

Benchmark	g	d	layout	s basic	s sabre	s look	swap (%)	d basic	d swap	d look	d (%)
dj	36	11	full_10_2	0	0	0	nan	11	11	11	0
dj	36	11	full_7_3	0	3	0	-100	11	14	11	-21.43
dj	36	11	ring_10_2	36	3	3	0	40	17	12	-29.41
dj	36	11	ring_7_3	24	3	3	0	30	18	12	-33.33
dj	36	11	grid_9_3	9	3	0	-100	21	17	11	-35.29
dj	36	11	grid_4_5	21	3	3	0	37	14	12	-14.29
dj	36	11	line_5_4	36	6	6	0	40	17	14	-17.65
dj	36	11	t_horizontal_5_4	24	3	3	0	37	16	12	-25
dj	36	11	t_vertical_5_4	24	3	3	0	37	17	12	-29.41
ghz	7	7	full_10_2	0	0	0	nan	7	7	7	0
ghz	7	7	full_7_3	0	0	0	nan	7	7	7	0
ghz	7	7	ring_10_2	0	3	9	200	7	10	8	-20
ghz	7	7	ring_7_3	0	0	9	nan	7	7	8	14.29
ghz	7	7	grid_9_3	6	3	6	100	13	10	8	-20
ghz	7	7	grid_4_5	3	0	9	nan	10	7	8	14.29
ghz	7	7	line_5_4	0	9	18	100	7	13	9	-30.77
ghz	7	7	t_horizontal_5_4	9	3	6	100	16	10	9	-10
ghz	7	7	t_vertical_5_4	9	0	6	nan	16	7	9	28.57
graphstate	50	22	full_10_2	0	3	0	-100	22	22	22	0
graphstate	50	22	full_7_3	0	0	0	nan	22	22	22	0
graphstate	50	22	ring_10_2	12	6	9	50	32	25	20	-20
graphstate	50	22	ring_7_3	6	6	9	50	24	22	20	-9.09
graphstate	50	22	grid_9_3	15	3	6	100	37	32	20	-37.5
graphstate	50	22	grid_4_5	18	3	9	200	41	25	20	-20
graphstate	50	22	line_5_4	12	9	12	33.33	32	25	21	-16
graphstate	50	22	t_horizontal_5_4	12	6	9	50	35	25	20	-20
graphstate	50	22	t_vertical_5_4	12	6	9	50	35	22	20	-9.09
portfolioqaoa	195	72	full_10_2	0	0	0	nan	72	72	72	0
portfolioqaoa	195	72	full_7_3	0	0	0	nan	72	72	72	0
portfolioqaoa	195	72	ring_10_2	180	66	87	31.82	255	166	110	-33.73
portfolioqaoa	195	72	ring_7_3	120	51	87	70.59	157	177	110	-37.85
portfolioqaoa	195	72	grid_9_3	96	39	69	76.92	199	141	121	-14.18
portfolioqaoa	195	72	grid_4_5	81	42	69	64.29	220	138	104	-24.64
portfolioqaoa	195	72	line_5_4	180	66	93	40.91	255	166	90	-45.78
portfolioqaoa	195	72	t_horizontal_5_4	117	60	87	45	252	179	110	-38.55
portfolioqaoa	195	72	t_vertical_5_4	117	66	87	31.82	252	166	110	-33.73
portfoliovqe	310	107	full_10_2	0	0	0	nan	107	107	107	0
portfoliovqe	310	107	full_7_3	0	48	0	-100	107	172	107	-37.79
portfoliovqe	310	107	ring_10_2	180	51	93	82.35	242	204	125	-38.73
portfoliovqe	310	107	ring_7_3	120	48	93	93.75	179	193	125	-35.23
portfoliovqe	310	107	grid_9_3	96	42	57	35.71	209	181	111	-38.67
portfoliovqe	310	107	grid_4_5	81	39	48	23.08	239	175	115	-34.29
portfoliovqe	310	107	line_5_4	180	69	90	30.43	242	187	126	-32.62
portfoliovqe	310	107	t_horizontal_5_4	117	48	93	93.75	239	193	125	-35.23
portfoliovqe	310	107	t_vertical_5_4	117	57	93	63.16	239	205	125	-39.02
qaoa	95	31	full_10_2	0	3	0	-100	31	42	31	-26.19
qaoa	95	31	full_7_3	0	0	0	nan	31	31	31	0
