branchless_fast_modulo	387396000	4.283600 5
wiki_ts_200M_uint64	90437011	xxh3	do_nothing	261002000	2.886086 5
wiki_ts_200M_uint64	90437011	xxh3	fastrange32	178647600	1.975382 5
wiki_ts_200M_uint64	90437011	xxh3	fastrange64	303273800	3.353426 5
wiki_ts_200M_uint64	90437011	xxh3	modulo	821908800	9.088191 5
wiki_ts_200M_uint64	90437011	xxh3	fast_modulo	301191200	3.330398 5
wiki_ts_200M_uint64	90437011	xxh3	branchless_fast_modulo	265015400	2.930387 5
wiki_ts_200M_uint64	90437011	xxh3_128_low	do_nothing	199126200	2.201822 5
wiki_ts_200M_uint64	90437011	xxh3_128_low	fastrange32	163642400	1.809463 5
wiki_ts_200M_uint64	90437011	xxh3_128_low	fastrange64	227876000	2.519721 5
wiki_ts_200M_uint64	90437011	xxh3_128_low	modulo	818349200	9.048831 5
wiki_ts_200M_uint64	90437011	xxh3_128_low	fast_modulo	333434600	3.686926 5
wiki_ts_200M_uint64	90437011	xxh3_128_low	branchless_fast_modulo	244485400	2.703378 5
wiki_ts_200M_uint64	90437011	xxh3_128_upper	do_nothing	198884000	2.199144 5
wiki_ts_200M_uint64	90437011	xxh3_128_upper	fastrange32	164633200	1.820418 5
wiki_ts_200M_uint64	90437011	xxh3_128_upper	fastrange64	208305800	2.303325 5
wiki_ts_200M_uint64	90437011	xxh3_128_upper	modulo	789146800	8.725927 5
wiki_ts_200M_uint64	90437011	xxh3_128_upper	fast_modulo	270365000	2.989539 5
wiki_ts_200M_uint64	90437011	xxh3_128_upper	branchless_fast_modulo	232360800	2.569311 5
wiki_ts_200M_uint64	90437011	xxh3_128_xor	do_nothing	249218800	2.755717 5
wiki_ts_200M_uint64	90437011	xxh3_128_xor	fastrange32	223900000	2.475756 5
wiki_ts_200M_uint64	90437011	xxh3_128_xor	fastrange64	279789600	3.093751 5
wiki_ts_200M_uint64	90437011	xxh3_128_xor	modulo	896577600	9.913835 5
wiki_ts_200M_uint64	90437011	xxh3_128_xor	fast_modulo	420076000	4.644897 5
wiki_ts_200M_uint64	90437011	xxh3_128_xor	branchless_fast_modulo	305465800	3.377664 5
wiki_ts_200M_uint64	90437011	xxh3_128_city	do_nothing	352615400	3.899017 5
wiki_ts_200M_uint64	90437011	xxh3_128_city	fastrange32	321388400	3.553726 5
wiki_ts_200M_uint64	90437011	xxh3_128_city	fastrange64	378397400	4.184099 5
wiki_ts_200M_uint64	90437011	xxh3_128_city	modulo	963248600	10.651044 5

			throughput_clang		
	numelements	hash	reducer	nanoseconds_total	nanoseconds_per_key benchmark_repeat_cnt
wiki_ts_200M_uint64	90437011	mult64	do_nothing	162093791	1.792339 5
wiki_ts_200M_uint64	90437011	mult64	fastrange32	72557722	0.802301 5
wiki_ts_200M_uint64	90437011	mult64	fastrange64	169075583	1.869540 5
wiki_ts_200M_uint64	90437011	mult64	modulo	808941220	8.944803 5
wiki_ts_200M_uint64	90437011	mult64	fast_modulo	144681297	1.599802 5
wiki_ts_200M_uint64	90437011	mult64	branchless_fast_modulo	128176955	1.417306 5
wiki_ts_200M_uint64	90437011	fib64	do_nothing	164418828	1.818026 5
wiki_ts_200M_uint64	90437011	fib64	fastrange32	70133802	0.775499 5
wiki_ts_200M_uint64	90437011	fib64	fastrange64	178310506	1.971654 5
wiki_ts_200M_uint64	90437011	fib64	modulo	809351015	8.949334 5
wiki_ts_200M_uint64	90437011	fib64	fast_modulo	187039217	2.068171 5
wiki_ts_200M_uint64	90437011	fib64	branchless_fast_modulo	141320405	1.562839 5
