

```
[('230224-oss-7_r6g_8xlarge-409-S-82b6735fbf_arm64-hive_sf1000_orc_part-s2274',
  'baseline'),
 ('hive-col-stats-oss-7_r6g_8xlarge-408-S-ee3f5fb44a_arm64-hive_sf1000_orc_part-s2276',
  'only required column stats')]
```

	label	TPCH wall time	TPC-DS wall time	TPCH CPU time	TPC-DS CPU time	TPCH Network	TPC-DS Network	TPCH peak mem	TPC-DS peak mem	TPCH physical input	TPC-DS physical input	TPCH wall time % change	TPC-DS wall time % change	TPCH CPU time % change	TPC-DS CPU time % change	TPCH Network % change	TPC-DS Network % change	TPCH peak mem % change	TPC-DS peak mem % change	TPCH physical input % change	TPC-DS physical input % change
0	baseline	543	904	53,682	91,204	1.873 TiB	1.684 TiB	1.244 TiB	0.955 TiB	833.494 GiB	1.001 TiB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1	only required column stats	515	900	50,389	91,453	1.880 TiB	1.685 TiB	1.257 TiB	0.962 TiB	833.451 GiB	1.001 TiB	-5.13	-0.38	-6.13	0.27	0.36	0.06	1.03	0.74	-0.01	0.02

**baseline**

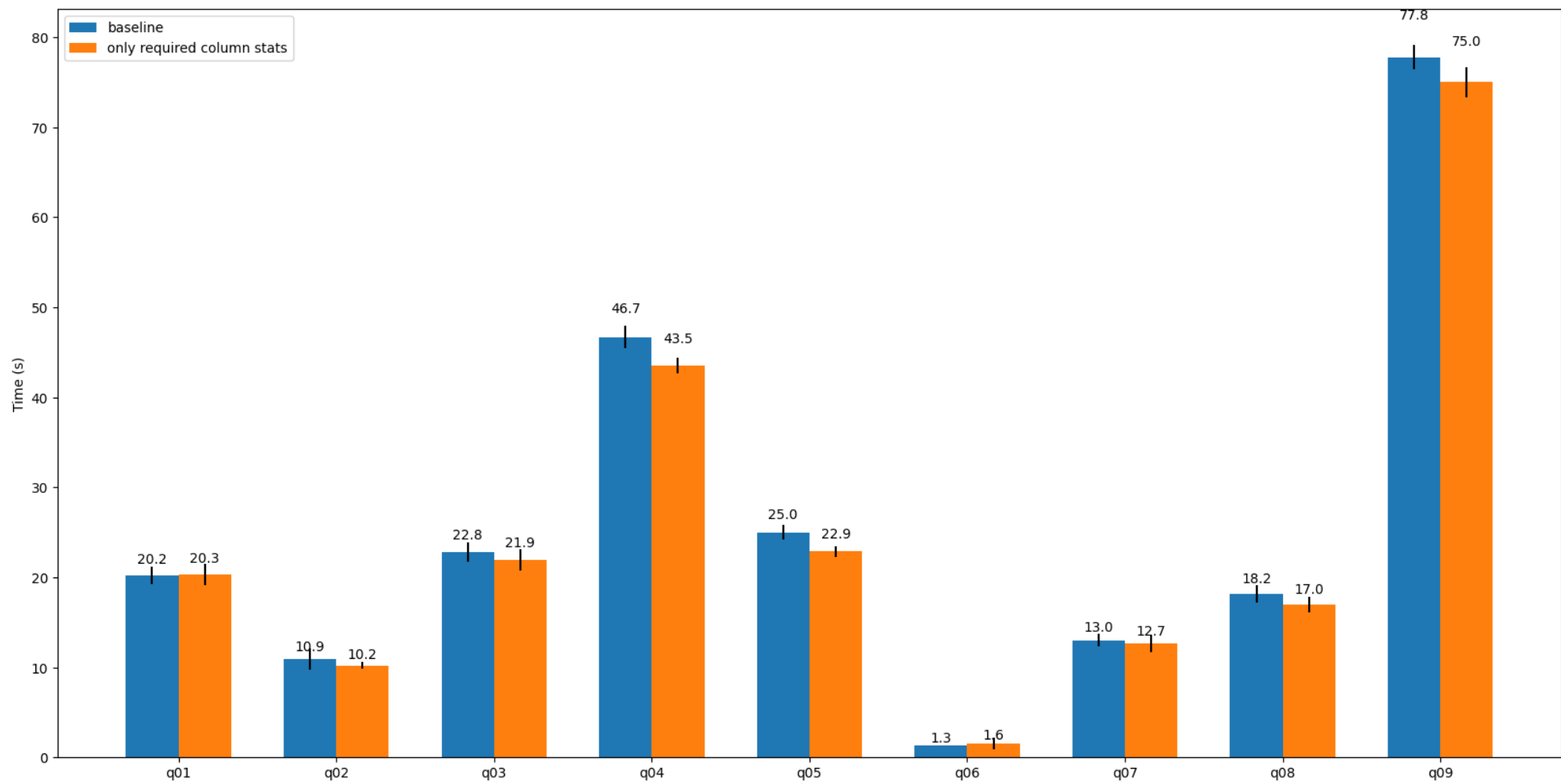
benchmark query mean\_duration std\_dev

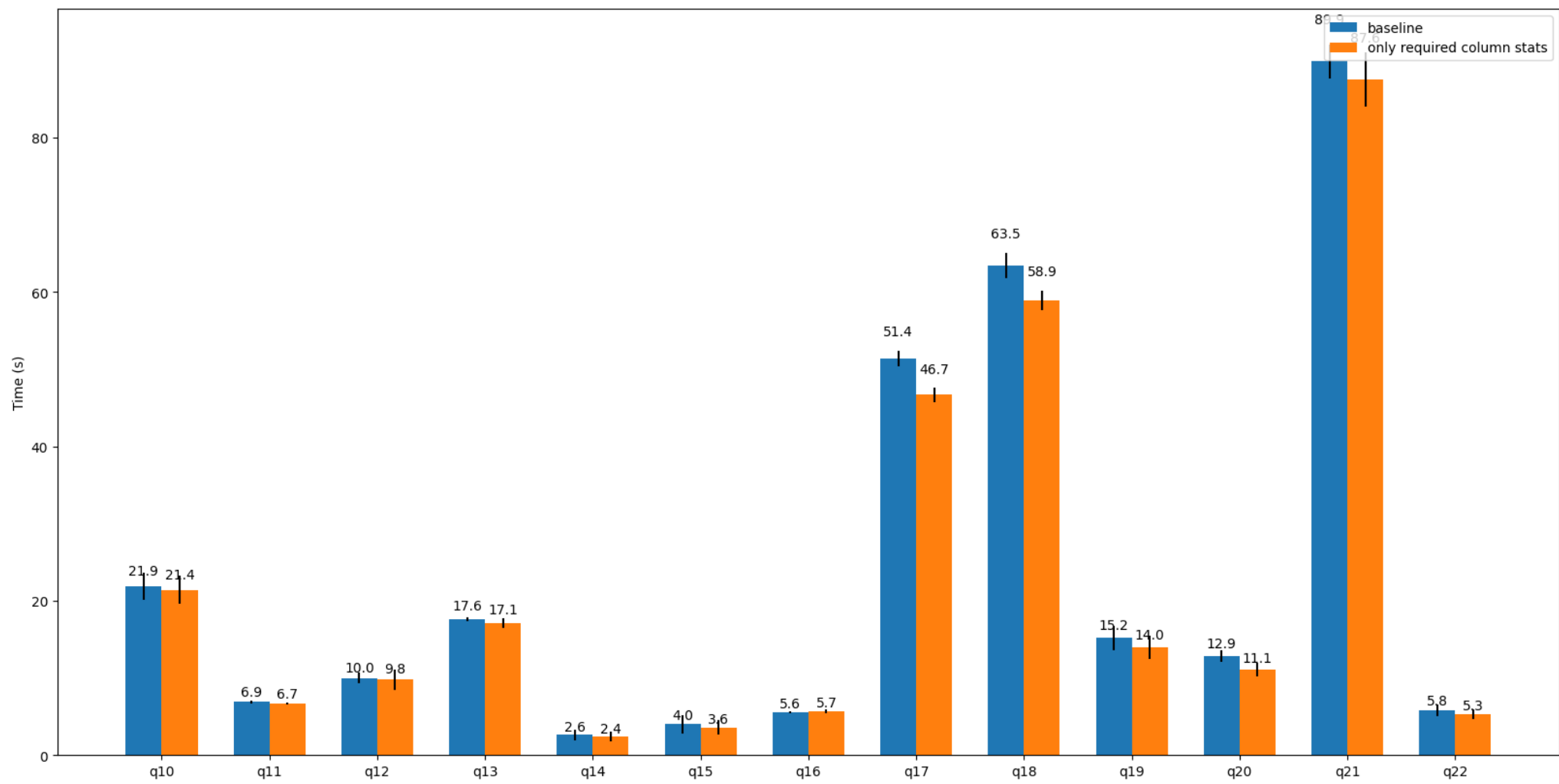
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**only required column stats**

benchmark query mean\_duration std\_dev

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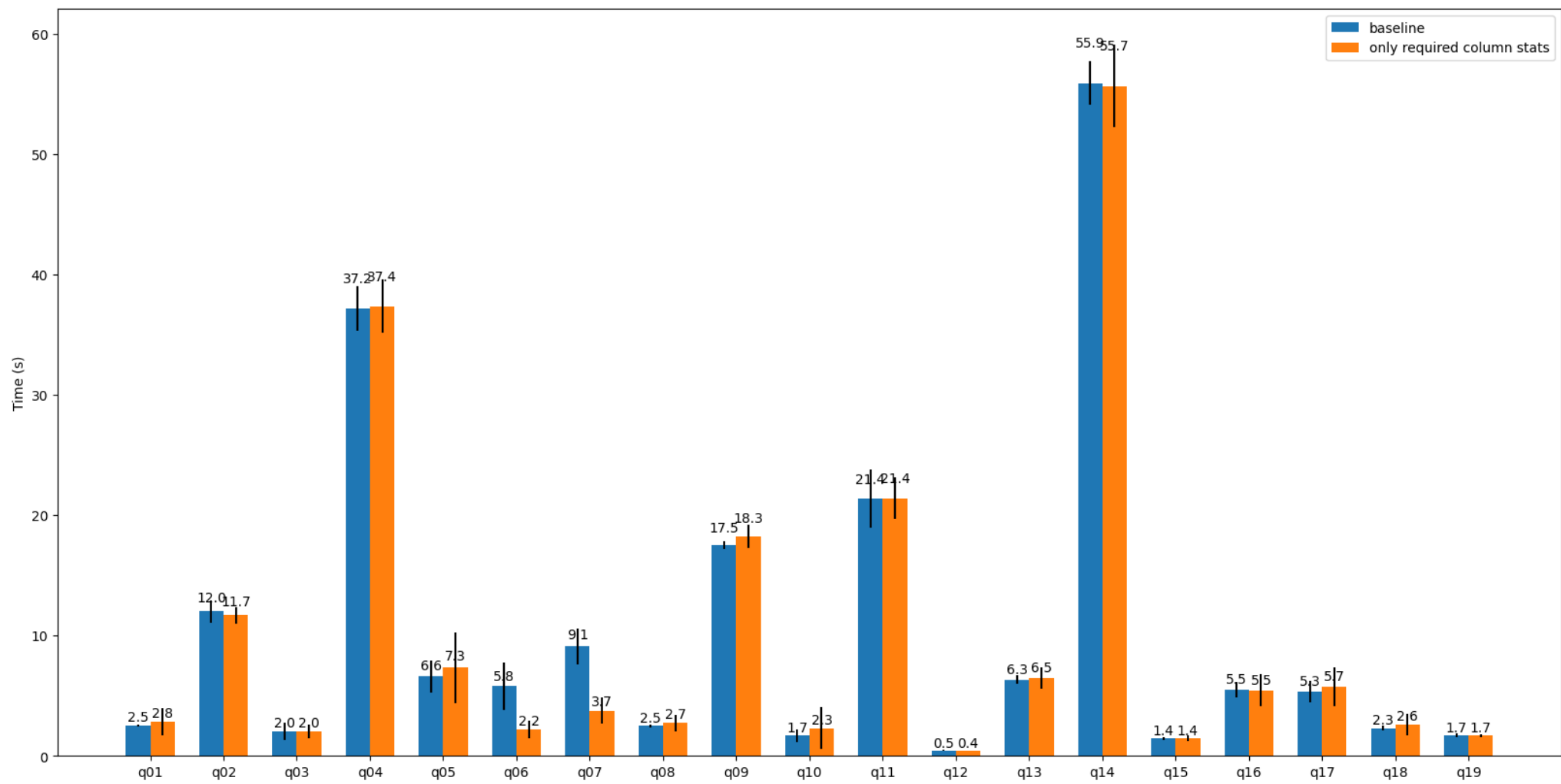
	query	baseline mean	baseline std.dev	only required column stats mean	only required column stats std.dev	% change	absolute change	baseline std.dev %	only required column stats std.dev %	p-value
16	presto/tpch/q17	51.37	0.98	46.71	0.93	-9.07	-4.66	1.91	1.98	0.00001
17	presto/tpch/q18	63.47	1.61	58.88	1.24	-7.23	-4.59	2.54	2.11	0.00025
3	presto/tpch/q04	46.71	1.22	43.53	0.89	-6.80	-3.18	2.62	2.05	0.00044
8	presto/tpch/q09	77.79	1.36	75.00	1.70	-3.59	-2.79	1.75	2.27	0.01058
20	presto/tpch/q21	89.89	2.17	87.59	3.51	-2.56	-2.30	2.42	4.01	0.20273
4	presto/tpch/q05	25.00	0.80	22.89	0.58	-8.44	-2.11	3.19	2.53	0.00038
19	presto/tpch/q20	12.87	0.73	11.09	0.92	-13.83	-1.78	5.66	8.29	0.00398
18	presto/tpch/q19	15.16	1.55	13.96	1.55	-7.92	-1.20	10.22	11.10	0.20914
7	presto/tpch/q08	18.16	0.92	17.01	0.85	-6.37	-1.16	5.07	5.00	0.04727
2	presto/tpch/q03	22.77	1.08	21.94	1.19	-3.66	-0.83	4.76	5.40	0.23264
1	presto/tpch/q02	10.93	1.19	10.20	0.40	-6.71	-0.73	10.90	3.91	0.18317
21	presto/tpch/q22	5.80	0.80	5.29	0.59	-8.80	-0.51	13.71	11.19	0.23561
9	presto/tpch/q10	21.91	1.73	21.43	1.85	-2.21	-0.48	7.89	8.64	0.64981
12	presto/tpch/q13	17.57	0.26	17.09	0.59	-2.74	-0.48	1.49	3.48	0.09917
14	presto/tpch/q15	4.02	1.17	3.60	0.89	-10.52	-0.42	29.17	24.85	0.49841
6	presto/tpch/q07	13.02	0.69	12.66	1.00	-2.71	-0.35	5.27	7.92	0.49300
10	presto/tpch/q11	6.93	0.19	6.68	0.17	-3.72	-0.26	2.74	2.57	0.03317
13	presto/tpch/q14	2.64	0.71	2.40	0.59	-9.19	-0.24	27.09	24.56	0.53567
11	presto/tpch/q12	9.96	0.69	9.78	1.30	-1.81	-0.18	6.89	13.24	0.76890
0	presto/tpch/q01	20.25	0.99	20.31	1.20	0.31	0.06	4.87	5.90	0.92343
15	presto/tpch/q16	5.55	0.15	5.66	0.24	1.91	0.11	2.78	4.29	0.38889
5	presto/tpch/q06	1.33	0.03	1.58	0.64	18.74	0.25	2.49	40.78	0.36611