qaoa	95	31	ring_10_2	48	12	27	125	106	47	45	-4.26
qaoa	95	31	ring_7_3	24	9	27	200	54	48	45	-6.25
qaoa	95	31	grid_9_3	9	9	21	133.33	37	48	48	0
qaoa	95	31	grid_4_5	18	6	27	350	59	50	45	-10
qaoa	95	31	line_5_4	48	12	18	50	106	42	39	-7.14
qaoa	95	31	t_horizontal_5_4	33	9	24	166.67	100	48	45	-6.25
qaoa	95	31	t_vertical_5_4	33	9	24	166.67	100	48	45	-6.25
qft	71	38	full_10_2	0	0	0	nan	38	38	38	0
qft	71	38	full_7_3	0	0	0	nan	38	38	38	0
qft	71	38	ring_10_2	72	15	24	60	92	60	42	-30
qft	71	38	ring_7_3	51	18	24	33.33	77	57	42	-26.32
qft	71	38	grid_9_3	39	12	21	75	74	53	41	-22.64
qft	71	38	grid_4_5	36	15	27	80	82	54	52	-3.7
qft	71	38	line_5_4	72	24	24	0	92	57	42	-26.32
qft	71	38	t_horizontal_5_4	48	15	24	60	82	60	42	-30

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Benchmark	g	d	layout	s basic	s sabre	s look	swap (%)	d basic	d swap	d look	d (%)
qft	71	38	t_vertical_5_4	48	15	24	60	82	60	42	-30
qftentangled	78	42	full_10_2	0	0	0	nan	42	42	42	0
qftentangled	78	42	full_7_3	0	15	0	-100	42	74	42	-43.24
qftentangled	78	42	ring_10_2	72	21	30	42.86	96	75	49	-34.67
qftentangled	78	42	ring_7_3	51	21	30	42.86	81	76	49	-35.53
qftentangled	78	42	grid_9_3	45	21	27	28.57	87	76	45	-40.79
qftentangled	78	42	grid_4_5	36	18	15	-16.67	78	57	45	-21.05
qftentangled	78	42	line_5_4	72	24	36	50	96	73	50	-31.51
qftentangled	78	42	t_horizontal_5_4	60	24	33	37.5	90	73	48	-34.25
qftentangled	78	42	t_vertical_5_4	60	21	33	57.14	90	75	48	-36
qnn	154	58	full_10_2	0	39	0	-100	58	133	58	-56.39
qnn	154	58	full_7_3	0	12	0	-100	58	90	58	-35.56
qnn	154	58	ring_10_2	120	39	66	69.23	172	122	84	-31.15
qnn	154	58	ring_7_3	93	48	66	37.5	122	127	84	-33.86
qnn	154	58	grid_9_3	63	30	48	60	132	97	78	-19.59
qnn	154	58	grid_4_5	54	30	54	80	151	103	80	-22.33
qnn	154	58	line_5_4	120	48	84	75	172	127	80	-37.01
qnn	154	58	t_horizontal_5_4	81	48	66	37.5	172	127	84	-33.86
qnn	154	58	t_vertical_5_4	81	45	66	46.67	172	133	84	-36.84
random	223	97	full_10_2	0	12	0	-100	97	126	97	-23.02
random	223	97	full_7_3	0	6	0	-100	97	140	97	-30.71
random	223	97	ring_10_2	63	12	66	450	160	106	121	14.15
random	223	97	ring_7_3	60	12	66	450	157	106	121	14.15
random	223	97	grid_9_3	30	12	27	125	114	106	111	4.72
random	223	97	grid_4_5	39	12	27	125	169	106	111	4.72
random	223	97	line_5_4	63	12	30	150	160	106	99	-6.6
random	223	97	t_horizontal_5_4	36	12	66	450	151	106	121	14.15
random	223	97	t_vertical_5_4	36	12	66	450	151	106	121	14.15
realamprandom	130	37	full_10_2	0	0	0	nan	37	37	37	0
realamprandom	130	37	full_7_3	0	42	0	-100	37	108	37	-65.74