wiki_ts_200M_uint64	90437011	fib6_prime64	do_nothing	163463351	1.807483 5
wiki_ts_200M_uint64	90437011	fib6_prime64	fastrange32	71862954	0.794619 5
wiki_ts_200M_uint64	90437011	fib6_prime64	fastrange64	176992544	1.975878 5
wiki_ts_200M_uint64	90437011	fib6_prime64	modulo	808385705	8.938660 5
wiki_ts_200M_uint64	90437011	fib6_prime64	fast_modulo	142543393	1.575952 5
wiki_ts_200M_uint64	90437011	fib6_prime64	branchless_fast_modulo	128053968	1.415945 5
wiki_ts_200M_uint64	90437011	multadd64	do_nothing	208215898	2.302331 5
wiki_ts_200M_uint64	90437011	multadd64	fastrange32	104260900	1.152936 5
wiki_ts_200M_uint64	90437011	multadd64	fastrange64	228159214	2.522852 5
wiki_ts_200M_uint64	90437011	multadd64	modulo	910004229	10.062299 5
wiki_ts_200M_uint64	90437011	multadd64	fast_modulo	190558239	2.107083 5
wiki_ts_200M_uint64	90437011	multadd64	branchless_fast_modulo	173370664	1.917032 5
wiki_ts_200M_uint64	90437011	mult64_shift59	do_nothing	163829031	1.811526 5
wiki_ts_200M_uint64	90437011	mult64_shift59	fastrange32	91038817	1.006632 5
wiki_ts_200M_uint64	90437011	mult64_shift59	fastrange64	179096040	1.980340 5
wiki_ts_200M_uint64	90437011	mult64_shift59	modulo	774956939	8.589024 5
wiki_ts_200M_uint64	90437011	mult64_shift59	fast_modulo	174005663	1.924054 5
wiki_ts_200M_uint64	90437011	mult64_shift59	branchless_fast_modulo	147125835	1.626827 5
wiki_ts_200M_uint64	90437011	fib64_shift59	do_nothing	169181643	1.870782 5
wiki_ts_200M_uint64	90437011	fib64_shift59	fastrange32	89775296	0.992683 5
wiki_ts_200M_uint64	90437011	fib64_shift59	fastrange64	183109721	2.024721 5
wiki_ts_200M_uint64	90437011	fib64_shift59	modulo	792263158	8.760386 5
wiki_ts_200M_uint64	90437011	fib64_shift59	fast_modulo	147001136	1.624119 5
wiki_ts_200M_uint64	90437011	fib64_shift59	branchless_fast_modulo	148206435	1.938781 5
wiki_ts_200M_uint64	90437011	fib6_prime64_shift59	do_nothing	168288340	1.860945 5
wiki_ts_200M_uint64	90437011	fib6_prime64_shift59	fastrange32	90963374	1.005820 5
wiki_ts_200M_uint64	90437011	fib6_prime64_shift59	fastrange64	179081127	1.990183 5
wiki_ts_200M_uint64	90437011	fib6_prime64_shift59	modulo	772704622	8.544119 5
wiki_ts_200M_uint64	90437011	fib6_prime64_shift59	fast_modulo	174142172	1.925563 5
wiki_ts_200M_uint64	90437011	fib6_prime64_shift59	branchless_fast_modulo	147584407	1.631903 5
wiki_ts_200M_uint64	90437011	multadd64_shift59	do_nothing	263899161	2.919039 5
wiki_ts_200M_uint64	90437011	multadd64_shift59	fastrange32	202427845	2.238330 5
wiki_ts_200M_uint64	90437011	multadd64_shift59	fastrange64	288573959	3.190883 5
wiki_ts_200M_uint64	90437011	multadd64_shift59	modulo	986217969	10.905260 5
wiki_ts_200M_uint64	90437011	multadd64_shift59	fast_modulo	290144092	3.208245 5
wiki_ts_200M_uint64	90437011	multadd64_shift59	branchless_fast_modulo	259464320	2.869006 5
wiki_ts_200M_uint64	90437011	mult64_rotate5	do_nothing	175071459	1.935839 5
wiki_ts_200M_uint64	90437011	mult64_rotate5	fastrange32	99518986	1.100433 5
wiki_ts_200M_uint64	90437011	mult64_rotate5	fastrange64	176443377	1.951008 5