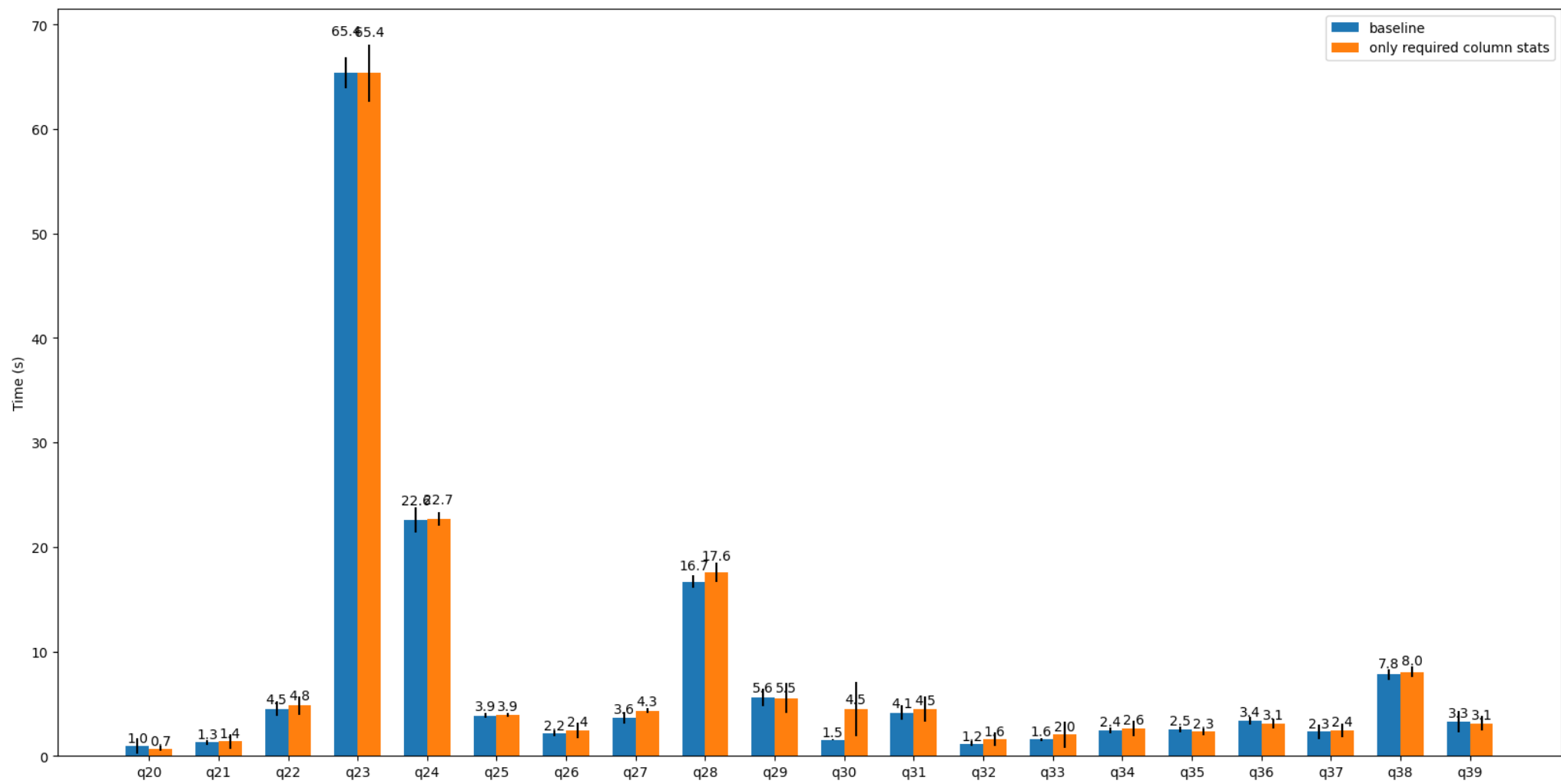
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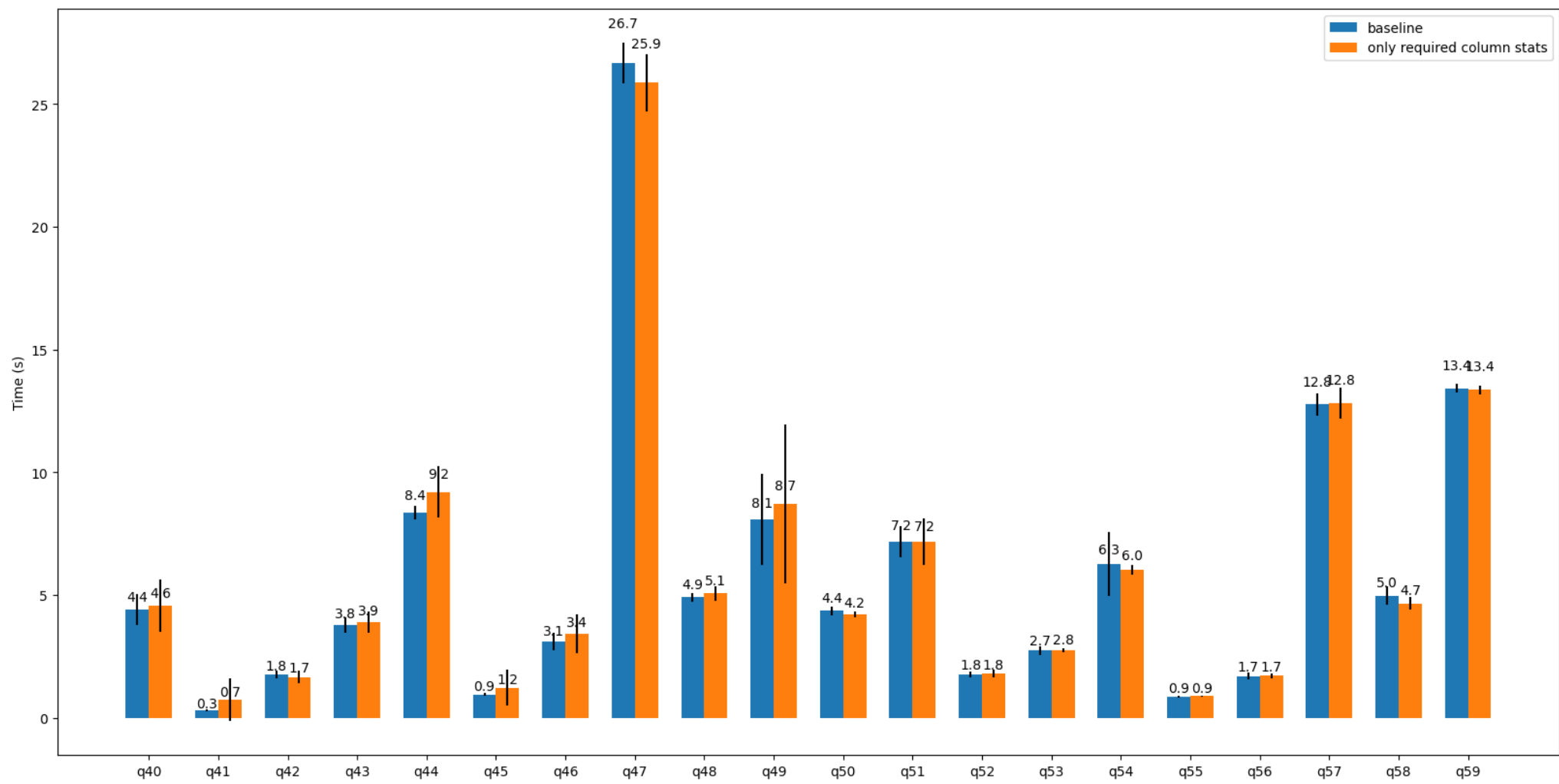
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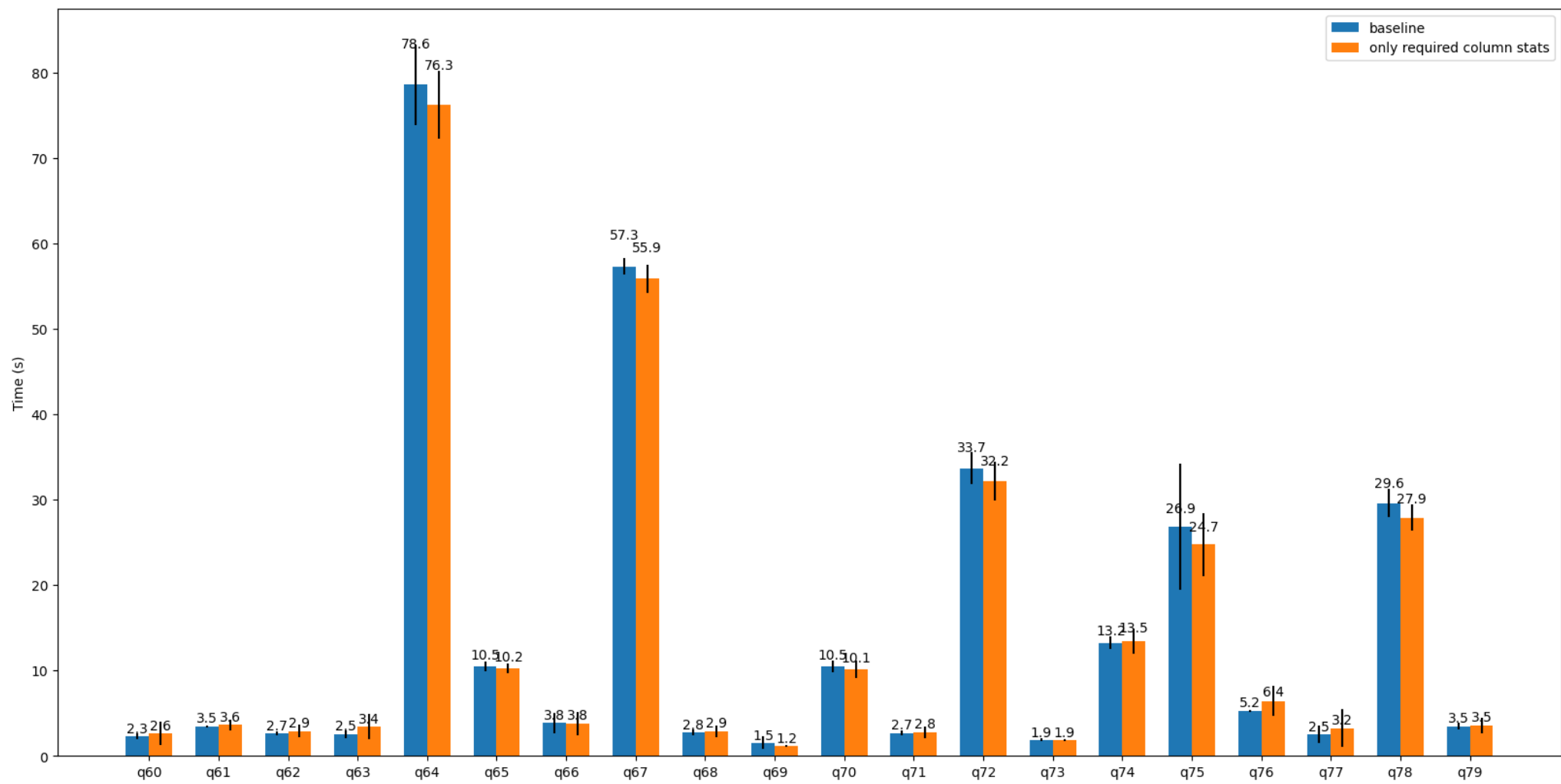
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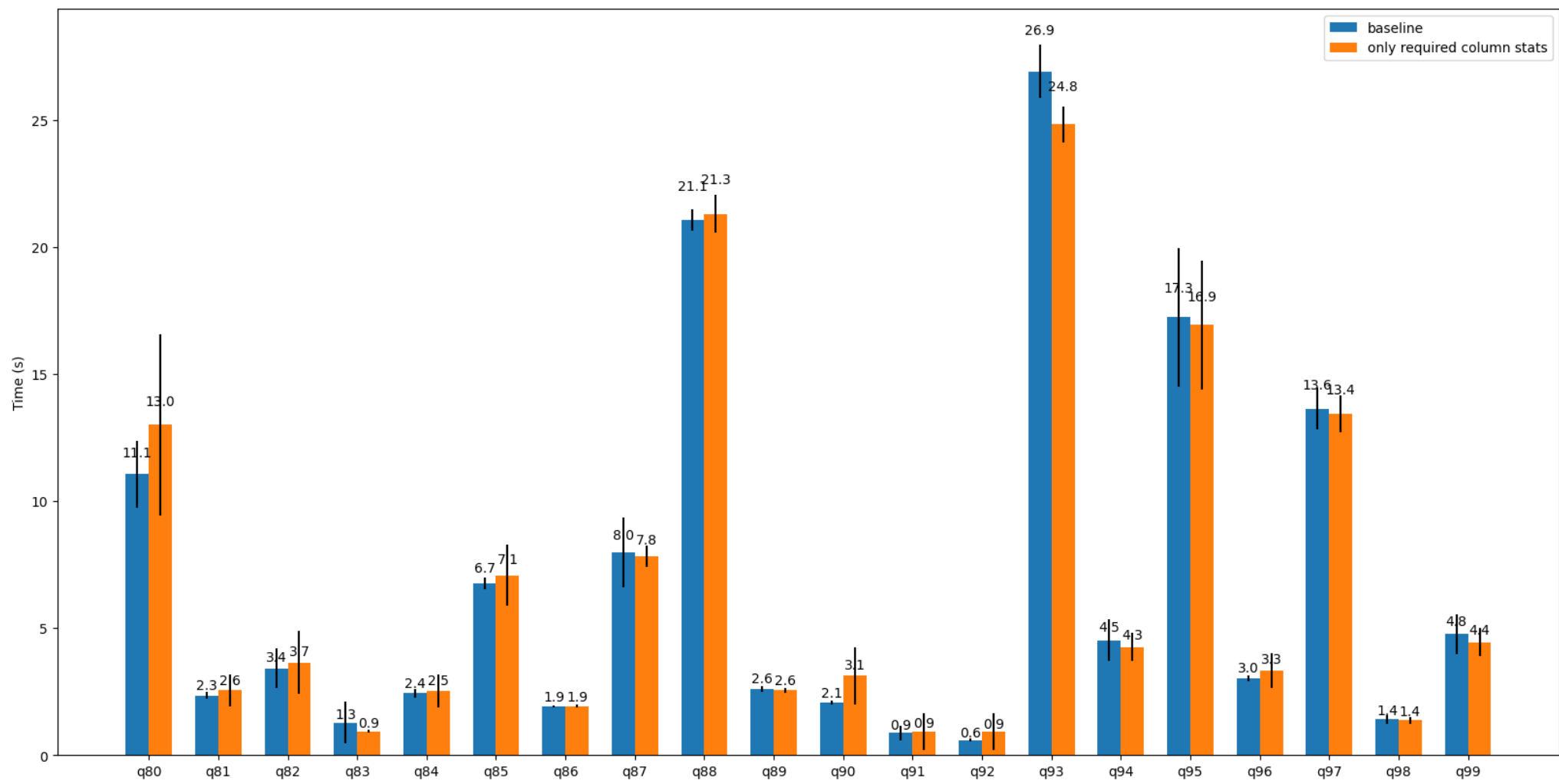