realamprandom	130	37	ring_10_2	180	51	60	17.65	206	109	66	-39.45
realamprandom	130	37	ring_7_3	120	48	60	25	129	102	66	-35.29
realamprandom	130	37	grid_9_3	96	24	42	75	145	89	64	-28.09
realamprandom	130	37	grid_4_5	81	42	48	14.29	160	97	59	-39.18
realamprandom	130	37	line_5_4	180	72	93	29.17	206	128	59	-53.91
realamprandom	130	37	t_horizontal_5_4	117	51	60	17.65	185	106	66	-37.74
realamprandom	130	37	t_vertical_5_4	117	51	60	17.65	185	106	66	-37.74
su2random	150	41	full_10_2	0	15	0	-100	41	64	41	-35.94
su2random	150	41	full_7_3	0	0	0	nan	41	41	41	0
su2random	150	41	ring_10_2	180	48	60	25	219	110	70	-36.36
su2random	150	41	ring_7_3	120	51	60	17.65	138	117	70	-40.17
su2random	150	41	grid_9_3	96	24	42	75	155	96	68	-29.17
su2random	150	41	grid_4_5	81	42	48	14.29	174	106	63	-40.57
su2random	150	41	line_5_4	180	69	93	34.78	219	123	63	-48.78
su2random	150	41	t_horizontal_5_4	117	48	60	25	198	115	70	-39.13
su2random	150	41	t_vertical_5_4	117	48	60	25	198	110	70	-36.36
twolocalrandom	130	37	full_10_2	0	0	0	nan	37	37	37	0
twolocalrandom	130	37	full_7_3	0	15	0	-100	37	71	37	-47.89
twolocalrandom	130	37	ring_10_2	180	51	60	17.65	206	109	66	-39.45
twolocalrandom	130	37	ring_7_3	120	48	60	25	129	107	66	-38.32
twolocalrandom	130	37	grid_9_3	96	36	42	16.67	145	93	64	-31.18
twolocalrandom	130	37	grid_4_5	81	42	48	14.29	160	101	59	-41.58
twolocalrandom	130	37	line_5_4	180	72	93	29.17	206	113	59	-47.79
twolocalrandom	130	37	t_horizontal_5_4	117	72	60	-16.67	185	126	66	-47.62
twolocalrandom	130	37	t_vertical_5_4	117	48	60	25	185	107	66	-38.32
vqe	83	21	full_10_2	0	0	0	nan	21	21	21	0
vqe	83	21	full_7_3	0	0	0	nan	21	21	21	0
vqe	83	21	ring_10_2	0	0	15	nan	21	21	29	38.1
vqe	83	21	ring_7_3	0	0	15	nan	21	21	29	38.1
vqe	83	21	grid_9_3	15	0	12	nan	35	21	27	28.57
vqe	83	21	grid_4_5	18	0	15	nan	39	21	29	38.1
vqe	83	21	line_5_4	0	0	15	nan	21	21	24	14.29

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Benchmark	g	d	layout	s basic	s sabre	s look	swap (%)	d basic	d swap	d look	d (%)
vqe	83	21	t_horizontal_5_4	12	0	12	nan	33	21	25	19.05
vqe	83	21	t_vertical_5_4	12	0	12	nan	33	21	25	19.05
wstate	73	45	full_10_2	0	0	0	nan	45	45	45	0
wstate	73	45	full_7_3	0	0	0	nan	45	45	45	0
wstate	73	45	ring_10_2	0	0	9	nan	45	45	40	-11.11
wstate	73	45	ring_7_3	0	0	9	nan	45	45	40	-11.11
wstate	73	45	grid_9_3	18	0	12	nan	54	45	41	-8.89
wstate	73	45	grid_4_5	12	0	9	nan	51	45	40	-11.11
wstate	73	45	line_5_4	0	0	15	nan	45	45	33	-26.67
wstate	73	45	t_horizontal_5_4	18	0	6	nan	58	45	39	-13.33
wstate	73	45	t_vertical_5_4	18	0	6	nan	58	45	39	-13.33