wiki_ts_200M_uint64	90437011	mult64_rotate5	modulo	782504629	8.652482 5
wiki_ts_200M_uint64	90437011	mult64_rotate5	fast_modulo	205929832	2.277043 5
wiki_ts_200M_uint64	90437011	mult64_rotate5	branchless_fast_modulo	156032233	1.725314 5
wiki_ts_200M_uint64	90437011	fib64_rotate5	do_nothing	171359460	1.894793 5
wiki_ts_200M_uint64	90437011	fib64_rotate5	fastrange32	79933720	1.062883 5
wiki_ts_200M_uint64	90437011	fib64_rotate5	fastrange64	176572506	1.952436 5
wiki_ts_200M_uint64	90437011	fib64_rotate5	modulo	782784993	8.655582 5
wiki_ts_200M_uint64	90437011	fib64_rotate5	fast_modulo	204090330	2.255817 5
wiki_ts_200M_uint64	90437011	fib64_rotate5	branchless_fast_modulo	156256622	1.727795 5
wiki_ts_200M_uint64	90437011	fib6_prime64_rotate5	do_nothing	171814765	1.899828 5
wiki_ts_200M_uint64	90437011	fib6_prime64_rotate5	fastrange32	99333146	1.098379 5
wiki_ts_200M_uint64	90437011	fib6_prime64_rotate5	fastrange64	176769467	1.954614 5
wiki_ts_200M_uint64	90437011	fib6_prime64_rotate5	modulo	780381363	8.629007 5
wiki_ts_200M_uint64	90437011	fib6_prime64_rotate5	fast_modulo	2042011949	2.267947 5
wiki_ts_200M_uint64	90437011	fib6_prime64_rotate5	branchless_fast_modulo	155490999	1.719326 5
wiki_ts_200M_uint64	90437011	multadd64_rotate5	do_nothing	224774013	2.485421 5
wiki_ts_200M_uint64	90437011	multadd64_rotate5	fastrange32	146664464	1.625151 5
wiki_ts_200M_uint64	90437011	multadd64_rotate5	fastrange64	246791942	2.728882 5
wiki_ts_200M_uint64	90437011	multadd64_rotate5	modulo	907998319	10.040119 5
wiki_ts_200M_uint64	90437011	multadd64_rotate5	fast_modulo	240772534	2.662323 5
wiki_ts_200M_uint64	90437011	multadd64_rotate5	branchless_fast_modulo	206512681	2.283497 5
wiki_ts_200M_uint64	90437011	mmurmur3_128_lo	do_nothing	364227557	4.027417 5
wiki_ts_200M_uint64	90437011	mmurmur3_128_lo	fastrange32	319834402	3.536544 5
wiki_ts_200M_uint64	90437011	mmurmur3_128_lo	fastrange64	392439887	4.393974 5
wiki_ts_200M_uint64	90437011	mmurmur3_128_lo	modulo	1052168941	11.632441 5
wiki_ts_200M_uint64	90437011	mmurmur3_128_lo	fast_modulo	440437374	4.870105 5
wiki_ts_200M_uint64	90437011	mmurmur3_128_lo	branchless_fast_modulo	417737962	4.619104 5
wiki_ts_200M_uint64	90437011	mmurmur3_128_lo	do_nothing	365283178	4.039089 5
wiki_ts_200M_uint64	90437011	mmurmur3_128_lo	fastrange32	31785206	3.514633 5
wiki_ts_200M_uint64	90437011	mmurmur3_128_lo	fastrange64	393278225	4.348654 5
wiki_ts_200M_uint64	90437011	mmurmur3_128_lo	modulo	1044982929	11.554815 5
wiki_ts_200M_uint64	90437011	mmurmur3_128_lo	fast_modulo	444508720	4.915120 5
wiki_ts_200M_uint64	90437011	mmurmur3_128_lo	branchless_fast_modulo	437821015	4.841171 5
wiki_ts_200M_uint64	90437011	mmurmur3_128_lo	do_nothing	388887620	4.300994 5
wiki_ts_200M_uint64	90437011	mmurmur3_128_lo	fastrange32	352482672	3.897549 5
wiki_ts_200M_uint64	90437011	mmurmur3_128_lo	fastrange64	410617836	4.540374 5
wiki_ts_200M_uint64	90437011	mmurmur3_128_lo	modulo	1169664016	12.933024 5
wiki_ts_200M_uint64	90437011	mmurmur3_128_lo	fast_modulo	470430278	5.201745 5