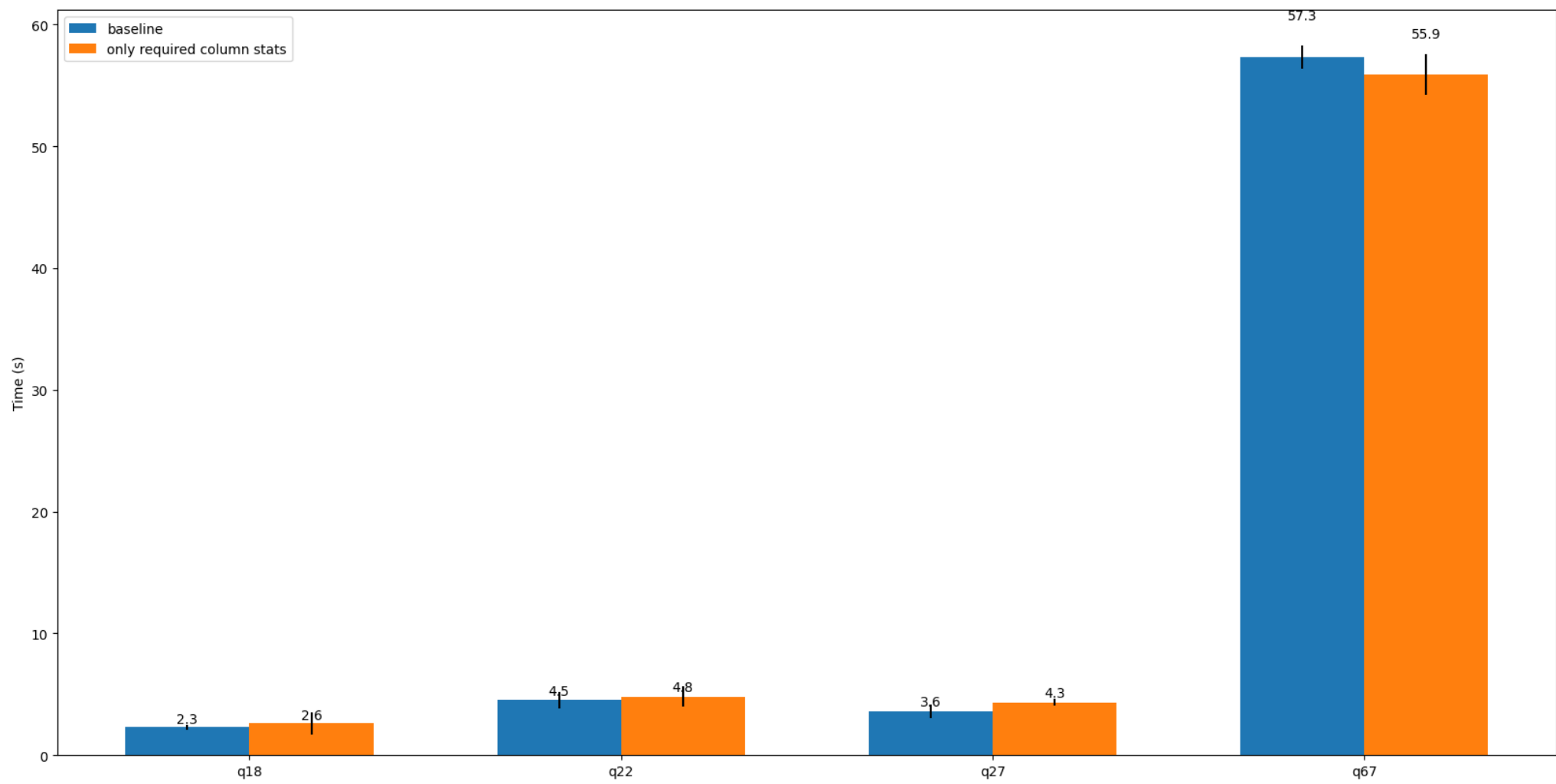










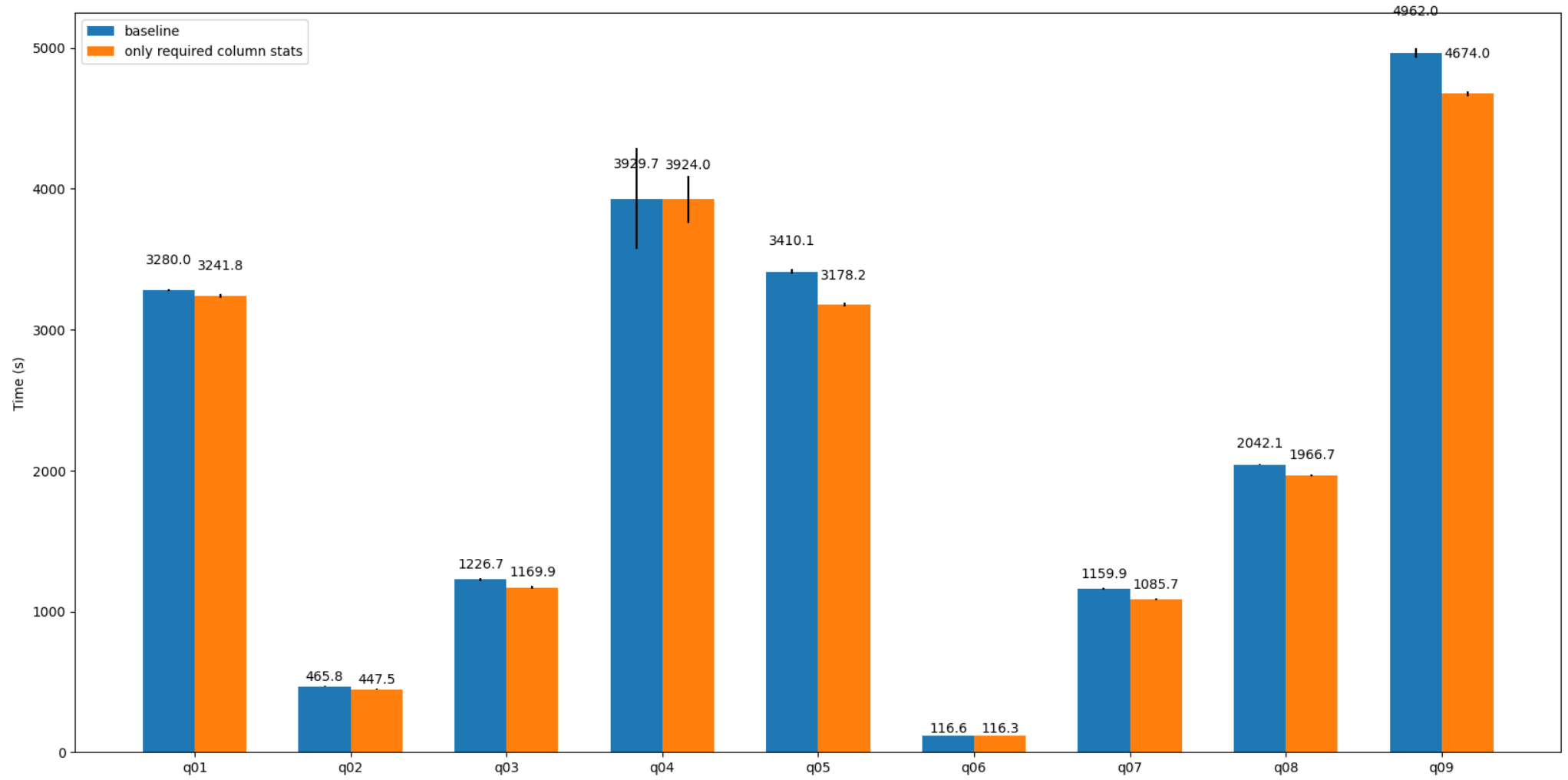


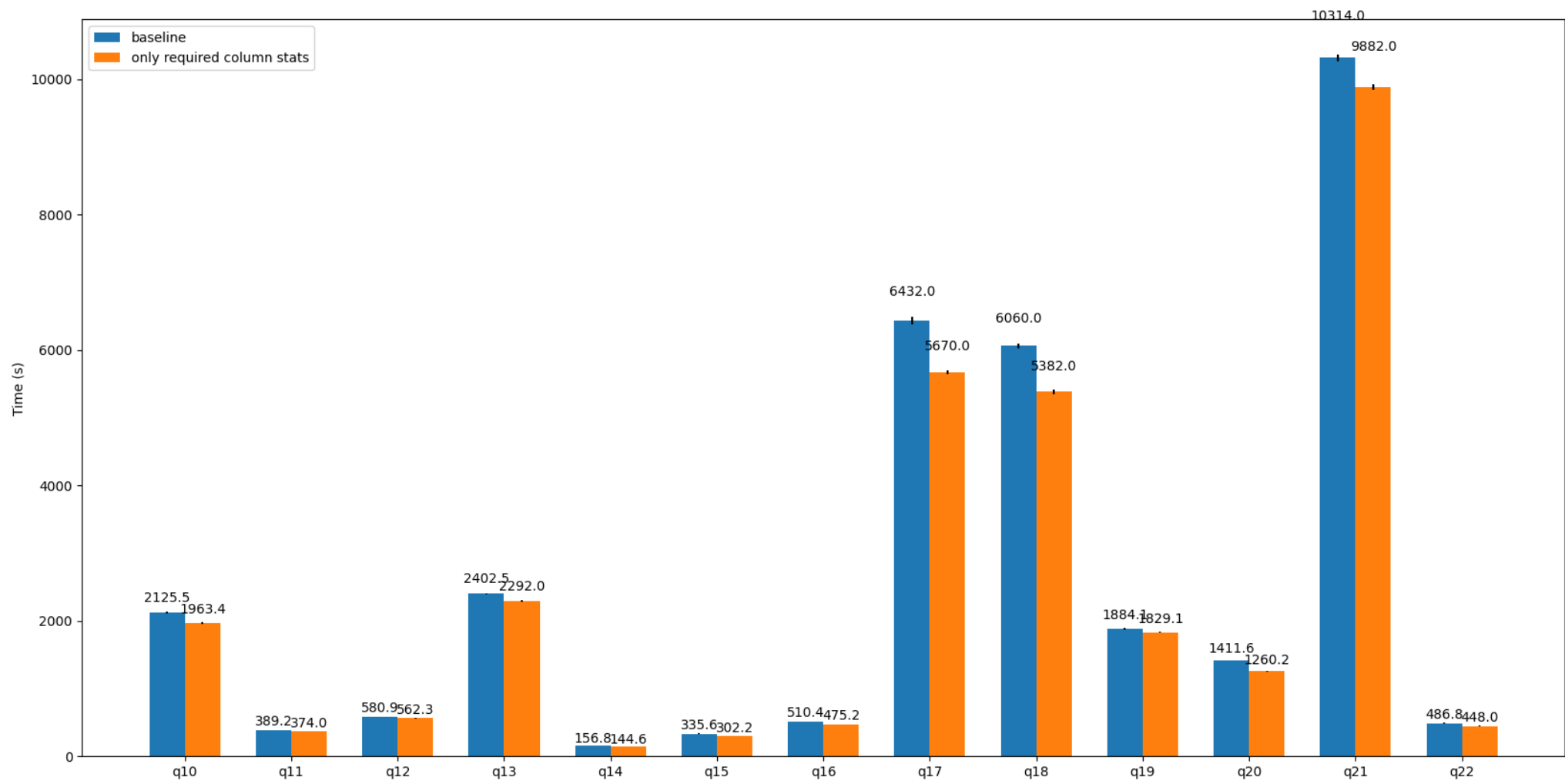
	query	baseline mean	baseline std.dev	only required column stats mean	only required column stats std.dev	% change	absolute change	baseline std.dev %	only required column stats std.dev %	p-value
6	presto/tpcds/q07	9.09	1.51	3.74	1.09	-58.90	-5.35	16.63	29.17	0.00004
5	presto/tpcds/q06	5.79	2.00	2.22	0.72	-61.74	-3.58	34.50	32.73	0.00208
63	presto/tpcds/q64	78.61	4.70	76.27	3.96	-2.98	-2.34	5.98	5.19	0.37333
74	presto/tpcds/q75	26.86	7.40	24.74	3.70	-7.88	-2.12	27.53	14.97	0.54498
92	presto/tpcds/q93	26.92	1.06	24.83	0.72	-7.75	-2.09	3.93	2.89	0.00251
77	presto/tpcds/q78	29.59	1.66	27.92	1.52	-5.66	-1.68	5.61	5.45	0.09811
71	presto/tpcds/q72	33.68	1.88	32.17	2.28	-4.49	-1.51	5.57	7.08	0.23766
66	presto/tpcds/q67	57.31	0.96	55.88	1.64	-2.50	-1.43	1.68	2.93	0.09489
46	presto/tpcds/q47	26.66	0.83	25.87	1.16	-2.96	-0.79	3.11	4.48	0.20500
68	presto/tpcds/q69	1.55	0.70	1.18	0.12	-24.03	-0.37	45.29	10.59	0.22951
69	presto/tpcds/q70	10.48	0.67	10.12	1.01	-3.41	-0.36	6.44	9.99	0.48733
82	presto/tpcds/q83	1.28	0.81	0.94	0.06	-26.80	-0.34	63.63	6.84	0.32801
98	presto/tpcds/q99	4.78	0.78	4.44	0.56	-7.05	-0.34	16.40	12.52	0.41039
1	presto/tpcds/q02	12.00	0.91	11.67	0.65	-2.74	-0.33	7.55	5.54	0.48551
57	presto/tpcds/q58	4.98	0.37	4.66	0.25	-6.41	-0.32	7.44	5.30	0.10975
94	presto/tpcds/q95	17.25	2.73	16.94	2.53	-1.82	-0.31	15.80	14.92	0.83980
19	presto/tpcds/q20	0.97	0.75	0.68	0.23	-29.70	-0.29	77.93	33.86	0.39297
35	presto/tpcds/q36	3.36	0.38	3.08	0.48	-8.25	-0.28	11.37	15.54	0.29361
93	presto/tpcds/q94	4.53	0.81	4.26	0.57	-5.79	-0.26	17.86	13.39	0.53105
64	presto/tpcds/q65	10.49	0.59	10.24	0.58	-2.38	-0.25	5.61	5.63	0.47460
53	presto/tpcds/q54	6.27	1.30	6.02	0.18	-3.95	-0.25	20.80	3.03	0.65522
34	presto/tpcds/q35	2.54	0.30	2.32	0.32	-8.59	-0.22	11.64	13.69	0.24661
13	presto/tpcds/q14	55.89	1.82	55.67	3.43	-0.39	-0.22	3.25	6.17	0.89358
96	presto/tpcds/q97	13.64	0.82	13.45	0.72	-1.37	-0.19	6.01	5.38	0.68466
38	presto/tpcds/q39	3.31	1.02	3.13	0.69	-5.16	-0.17	30.85	22.09	0.74146
86	presto/tpcds/q87	7.99	1.38	7.82	0.42	-2.04	-0.16	17.24	5.38	0.78736
49	presto/tpcds/q50	4.36	0.18	4.20	0.11	-3.70	-0.16	4.07	2.71	0.09034
41	presto/tpcds/q42	1.76	0.15	1.65	0.25	-6.08	-0.11	8.56	15.07	0.38934
28	presto/tpcds/q29	5.60	0.87	5.54	1.43	-1.14	-0.06	15.56	25.88	0.92760
65	presto/tpcds/q66	3.84	1.15	3.78	1.32	-1.64	-0.06	29.93	34.96	0.93146
88	presto/tpcds/q89	2.62	0.11	2.56	0.09	-2.30	-0.06	4.39	3.51	0.33479
58	presto/tpcds/q59	13.41	0.17	13.36	0.17	-0.42	-0.06	1.30	1.31	0.58820
15	presto/tpcds/q16	5.51	0.63	5.46	1.31	-0.92	-0.05	11.39	24.08	0.93358