wiki_ts_200M_uint64	90437011	mmurmur3_128_lo	branchless_fast_modulo	455587358	5.037621 5
wiki_ts_200M_uint64	90437011	mmurmur3_128_city	do_nothing	49090431	5.428092 5
wiki_ts_200M_uint64	90437011	mmurmur3_128_city	fastrange32	476344173	5.267138 5
wiki_ts_200M_uint64	90437011	mmurmur3_128_city	fastrange64	543009817	6.004288 5
wiki_ts_200M_uint64	90437011	mmurmur3_128_city	modulo	1158128878	12.809197 5
wiki_ts_200M_uint64	90437011	mmurmur3_128_city	fast_modulo	620397445	6.869995 5
wiki_ts_200M_uint64	90437011	mmurmur3_128_city	branchless_fast_modulo	579400330	6.400763 5
wiki_ts_200M_uint64	90437011	mmurmur3_fine64	do_nothing	206078865	2.218968 5
wiki_ts_200M_uint64	90437011	mmurmur3_fine64	fastrange32	122921740	1.359197 5
wiki_ts_200M_uint64	90437011	mmurmur3_fine64	fastrange64	224279206	2.479949 5
wiki_ts_200M_uint64	90437011	mmurmur3_fine64	modulo	851983426	9.420571 5
wiki_ts_200M_uint64	90437011	mmurmur3_fine64	fast_modulo	233609474	2.583118 5
wiki_ts_200M_uint64	90437011	mmurmur3_fine64	branchless_fast_modulo	205928491	2.277038 5
wiki_ts_200M_uint64	90437011	xoh64	do_nothing	257479328	2.847057 5
wiki_ts_200M_uint64	90437011	xoh64	fastrange32	222800022	2.463593 5
wiki_ts_200M_uint64	90437011	xoh64	fastrange64	287896671	3.183394 5
wiki_ts_200M_uint64	90437011	xoh64	modulo	856290158	9.501200 5
wiki_ts_200M_uint64	90437011	xoh64	fast_modulo	336557608	3.721459 5
wiki_ts_200M_uint64	90437011	xoh64	branchless_fast_modulo	318473354	3.525156 5
wiki_ts_200M_uint64	90437011	xoh3	do_nothing	226821928	2.520297 5
wiki_ts_200M_uint64	90437011	xoh3	fastrange32	175313070	1.936514 5
wiki_ts_200M_uint64	90437011	xoh3	fastrange64	244156762	2.699744 5
wiki_ts_200M_uint64	90437011	xoh3	modulo	848813834	9.385691 5
wiki_ts_200M_uint64	90437011	xoh3	fast_modulo	287714858	3.181384 5
wiki_ts_200M_uint64	90437011	xoh3	branchless_fast_modulo	263992182	2.915755 5
wiki_ts_200M_uint64	90437011	xoh3_128_lo	do_nothing	225697806	2.495635 5
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wiki_ts_200M_uint64	90437011	xoh3_128_lo	fastrange64	250060311	2.785022 5
wiki_ts_200M_uint64	90437011	xoh3_128_lo	modulo	915849415	10.167833 5
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wiki_ts_200M_uint64	90437011	xoh3_128_lo	branchless_fast_modulo	242694217	2.683572 5
wiki_ts_200M_uint64	90437011	xoh3_128_lo	do_nothing	214234597	2.368882 5
wiki_ts_200M_uint64	90437011	xoh3_128_lo	fastrange32	136927123	1.514061 5
wiki_ts_200M_uint64	90437011	xoh3_128_lo	fastrange64	240777921	2.662383 5
wiki_ts_200M_uint64	90437011	xoh3_128_lo	modulo	888240833	9.821652 5
wiki_ts_200M_uint64	90437011	xoh3_128_lo	fast_modulo	241758453	2.673225 5
wiki_ts_200M_uint64	90437011	xoh3_128_lo	branchless_fast_modulo	223007519	2.465888 5
wiki_ts_200M_uint64	90437011	xoh3_128_lo	do_nothing	275643409	3.047905 5
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wiki_ts_200M_uint64	90437011	xoh3_128_city	do_nothing	354762701	3.922760 5
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wiki_ts_200M_uint64	90437011	xoh3_128_city	fastrange64	382133814	4.225414 5