	query	baseline mean	baseline std.dev	only required column stats mean	only required column stats std.dev	% change	absolute change	baseline std.dev %	only required column stats std.dev %	p-value
97	presto/tpcds/q98	1.41	0.16	1.37	0.13	-2.51	-0.04	11.66	9.67	0.69043
22	presto/tpcds/q23	65.39	1.49	65.36	2.73	-0.05	-0.03	2.29	4.17	0.98099
11	presto/tpcds/q12	0.45	0.03	0.43	0.03	-4.55	-0.02	5.58	7.78	0.25801
18	presto/tpcds/q19	1.71	0.13	1.70	0.12	-0.70	-0.01	7.39	7.13	0.87006
50	presto/tpcds/q51	7.18	0.62	7.17	0.95	-0.17	-0.01	8.69	13.31	0.97992
2	presto/tpcds/q03	2.05	0.72	2.04	0.56	-0.24	-0.00	34.97	27.36	0.98986
14	presto/tpcds/q15	1.44	0.11	1.44	0.24	-0.13	-0.00	7.33	16.42	0.98651
85	presto/tpcds/q86	1.93	0.04	1.93	0.06	0.34	0.01	2.22	3.35	0.84141
72	presto/tpcds/q73	1.87	0.17	1.87	0.13	0.40	0.01	8.87	7.16	0.93300
51	presto/tpcds/q52	1.77	0.12	1.78	0.16	0.49	0.01	6.86	8.88	0.91749
54	presto/tpcds/q55	0.87	0.03	0.88	0.02	1.25	0.01	3.78	2.11	0.49608
55	presto/tpcds/q56	1.70	0.15	1.72	0.10	1.03	0.02	8.97	5.78	0.81851
52	presto/tpcds/q53	2.73	0.19	2.76	0.08	0.74	0.02	6.80	2.91	0.81086
10	presto/tpcds/q11	21.38	2.40	21.40	1.75	0.11	0.02	11.24	8.16	0.98449
24	presto/tpcds/q25	3.88	0.19	3.92	0.17	1.17	0.05	5.03	4.36	0.67853
78	presto/tpcds/q79	3.46	0.42	3.52	0.90	1.60	0.06	12.18	25.67	0.89426
90	presto/tpcds/q91	0.88	0.29	0.94	0.73	6.46	0.06	32.88	77.45	0.86207
56	presto/tpcds/q57	12.76	0.45	12.82	0.64	0.51	0.07	3.51	4.99	0.84130
23	presto/tpcds/q24	22.62	1.22	22.69	0.64	0.32	0.07	5.39	2.80	0.90085
83	presto/tpcds/q84	2.44	0.18	2.53	0.65	3.80	0.09	7.42	25.50	0.74217
42	presto/tpcds/q43	3.79	0.31	3.89	0.43	2.69	0.10	8.24	11.12	0.64958
36	presto/tpcds/q37	2.33	0.70	2.45	0.63	5.28	0.12	30.27	25.92	0.75737
20	presto/tpcds/q21	1.28	0.24	1.41	0.70	10.11	0.13	18.74	49.49	0.67643
70	presto/tpcds/q71	2.65	0.29	2.78	0.70	4.89	0.13	10.92	25.04	0.68272
12	presto/tpcds/q13	6.33	0.36	6.46	0.92	2.18	0.14	5.73	14.16	0.73908
39	presto/tpcds/q40	4.42	0.62	4.56	1.08	3.22	0.14	14.10	23.62	0.78527
67	presto/tpcds/q68	2.76	0.33	2.90	0.69	5.15	0.14	11.81	23.92	0.65928
3	presto/tpcds/q04	37.20	1.85	37.36	2.23	0.42	0.16	4.98	5.96	0.89767
47	presto/tpcds/q48	4.90	0.16	5.06	0.28	3.22	0.16	3.26	5.56	0.25964
60	presto/tpcds/q61	3.45	0.12	3.62	0.65	4.91	0.17	3.42	18.03	0.54551
33	presto/tpcds/q34	2.45	0.30	2.62	0.77	6.95	0.17	12.10	29.28	0.62313
80	presto/tpcds/q81	2.35	0.13	2.55	0.63	8.86	0.21	5.38	24.49	0.44365
81	presto/tpcds/q82	3.41	0.79	3.65	1.25	6.97	0.24	23.08	34.24	0.70171

	query	baseline mean	baseline std.dev	only required column stats mean	only required column stats std.dev	% change	absolute change	baseline std.dev %	only required column stats std.dev %	p-value
87	presto/tpcds/q88	21.08	0.42	21.32	0.74	1.14	0.24	2.01	3.48	0.50674
37	presto/tpcds/q38	7.79	0.52	8.03	0.51	3.17	0.25	6.70	6.37	0.42780
7	presto/tpcds/q08	2.48	0.15	2.73	0.67	9.95	0.25	6.02	24.56	0.39897
73	presto/tpcds/q74	13.22	0.74	13.48	1.46	1.92	0.25	5.63	10.87	0.71306
61	presto/tpcds/q62	2.65	0.22	2.91	0.70	9.97	0.26	8.35	23.85	0.39563
44	presto/tpcds/q45	0.95	0.06	1.22	0.72	28.82	0.27	6.75	59.02	0.37678
25	presto/tpcds/q26	2.15	0.27	2.44	0.72	13.35	0.29	12.68	29.49	0.38187
0	presto/tpcds/q01	2.54	0.06	2.84	1.11	12.08	0.31	2.19	38.95	0.51372
21	presto/tpcds/q22	4.51	0.70	4.82	0.86	6.85	0.31	15.57	17.89	0.51177
17	presto/tpcds/q18	2.30	0.18	2.62	0.89	13.53	0.31	7.71	34.14	0.42134
95	presto/tpcds/q96	3.03	0.13	3.34	0.69	10.37	0.31	4.26	20.52	0.29628
91	presto/tpcds/q92	0.59	0.05	0.92	0.73	54.22	0.32	8.05	80.07	0.30838
30	presto/tpcds/q31	4.14	0.72	4.46	1.21	7.87	0.33	17.43	27.16	0.58416
45	presto/tpcds/q46	3.10	0.36	3.42	0.79	10.54	0.33	11.64	23.14	0.38002
59	presto/tpcds/q60	2.31	0.29	2.64	1.33	14.29	0.33	12.69	50.44	0.56630
84	presto/tpcds/q85	6.75	0.23	7.08	1.20	4.93	0.33	3.44	16.94	0.51985
31	presto/tpcds/q32	1.19	0.27	1.58	0.63	33.05	0.39	22.72	40.03	0.19237
16	presto/tpcds/q17	5.34	0.88	5.74	1.60	7.61	0.41	16.52	27.84	0.59759
40	presto/tpcds/q41	0.29	0.03	0.72	0.87	145.25	0.43	9.41	119.82	0.25405
32	presto/tpcds/q33	1.57	0.11	2.02	1.25	29.11	0.46	7.31	61.95	0.39545
9	presto/tpcds/q10	1.68	0.52	2.31	1.71	37.62	0.63	31.03	74.22	0.40825
48	presto/tpcds/q49	8.07	1.86	8.72	3.23	8.03	0.65	23.03	37.09	0.67944
26	presto/tpcds/q27	3.63	0.55	4.34	0.27	19.67	0.71	15.21	6.22	0.01735
4	presto/tpcds/q05	6.61	1.32	7.33	2.95	10.93	0.72	20.00	40.28	0.59632
8	presto/tpcds/q09	17.51	0.35	18.26	0.97	4.30	0.75	2.00	5.32	0.10410
76	presto/tpcds/q77	2.48	1.02	3.24	2.23	30.60	0.76	41.26	68.89	0.46635
43	presto/tpcds/q44	8.37	0.28	9.20	1.04	9.90	0.83	3.32	11.34	0.08951
62	presto/tpcds/q63	2.54	0.44	3.40	1.46	33.82	0.86	17.27	42.94	0.19741
27	presto/tpcds/q28	16.68	0.61	17.56	0.95	5.27	0.88	3.64	5.39	0.08428
89	presto/tpcds/q90	2.07	0.07	3.13	1.12	51.08	1.06	3.47	35.83	0.04377
75	presto/tpcds/q76	5.24	0.13	6.42	1.75	22.45	1.18	2.55	27.28	0.13178
79	presto/tpcds/q80	11.07	1.31	13.01	3.57	17.54	1.94	11.86	27.41	0.23933
29	presto/tpcds/q30	1.53	0.06	4.48	2.62	193.46	2.95	4.01	58.50	0.02015

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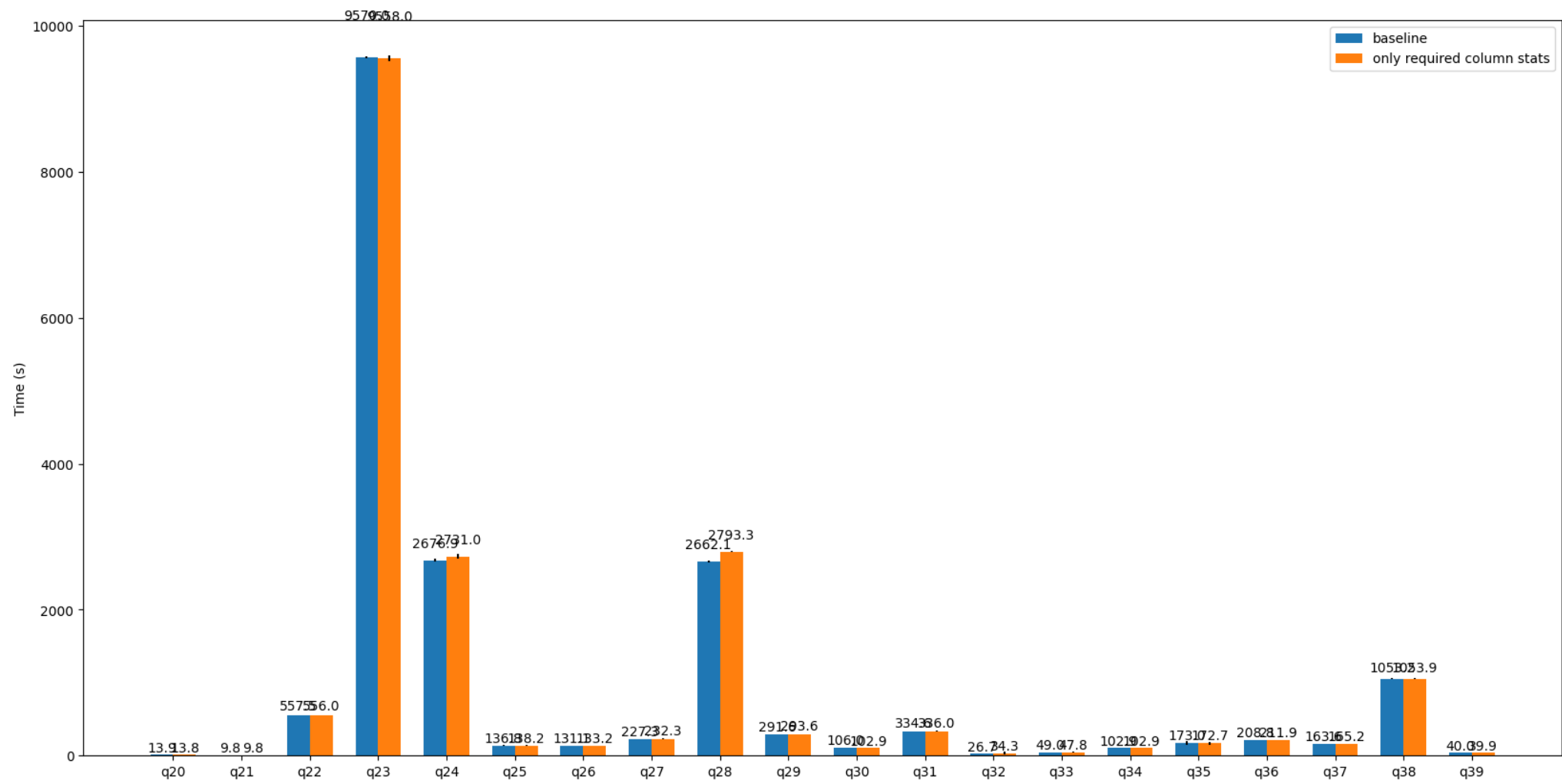
	query	baseline mean	baseline std.dev	only required column stats mean	only required column stats std.dev	% change	absolute change	baseline std.dev %	only required column stats std.dev %	p-value
16	presto/tpch/q17	6432.00	54.20	5670.00	30.12	-11.85	-762.00	0.84	0.53	0.00000
17	presto/tpch/q18	6060.00	37.18	5382.00	37.76	-11.19	-678.00	0.61	0.70	0.00000
19	presto/tpch/q20	1411.60	1.18	1260.20	7.15	-10.73	-151.40	0.08	0.57	0.00000
14	presto/tpch/q15	335.60	0.73	302.20	1.81	-9.95	-33.40	0.22	0.60	0.00000
21	presto/tpch/q22	486.80	7.42	448.00	2.39	-7.97	-38.80	1.52	0.53	0.00000
13	presto/tpch/q14	156.80	2.14	144.60	2.37	-7.78	-12.20	1.36	1.64	0.00000
9	presto/tpch/q10	2125.50	10.97	1963.40	15.10	-7.63	-162.10	0.52	0.77	0.00000
15	presto/tpch/q16	510.40	0.82	475.20	0.38	-6.90	-35.20	0.16	0.08	0.00000
4	presto/tpch/q05	3410.10	17.04	3178.20	11.80	-6.80	-231.90	0.50	0.37	0.00000
6	presto/tpch/q07	1159.90	6.06	1085.70	5.78	-6.40	-74.20	0.52	0.53	0.00000
8	presto/tpch/q09	4962.00	35.39	4674.00	14.70	-5.80	-288.00	0.71	0.31	0.00000
2	presto/tpch/q03	1226.70	10.01	1169.90	12.19	-4.63	-56.80	0.82	1.04	0.00000
12	presto/tpch/q13	2402.50	5.82	2292.00	11.42	-4.60	-110.50	0.24	0.50	0.00000
20	presto/tpch/q21	10314.00	49.62	9882.00	37.76	-4.19	-432.00	0.48	0.38	0.00000
1	presto/tpch/q02	465.80	3.81	447.50	3.97	-3.93	-18.30	0.82	0.89	0.00001
10	presto/tpch/q11	389.20	2.33	374.00	1.85	-3.91	-15.20	0.60	0.49	0.00000
7	presto/tpch/q08	2042.10	4.40	1966.70	7.37	-3.69	-75.40	0.22	0.37	0.00000
11	presto/tpch/q12	580.90	1.16	562.30	1.84	-3.20	-18.60	0.20	0.33	0.00000
18	presto/tpch/q19	1884.10	13.65	1829.10	6.35	-2.92	-55.00	0.72	0.35	0.00000
0	presto/tpch/q01	3280.00	7.44	3241.80	13.44	-1.16	-38.20	0.23	0.41	0.00012
5	presto/tpch/q06	116.60	0.31	116.30	0.24	-0.26	-0.30	0.27	0.21	0.09244
3	presto/tpch/q04	3929.70	358.07	3924.00	168.85	-0.15	-5.70	9.11	4.30	0.97256

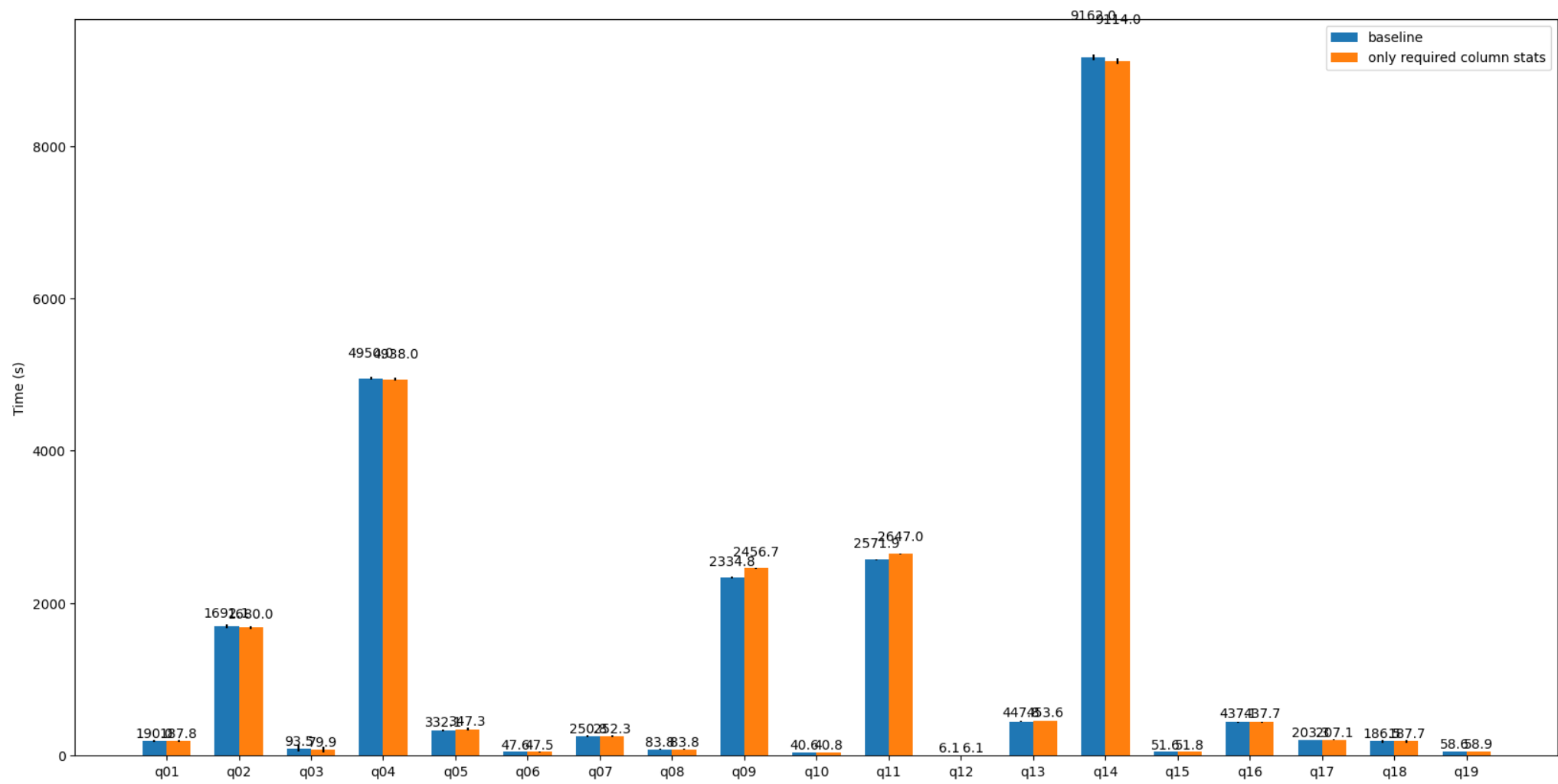
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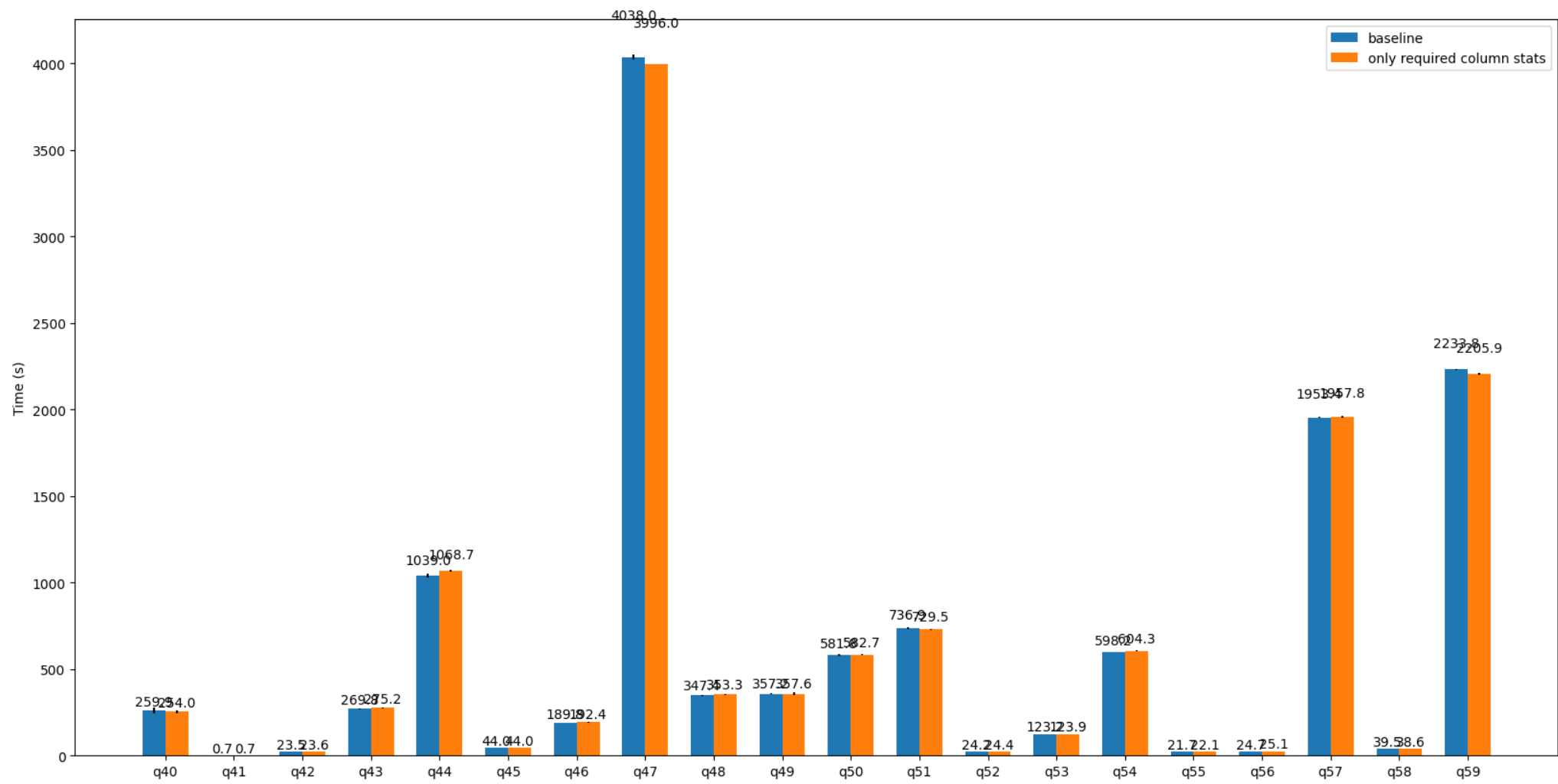
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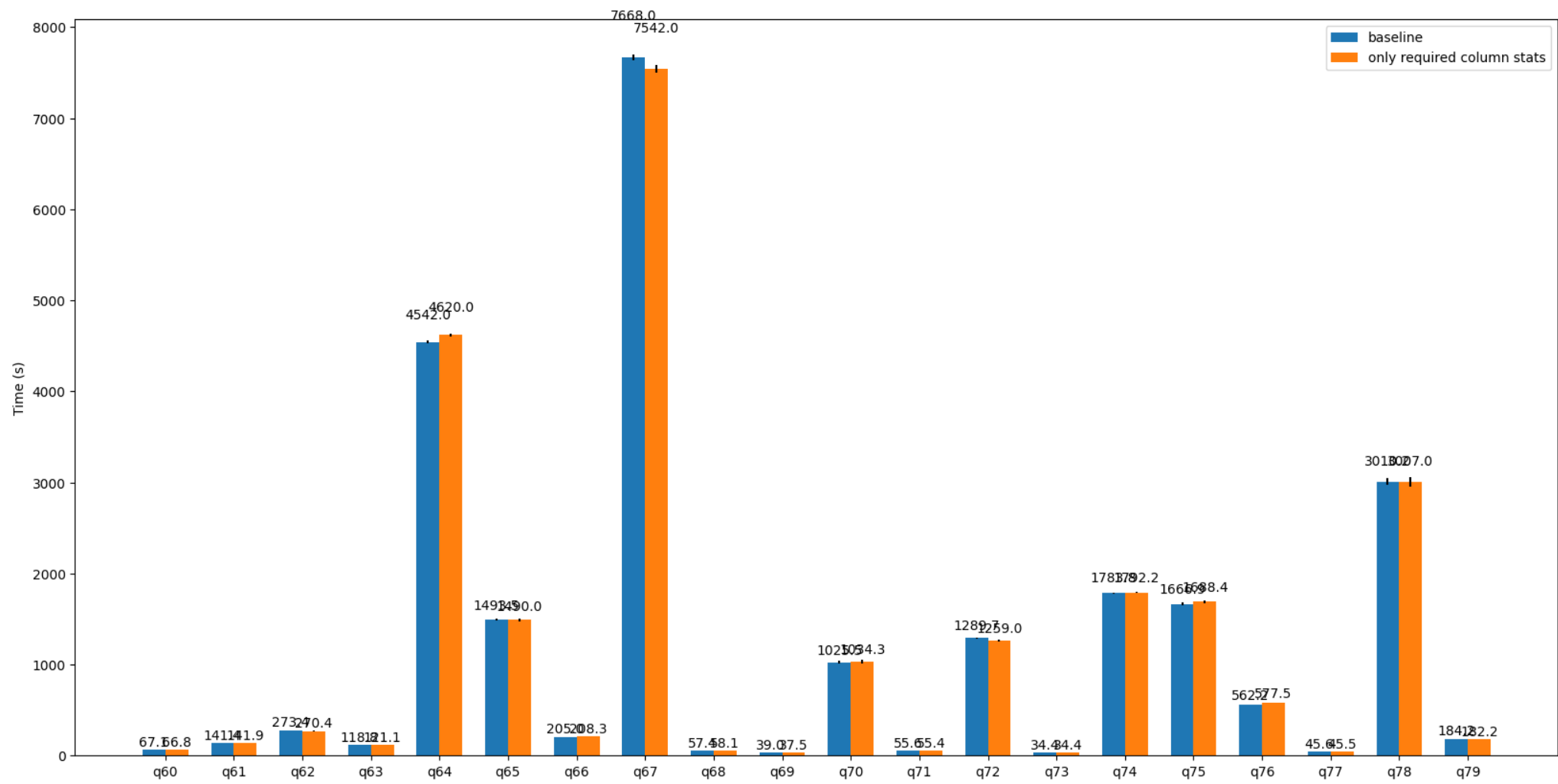
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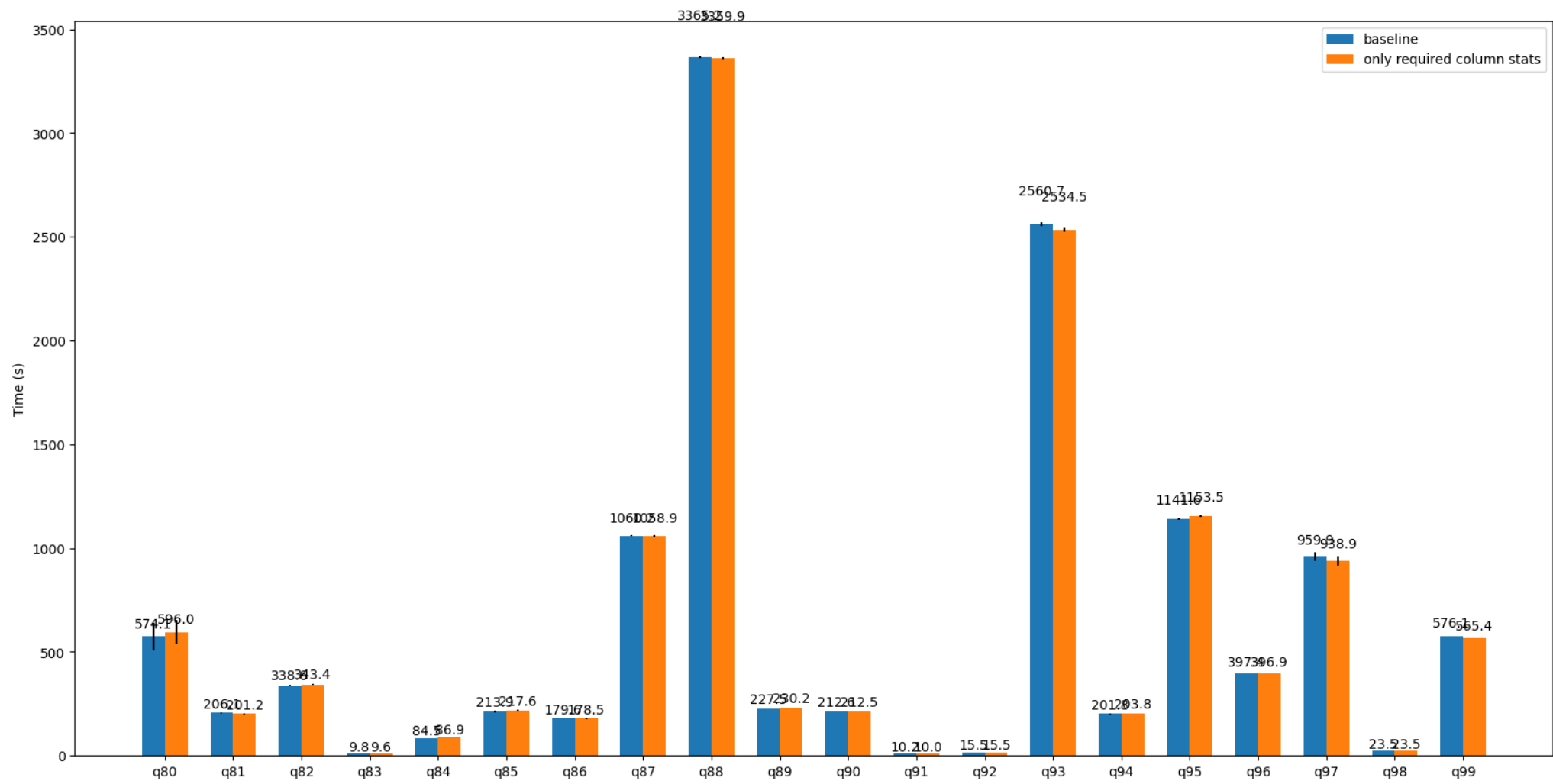