wiki_ts_200M_uint64	90437011	xoh3_128_city	modulo	1031723889	11.408204 5



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wiki_ts_200M_uint64	90437011	xxh3_128_city	branchless_fast_modulo	434876400	4.808611	5
wiki_ts_200M_uint64	90437011	tabulation_small64	do_nothing	273509400	3.024308	5
wiki_ts_200M_uint64	90437011	tabulation_small64	fastrange32	222352600	2.458646	5
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wiki_ts_200M_uint64	90437011	tabulation_small64	modulo	846383000	9.358812	5
wiki_ts_200M_uint64	90437011	tabulation_small64	fast_modulo	327132600	3.617243	5
wiki_ts_200M_uint64	90437011	tabulation_small64	branchless_fast_modulo	300883000	3.326990	5
wiki_ts_200M_uint64	90437011	tabulation_large64	do_nothing	273979400	3.029505	5
wiki_ts_200M_uint64	90437011	tabulation_large64	fastrange32	222550200	2.460831	5
wiki_ts_200M_uint64	90437011	tabulation_large64	fastrange64	277515400	3.068604	5
wiki_ts_200M_uint64	90437011	tabulation_large64	modulo	847875400	9.375314	5
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wiki_ts_200M_uint64	90437011	city64	do_nothing	225179600	2.489905	5
wiki_ts_200M_uint64	90437011	city64	fastrange32	248271800	2.745246	5
wiki_ts_200M_uint64	90437011	city64	fastrange64	241627000	2.671771	5
wiki_ts_200M_uint64	90437011	city64	modulo	794002000	8.779613	5
wiki_ts_200M_uint64	90437011	city64	fast_modulo	332835800	3.680305	5
wiki_ts_200M_uint64	90437011	city64	branchless_fast_modulo	293926600	3.250070	5
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wiki_ts_200M_uint64	90437011	city128_low	fastrange32	441579600	4.882731	5
wiki_ts_200M_uint64	90437011	city128_low	fastrange64	628099600	6.945161	5
wiki_ts_200M_uint64	90437011	city128_low	modulo	1234602000	13.651513	5
wiki_ts_200M_uint64	90437011	city128_low	fast_modulo	591171400	6.536830	5
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wiki_ts_200M_uint64	90437011	city128_upper	fastrange32	570906000	6.312747	5
wiki_ts_200M_uint64	90437011	city128_upper	fastrange64	789316600	8.727805	5
wiki_ts_200M_uint64	90437011	city128_upper	modulo	1404005600	15.524679	5
wiki_ts_200M_uint64	90437011	city128_upper	fast_modulo	714729000	7.903059	5
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wiki_ts_200M_uint64	90437011	city128_xor	do_nothing	771319000	8.528798	5
wiki_ts_200M_uint64	90437011	city128_xor	fastrange32	584775200	6.486105	5
wiki_ts_200M_uint64	90437011	city128_xor	fastrange64	806317000	8.915786	5
wiki_ts_200M_uint64	90437011	city128_xor	modulo	1409552200	15.586010	5
wiki_ts_200M_uint64	90437011	city128_xor	fast_modulo	731600600	8.089615	5
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wiki_ts_200M_uint64	90437011	meow64_low	fast_modulo	2222588200	24.576091	5
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wiki_ts_200M_uint64	90437011	meow64_upper	fastrange64	1984654800	21.945161	5
wiki_ts_200M_uint64	90437011	meow64_upper	modulo	2731885400	30.207604	5
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wiki_ts_200M_uint64	90437011	aqua_low	do_nothing	172785000	1.910556	5