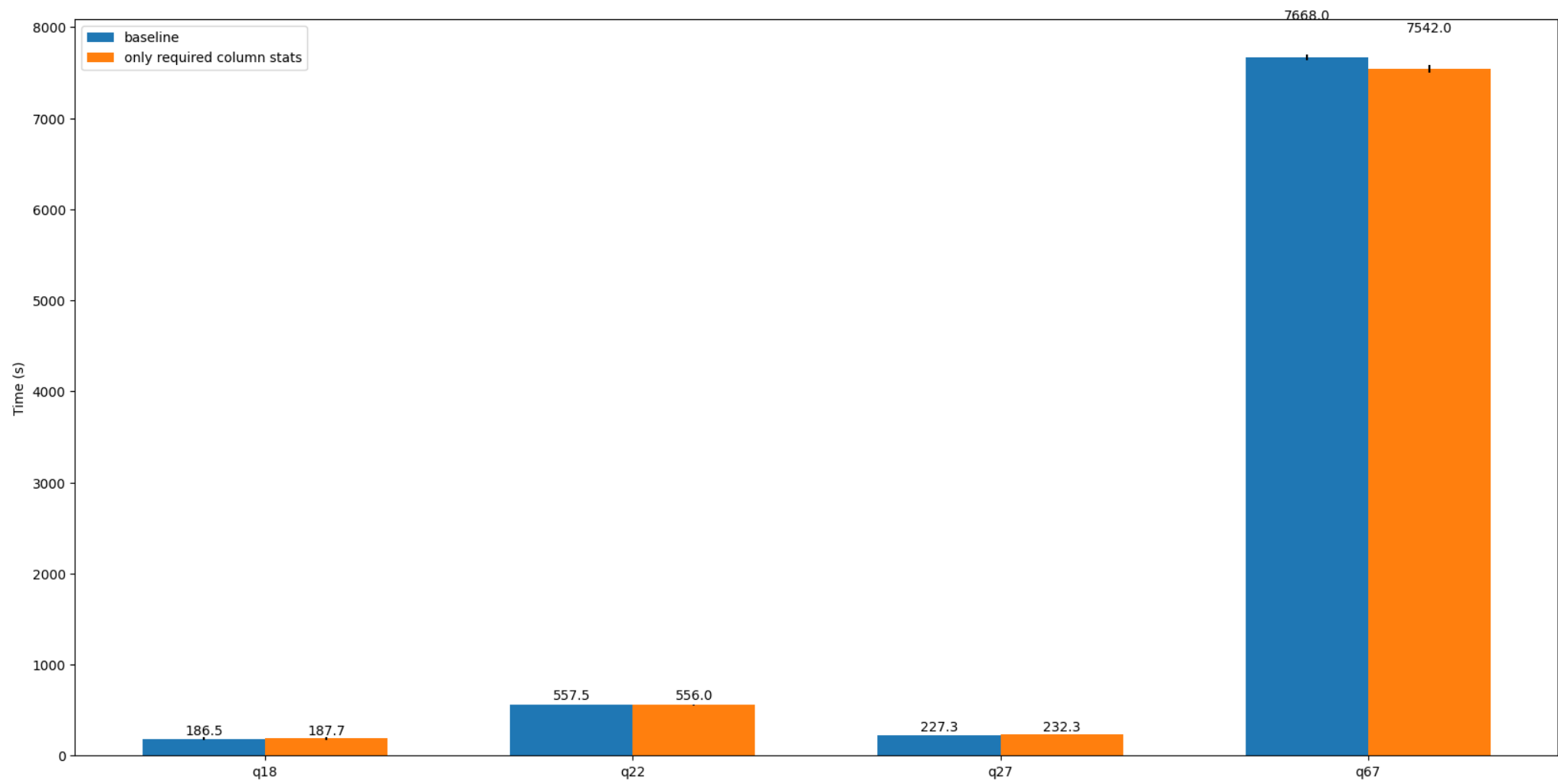












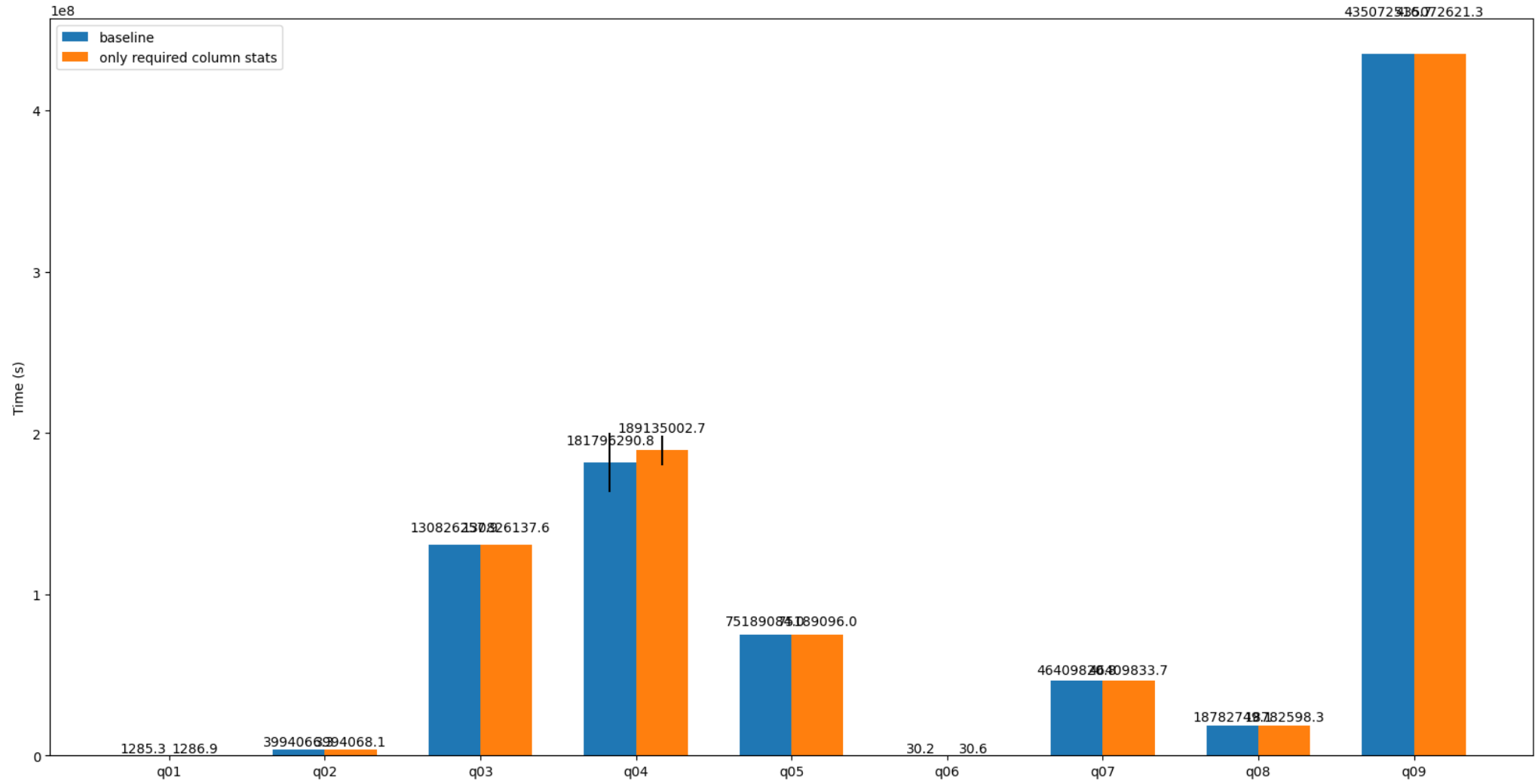
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68	presto/tpcds/q69	39.04	0.31	37.49	1.39	-3.98	-1.55	0.80	3.72	0.02369
29	presto/tpcds/q30	106.00	1.18	102.90	0.73	-2.92	-3.10	1.11	0.71	0.00028
32	presto/tpcds/q33	49.00	0.26	47.83	3.11	-2.39	-1.17	0.53	6.50	0.37885
71	presto/tpcds/q72	1289.70	9.94	1259.00	11.61	-2.38	-30.70	0.77	0.92	0.00060
57	presto/tpcds/q58	39.51	0.35	38.56	0.39	-2.38	-0.94	0.87	1.01	0.00129
80	presto/tpcds/q81	206.10	0.63	201.20	0.98	-2.38	-4.90	0.31	0.49	0.00000
39	presto/tpcds/q40	259.90	17.76	254.00	9.84	-2.27	-5.90	6.83	3.87	0.49281
90	presto/tpcds/q91	10.24	0.51	10.01	0.25	-2.25	-0.23	4.94	2.46	0.34018
96	presto/tpcds/q97	959.90	20.27	938.90	24.54	-2.19	-21.00	2.11	2.61	0.13713
98	presto/tpcds/q99	576.10	1.58	565.40	1.05	-1.86	-10.70	0.27	0.19	0.00000
66	presto/tpcds/q67	7668.00	32.20	7542.00	37.76	-1.64	-126.00	0.42	0.50	0.00010
58	presto/tpcds/q59	2233.80	2.94	2205.90	4.14	-1.25	-27.90	0.13	0.19	0.00000
82	presto/tpcds/q83	9.76	0.18	9.64	0.11	-1.23	-0.12	1.83	1.15	0.19126
0	presto/tpcds/q01	190.00	12.23	187.80	11.48	-1.16	-2.20	6.44	6.12	0.75467
61	presto/tpcds/q62	273.40	1.35	270.40	1.88	-1.10	-3.00	0.49	0.70	0.01000
78	presto/tpcds/q79	184.20	1.52	182.20	0.73	-1.09	-2.00	0.82	0.40	0.01554
46	presto/tpcds/q47	4038.00	14.70	3996.00	0.00	-1.04	-42.00	0.36	0.00	0.00004
92	presto/tpcds/q93	2560.70	7.10	2534.50	8.87	-1.02	-26.20	0.28	0.35	0.00021
50	presto/tpcds/q51	736.90	3.61	729.50	3.84	-1.00	-7.40	0.49	0.53	0.00633
40	presto/tpcds/q41	0.71	0.01	0.70	0.01	-0.89	-0.01	1.30	2.00	0.37728
19	presto/tpcds/q20	13.93	0.04	13.81	0.04	-0.83	-0.12	0.29	0.26	0.00038
1	presto/tpcds/q02	1692.10	25.19	1680.00	19.04	-0.72	-12.10	1.49	1.13	0.37001
85	presto/tpcds/q86	179.60	0.62	178.50	0.33	-0.61	-1.10	0.35	0.18	0.00326
13	presto/tpcds/q14	9162.00	37.76	9114.00	35.39	-0.52	-48.00	0.41	0.39	0.04642
11	presto/tpcds/q12	6.12	0.03	6.10	0.07	-0.46	-0.03	0.41	1.16	0.37623
59	presto/tpcds/q60	67.10	0.70	66.80	0.90	-0.45	-0.30	1.05	1.35	0.53498
97	presto/tpcds/q98	23.52	0.05	23.45	0.10	-0.28	-0.07	0.20	0.43	0.17019
5	presto/tpcds/q06	47.65	0.20	47.52	0.68	-0.28	-0.13	0.42	1.44	0.66091
21	presto/tpcds/q22	557.50	1.76	556.00	2.96	-0.27	-1.50	0.32	0.53	0.31032
70	presto/tpcds/q71	55.59	1.21	55.44	1.60	-0.26	-0.15	2.17	2.89	0.86296
3	presto/tpcds/q04	4950.00	19.72	4938.00	14.70	-0.24	-12.00	0.40	0.30	0.25957
64	presto/tpcds/q65	1493.50	13.21	1490.00	16.21	-0.23	-3.50	0.88	1.09	0.69048