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wiki_ts_200M_uint64	90437011	aqua_low	modulo	756138000	8.360935	5
wiki_ts_200M_uint64	90437011	aqua_low	fast_modulo	223637000	2.472848	5
wiki_ts_200M_uint64	90437011	aqua_low	branchless_fast_modulo	192094400	2.124068	5
wiki_ts_200M_uint64	90437011	aqua_upper	do_nothing	272114000	3.008879	5
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wiki_ts_200M_uint64	90437011	aqua_upper	branchless_fast_modulo	196571400	2.173572	5

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wiki_ts_200M_uint64	90437011	tabulation_small64	do_nothing	288628160	3.191483	5
wiki_ts_200M_uint64	90437011	tabulation_small64	fastrange32	232603052	2.571990	5
wiki_ts_200M_uint64	90437011	tabulation_small64	fastrange64	303120414	3.351730	5
wiki_ts_200M_uint64	90437011	tabulation_small64	modulo	886813371	9.805868	5
wiki_ts_200M_uint64	90437011	tabulation_small64	fast_modulo	323522257	3.577323	5
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wiki_ts_200M_uint64	90437011	tabulation_large64	modulo	939394843	10.387283	5
wiki_ts_200M_uint64	90437011	tabulation_large64	fast_modulo	320228247	3.540898	5
wiki_ts_200M_uint64	90437011	tabulation_large64	branchless_fast_modulo	303554834	3.356533	5
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wiki_ts_200M_uint64	90437011	city64	fastrange64	292856091	3.238233	5
wiki_ts_200M_uint64	90437011	city64	modulo	879158123	9.721220	5
wiki_ts_200M_uint64	90437011	city64	fast_modulo	343201946	3.794928	5
wiki_ts_200M_uint64	90437011	city64	branchless_fast_modulo	322880090	3.570221	5
wiki_ts_200M_uint64	90437011	city128_low	do_nothing	513029573	5.672783	5
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wiki_ts_200M_uint64	90437011	city128_low	fastrange64	558389744	6.174350	5
wiki_ts_200M_uint64	90437011	city128_low	modulo	1165043772	12.882378	5
wiki_ts_200M_uint64	90437011	city128_low	fast_modulo	597293874	6.604529	5
wiki_ts_200M_uint64	90437011	city128_low	branchless_fast_modulo	579838396	6.411517	5
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wiki_ts_200M_uint64	90437011	city128_upper	fastrange64	685614071	7.581123	5
wiki_ts_200M_uint64	90437011	city128_upper	modulo	1316105379	14.552730	5
wiki_ts_200M_uint64	90437011	city128_upper	fast_modulo	725157852	8.018375	5
wiki_ts_200M_uint64	90437011	city128_upper	branchless_fast_modulo	711314806	7.865306	5
wiki_ts_200M_uint64	90437011	city128_xor	do_nothing	654543824	7.237566	5
wiki_ts_200M_uint64	90437011	city128_xor	fastrange32	615904262	6.810312	5
wiki_ts_200M_uint64	90437011	city128_xor	fastrange64	698974065	7.728850	5
wiki_ts_200M_uint64	90437011	city128_xor	modulo	1338612388	14.801599	5
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wiki_ts_200M_uint64	90437011	city128_city	modulo	1521192736	16.820467	5
wiki_ts_200M_uint64	90437011	city128_city	fast_modulo	914858462	10.115974	5
wiki_ts_200M_uint64	90437011	city128_city	branchless_fast_modulo	910967387	10.072949	5
wiki_ts_200M_uint64	90437011	meow64_low	do_nothing	129803466	1.435291	5