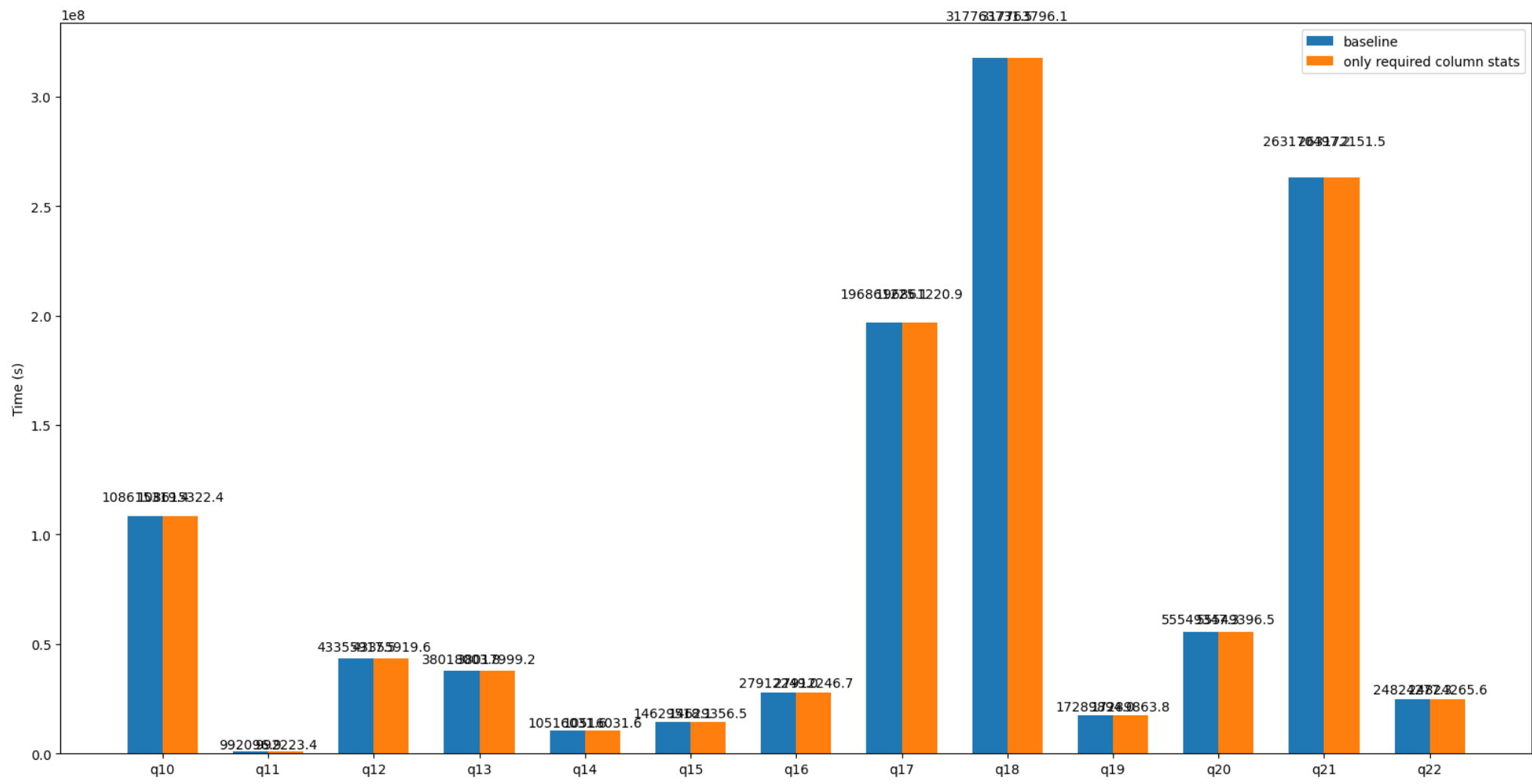
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91	presto/tpcds/q92	15.54	0.28	15.51	0.20	-0.21	-0.03	1.82	1.26	0.81679
38	presto/tpcds/q39	39.98	0.60	39.91	0.51	-0.19	-0.08	1.50	1.27	0.81584
34	presto/tpcds/q35	173.00	26.01	172.70	18.68	-0.17	-0.30	15.04	10.82	0.98215
87	presto/tpcds/q88	3365.20	4.40	3359.90	3.38	-0.16	-5.30	0.13	0.10	0.04147
72	presto/tpcds/q73	34.41	0.11	34.37	0.14	-0.13	-0.04	0.32	0.42	0.56922
95	presto/tpcds/q96	397.40	0.62	396.90	0.63	-0.13	-0.50	0.16	0.16	0.19565
22	presto/tpcds/q23	9570.00	14.70	9558.00	37.76	-0.13	-12.00	0.15	0.40	0.48479
86	presto/tpcds/q87	1060.20	2.60	1058.90	4.85	-0.12	-1.30	0.25	0.46	0.57573
77	presto/tpcds/q78	3010.20	38.60	3007.00	56.71	-0.11	-3.20	1.28	1.89	0.91129
44	presto/tpcds/q45	44.01	0.15	43.97	0.40	-0.09	-0.04	0.34	0.90	0.82918
89	presto/tpcds/q90	212.60	0.49	212.50	0.80	-0.05	-0.10	0.23	0.38	0.79886
7	presto/tpcds/q08	83.80	1.35	83.80	3.08	0.00	0.00	1.61	3.67	1.00000
33	presto/tpcds/q34	102.90	0.33	102.90	0.50	0.00	0.00	0.32	0.49	1.00000
37	presto/tpcds/q38	1053.20	5.27	1053.90	5.52	0.07	0.70	0.50	0.52	0.82675
48	presto/tpcds/q49	357.20	4.34	357.60	6.18	0.11	0.40	1.21	1.73	0.89930
15	presto/tpcds/q16	437.10	2.86	437.70	3.17	0.14	0.60	0.65	0.72	0.73771
49	presto/tpcds/q50	581.80	2.88	582.70	3.02	0.15	0.90	0.50	0.52	0.60905
56	presto/tpcds/q57	1953.40	2.75	1957.80	5.53	0.23	4.40	0.14	0.28	0.11143
20	presto/tpcds/q21	9.78	0.06	9.81	0.10	0.31	0.03	0.58	0.97	0.52246
41	presto/tpcds/q42	23.48	0.46	23.56	0.13	0.33	0.08	1.94	0.54	0.69975
60	presto/tpcds/q61	141.40	0.49	141.90	0.33	0.35	0.50	0.35	0.23	0.06462
30	presto/tpcds/q31	334.60	2.33	336.00	2.60	0.42	1.40	0.70	0.77	0.34920
14	presto/tpcds/q15	51.55	0.19	51.77	0.36	0.42	0.22	0.38	0.70	0.22410
73	presto/tpcds/q74	1783.80	3.15	1792.20	4.60	0.47	8.40	0.18	0.26	0.00418
18	presto/tpcds/q19	58.59	0.47	58.91	0.39	0.55	0.32	0.80	0.65	0.22337
9	presto/tpcds/q10	40.55	1.69	40.78	1.48	0.56	0.23	4.16	3.64	0.80841
52	presto/tpcds/q53	123.20	0.49	123.90	0.63	0.57	0.70	0.40	0.51	0.05706
6	presto/tpcds/q07	250.80	11.63	252.30	11.37	0.60	1.50	4.64	4.51	0.82586
17	presto/tpcds/q18	186.50	20.36	187.70	19.45	0.64	1.20	10.91	10.36	0.91892
28	presto/tpcds/q29	291.60	1.07	293.60	0.49	0.69	2.00	0.37	0.17	0.00197
51	presto/tpcds/q52	24.15	0.29	24.35	0.42	0.83	0.20	1.21	1.71	0.35818
69	presto/tpcds/q70	1025.50	16.25	1034.30	23.20	0.86	8.80	1.58	2.24	0.46419



	query	baseline mean	baseline std.dev	only required column stats mean	only required column stats std.dev	% change	absolute change	baseline std.dev %	only required column stats std.dev %	p-value
36	presto/tpcds/q37	163.60	0.31	165.20	0.31	0.98	1.60	0.19	0.19	0.00000
93	presto/tpcds/q94	201.80	1.35	203.80	0.90	0.99	2.00	0.67	0.44	0.01300
53	presto/tpcds/q54	598.20	2.55	604.30	2.95	1.02	6.10	0.43	0.49	0.00329
24	presto/tpcds/q25	136.80	4.71	138.20	6.95	1.02	1.40	3.44	5.03	0.69160
94	presto/tpcds/q95	1141.60	3.51	1153.50	3.71	1.04	11.90	0.31	0.32	0.00020
88	presto/tpcds/q89	227.50	0.24	230.20	0.49	1.19	2.70	0.11	0.21	0.00000
67	presto/tpcds/q68	57.44	0.42	58.15	0.19	1.23	0.71	0.73	0.33	0.00392
74	presto/tpcds/q75	1666.90	15.34	1688.40	19.08	1.29	21.50	0.92	1.13	0.05693
12	presto/tpcds/q13	447.80	1.73	453.60	1.26	1.30	5.80	0.39	0.28	0.00006
45	presto/tpcds/q46	189.80	1.35	192.40	1.35	1.37	2.60	0.71	0.70	0.00756
81	presto/tpcds/q82	338.60	0.73	343.40	1.40	1.42	4.80	0.21	0.41	0.00002
35	presto/tpcds/q36	208.80	0.54	211.90	0.59	1.48	3.10	0.26	0.28	0.00000
55	presto/tpcds/q56	24.75	0.53	25.12	0.50	1.52	0.38	2.15	1.98	0.23324
25	presto/tpcds/q26	131.10	0.50	133.20	0.76	1.60	2.10	0.38	0.57	0.00021
65	presto/tpcds/q66	205.00	0.73	208.30	0.59	1.61	3.30	0.35	0.28	0.00001
47	presto/tpcds/q48	347.40	1.31	353.30	1.39	1.70	5.90	0.38	0.39	0.00002
63	presto/tpcds/q64	4542.00	14.70	4620.00	18.59	1.72	78.00	0.32	0.40	0.00001
84	presto/tpcds/q85	213.90	5.32	217.60	6.14	1.73	3.70	2.49	2.82	0.29073
54	presto/tpcds/q55	21.75	0.06	22.13	0.07	1.75	0.38	0.26	0.30	0.00000
16	presto/tpcds/q17	203.30	3.76	207.10	4.58	1.87	3.80	1.85	2.21	0.14729
62	presto/tpcds/q63	118.80	0.76	121.10	0.80	1.94	2.30	0.64	0.66	0.00045
42	presto/tpcds/q43	269.80	2.36	275.20	1.77	2.00	5.40	0.87	0.64	0.00117
23	presto/tpcds/q24	2676.90	16.28	2731.00	27.16	2.02	54.10	0.61	0.99	0.00187
26	presto/tpcds/q27	227.30	0.59	232.30	1.39	2.20	5.00	0.26	0.60	0.00001
75	presto/tpcds/q76	562.20	1.86	577.50	2.14	2.72	15.30	0.33	0.37	0.00000
83	presto/tpcds/q84	84.50	0.59	86.90	0.24	2.84	2.40	0.70	0.28	0.00000
43	presto/tpcds/q44	1039.00	10.61	1068.70	6.34	2.86	29.70	1.02	0.59	0.00015
10	presto/tpcds/q11	2571.90	9.45	2647.00	5.85	2.92	75.10	0.37	0.22	0.00000
79	presto/tpcds/q80	574.10	67.81	596.00	58.05	3.81	21.90	11.81	9.74	0.56122
4	presto/tpcds/q05	332.10	16.29	347.30	20.23	4.58	15.20	4.91	5.83	0.18234
27	presto/tpcds/q28	2662.10	12.15	2793.30	4.96	4.93	131.20	0.46	0.18	0.00000
8	presto/tpcds/q09	2334.80	10.99	2456.70	7.39	5.22	121.90	0.47	0.30	0.00000
31	presto/tpcds/q32	26.66	0.74	34.27	17.62	28.56	7.61	2.78	51.39	0.31505

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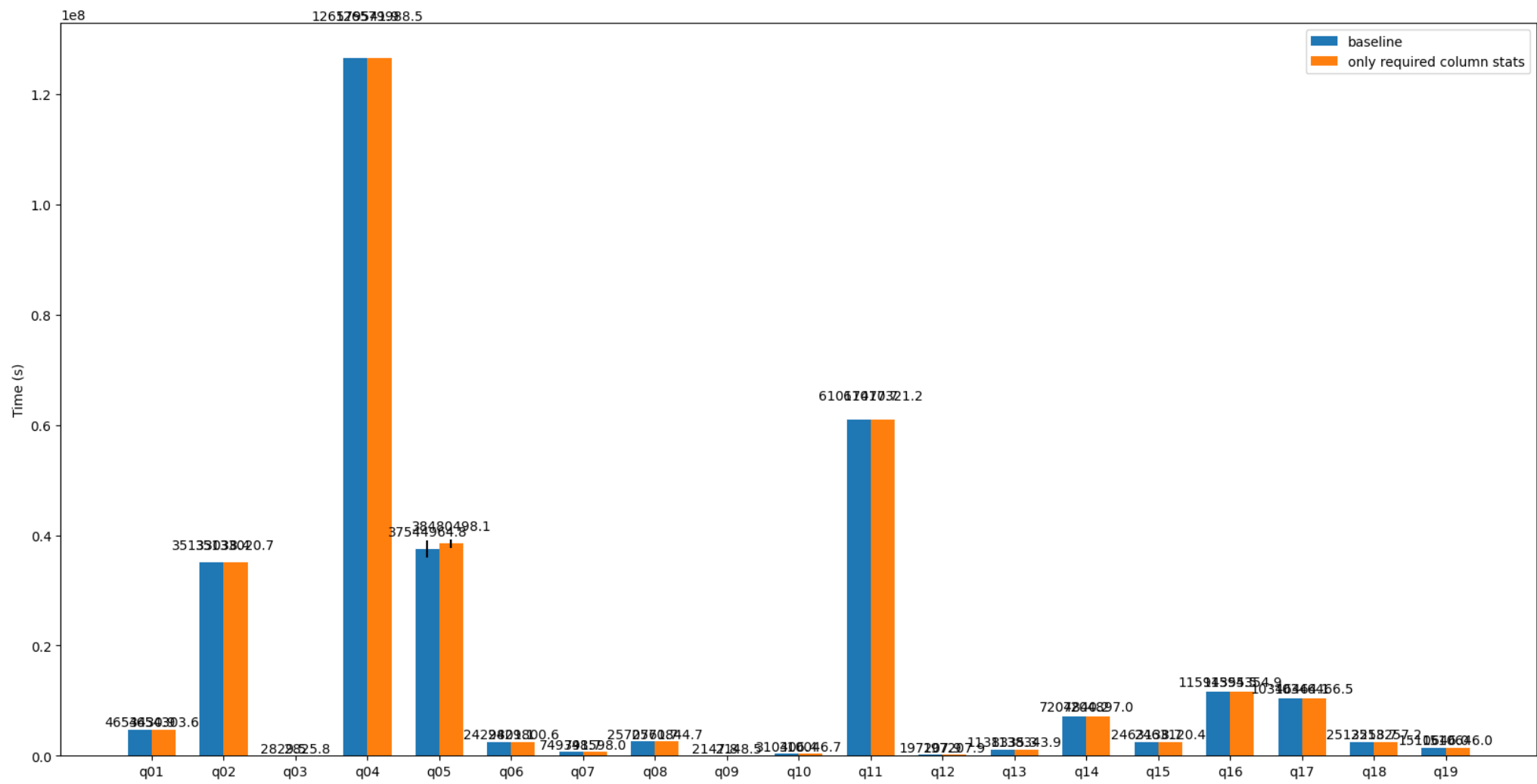