wiki_ts_200M_uint64	90437011	meow64_low	fastrange32	25799316	0.285274	5
wiki_ts_200M_uint64	90437011	meow64_low	fastrange64	129446482	1.431344	5
wiki_ts_200M_uint64	90437011	meow64_low	modulo	755104546	8.349508	5
wiki_ts_200M_uint64	90437011	meow64_low	fast_modulo	154022843	1.703095	5
wiki_ts_200M_uint64	90437011	meow64_low	branchless_fast_modulo	85918706	0.950039	5
wiki_ts_200M_uint64	90437011	meow64_upper	do_nothing	128072991	1.416157	5
wiki_ts_200M_uint64	90437011	meow64_upper	fastrange32	25843966	0.285768	5
wiki_ts_200M_uint64	90437011	meow64_upper	fastrange64	128851663	1.424767	5
wiki_ts_200M_uint64	90437011	meow64_upper	modulo	728613688	8.056587	5
wiki_ts_200M_uint64	90437011	meow64_upper	fast_modulo	102424770	1.132554	5
wiki_ts_200M_uint64	90437011	meow64_upper	branchless_fast_modulo	85610994	0.946637	5
wiki_ts_200M_uint64	90437011	aqua_low	do_nothing	176795546	1.954903	5
wiki_ts_200M_uint64	90437011	aqua_low	fastrange32	122328386	1.352636	5
wiki_ts_200M_uint64	90437011	aqua_low	fastrange64	190952062	2.111437	5
wiki_ts_200M_uint64	90437011	aqua_low	modulo	807082418	8.824249	5
wiki_ts_200M_uint64	90437011	aqua_low	fast_modulo	197833107	2.187524	5
wiki_ts_200M_uint64	90437011	aqua_low	branchless_fast_modulo	180048817	1.990875	5
wiki_ts_200M_uint64	90437011	aqua_upper	do_nothing	179527391	1.985110	5
wiki_ts_200M_uint64	90437011	aqua_upper	fastrange32	126061844	1.393919	5
wiki_ts_200M_uint64	90437011	aqua_upper	fastrange64	202888567	2.243424	5
wiki_ts_200M_uint64	90437011	aqua_upper	modulo	787458024	8.707254	5
wiki_ts_200M_uint64	90437011	aqua_upper	fast_modulo	214715533	2.374200	5
wiki_ts_200M_uint64	90437011	aqua_upper	branchless_fast_modulo	196116334	2.168541	5

absolute difference	relative speedup
0.168557	1.032600
0.031393	1.006571
-0.167175	0.947618
-0.113344	0.955931
-0.249721	0.925495
-0.447056	0.954409
0.039920	1.011159
-0.038288	0.988623
-0.237084	0.927422
-0.121019	0.953127
-0.433315	0.876264
-1.011989	0.902576
-0.069034	0.980504
-0.127459	0.960207
-0.358786	0.874052
0.182243	1.071105
-0.566462	0.825071
-0.941607	0.903139
-0.114623	0.969796
-0.320151	0.910327
0.592749	1.104490
-0.292327	0.943512
0.770811	1.124841
0.769135	1.059704
-0.067699	0.989750
-0.290284	0.954725
1.300590	1.185551
-0.358551	0.948255
1.146682	1.151255
-0.971949	1.066789
-0.115316	0.985619
-0.309747	0.960619
1.291232	1.178407
-0.344207	0.949458
1.188936	1.153572
0.784411	1.052095
-0.241728	0.970896
-0.345316	0.956870
-0.589058	0.933393
-0.335188	0.960341
-0.606982	0.935572
-1.272534	0.924046
0.087866	1.106866
-0.362456	0.964017
1.986968	1.241662
20.277584	72.180108
20.282074	15.168951
21.901463	3.623084
22.872996	14.430023
23.791311	25.608601
19.310264	14.635560
22.318924	79.105511
20.520394	15.402631
22.151017	3.794929
22.336769	20.719748
22.277799	24.533624
-0.043447	0.977315
-0.027756	0.979480
-0.173029	0.918052
-0.563314	0.936878
0.285324	1.130432
0.133193	1.066902
1.023769	1.151724
-0.004950	0.999649
0.771003	1.343672
0.502705	1.057734
0.185498	1.078131
0.005031	1.002310