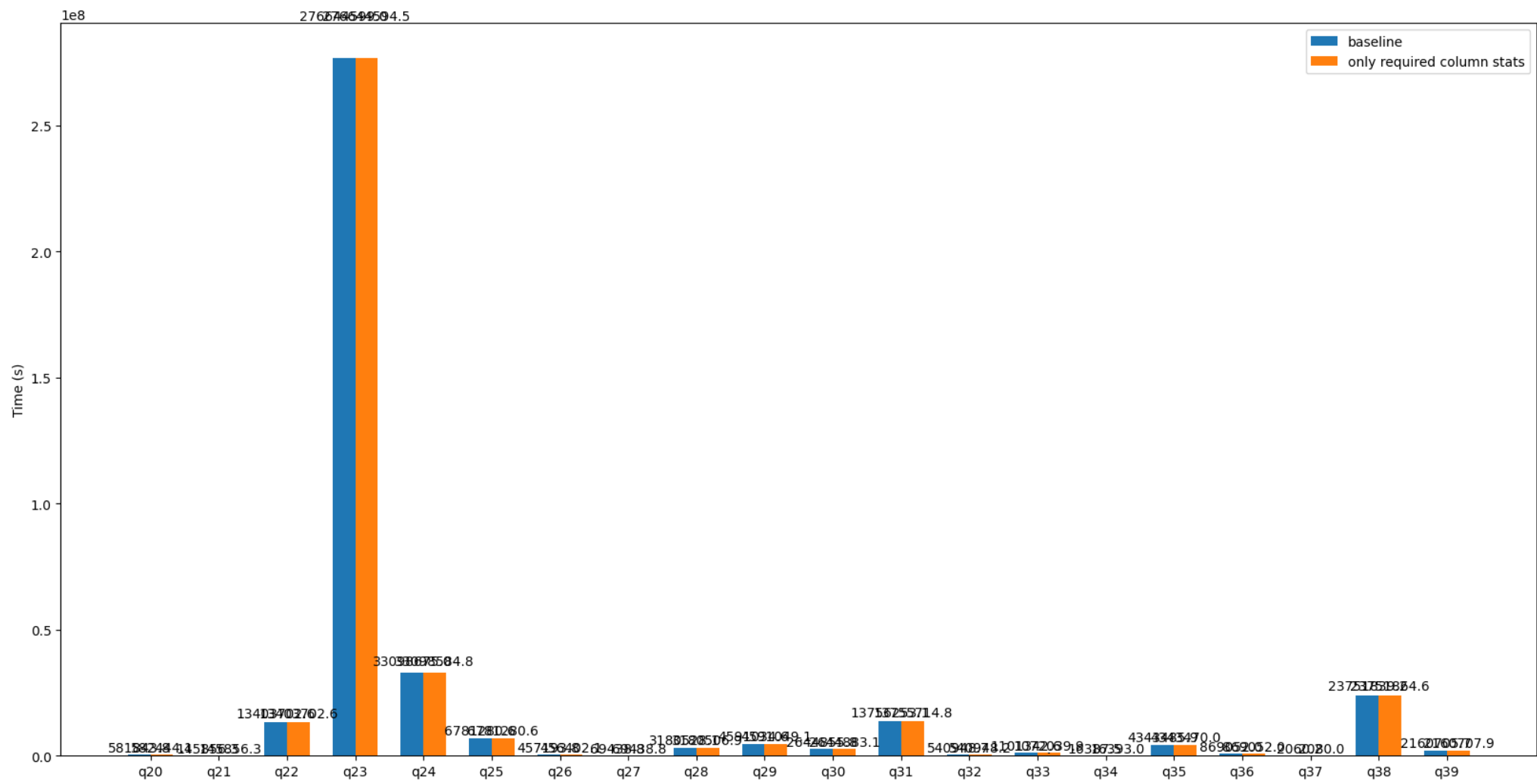
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7	presto/tpch/q08	18782749.10	109.58	18782598.27	237.67	-0.00	-150.84	0.00	0.00	0.18837
18	presto/tpch/q19	17289894.02	22.76	17289863.78	11.79	-0.00	-30.24	0.00	0.00	0.01611
2	presto/tpch/q03	130826257.85	158.02	130826137.59	313.95	-0.00	-120.26	0.00	0.00	0.42154
21	presto/tpch/q22	24824277.25	12.42	24824265.56	3.67	-0.00	-11.70	0.00	0.00	0.05134
12	presto/tpch/q13	38018003.79	5.07	38017999.19	16.00	-0.00	-4.60	0.00	0.00	0.51717
15	presto/tpch/q16	27912249.03	4.18	27912246.67	2.21	-0.00	-2.36	0.00	0.00	0.25026
16	presto/tpch/q17	196861225.14	14.07	196861220.95	24.15	-0.00	-4.20	0.00	0.00	0.72062
13	presto/tpch/q14	10516031.58	0.00	10516031.58	0.00	0.00	0.00	0.00	0.00	nan
9	presto/tpch/q10	108615319.40	3147.23	108615322.44	1473.13	0.00	3.04	0.00	0.00	0.99833
11	presto/tpch/q12	43355917.46	12.66	43355919.61	11.83	0.00	2.15	0.00	0.00	0.76735
4	presto/tpch/q05	75189084.02	15.20	75189095.99	10.37	0.00	11.97	0.00	0.00	0.14228
17	presto/tpch/q18	317763731.46	1303.85	317763796.14	766.33	0.00	64.67	0.00	0.00	0.91865
8	presto/tpch/q09	435072516.72	168.52	435072621.31	100.20	0.00	104.59	0.00	0.00	0.22059
6	presto/tpch/q07	46409820.83	19.03	46409833.68	25.79	0.00	12.85	0.00	0.00	0.34940
1	presto/tpch/q02	3994066.30	4.04	3994068.12	11.37	0.00	1.82	0.00	0.00	0.71933
19	presto/tpch/q20	55549347.26	113.10	55549396.52	128.75	0.00	49.25	0.00	0.00	0.49753
20	presto/tpch/q21	263170497.15	4826.34	263172151.54	3002.46	0.00	1654.39	0.00	0.00	0.49218
10	presto/tpch/q11	992096.95	11168.49	992223.44	11400.98	0.01	126.49	1.13	1.15	0.98489
0	presto/tpch/q01	1285.27	20.90	1286.90	16.62	0.13	1.63	1.63	1.29	0.88437
5	presto/tpch/q06	30.18	0.91	30.62	0.29	1.46	0.44	3.02	0.94	0.28590
3	presto/tpch/q04	181796290.85	18420995.04	189135002.74	8988536.59	4.04	7338711.90	10.13	4.75	0.40106

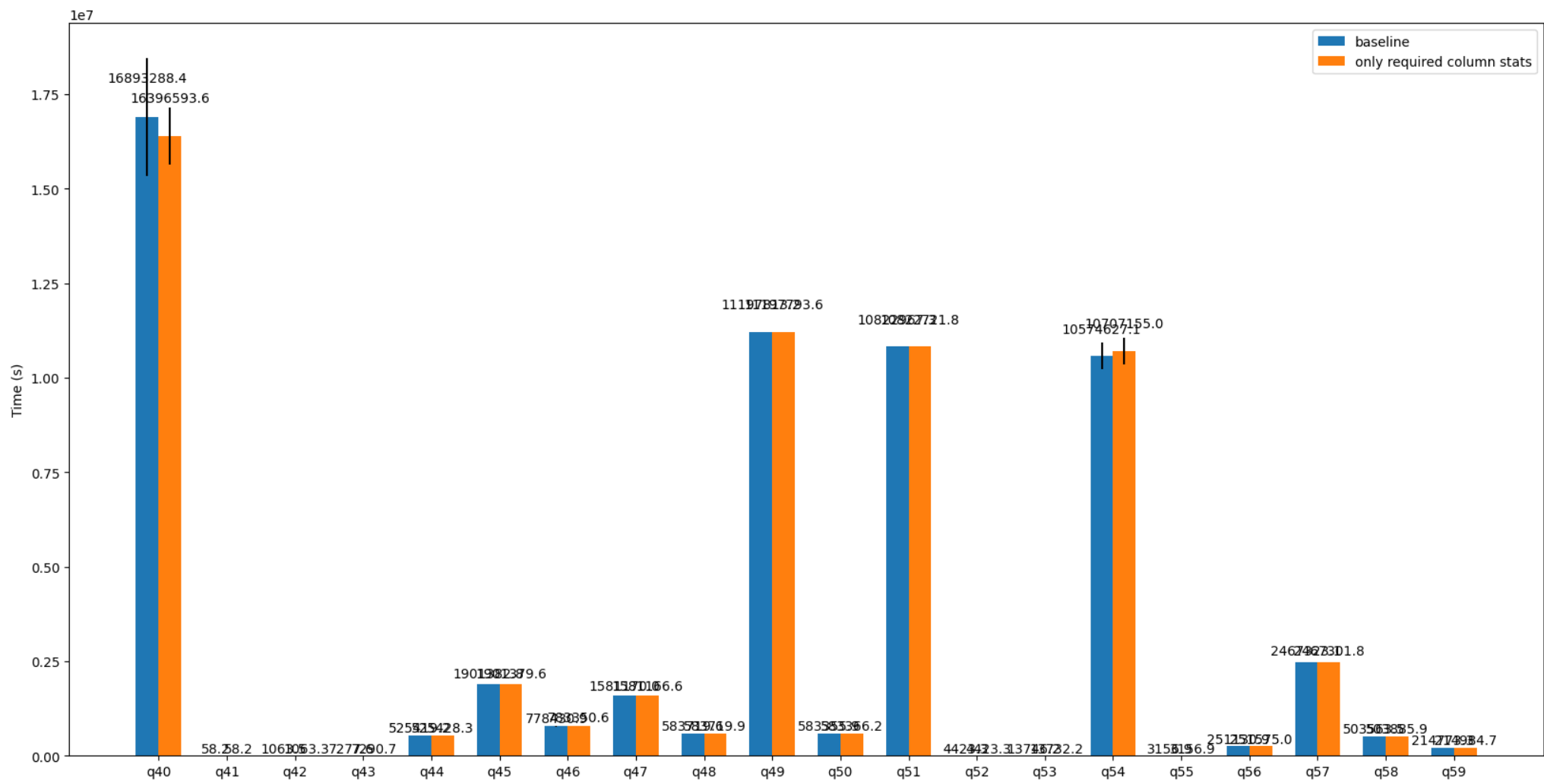
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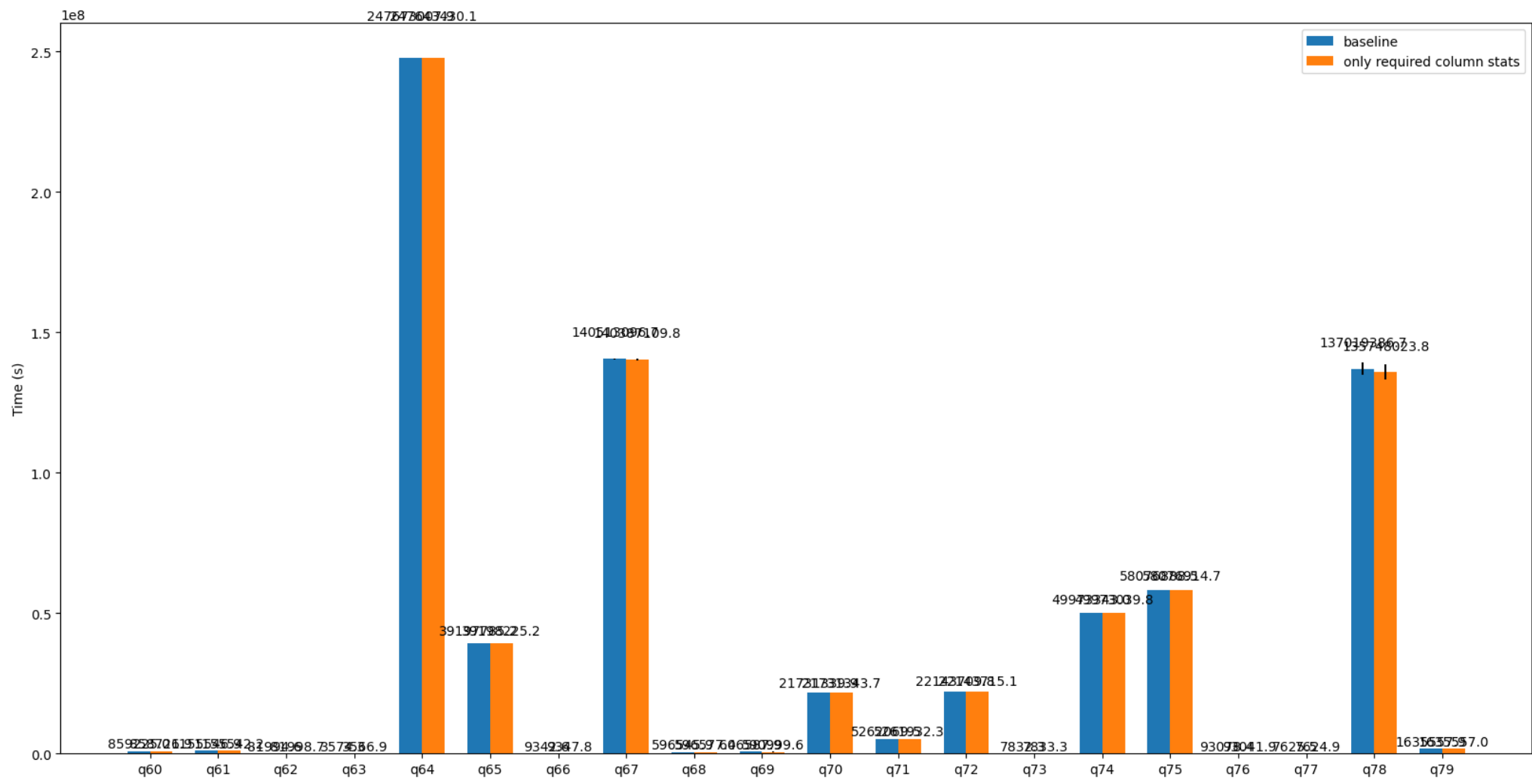
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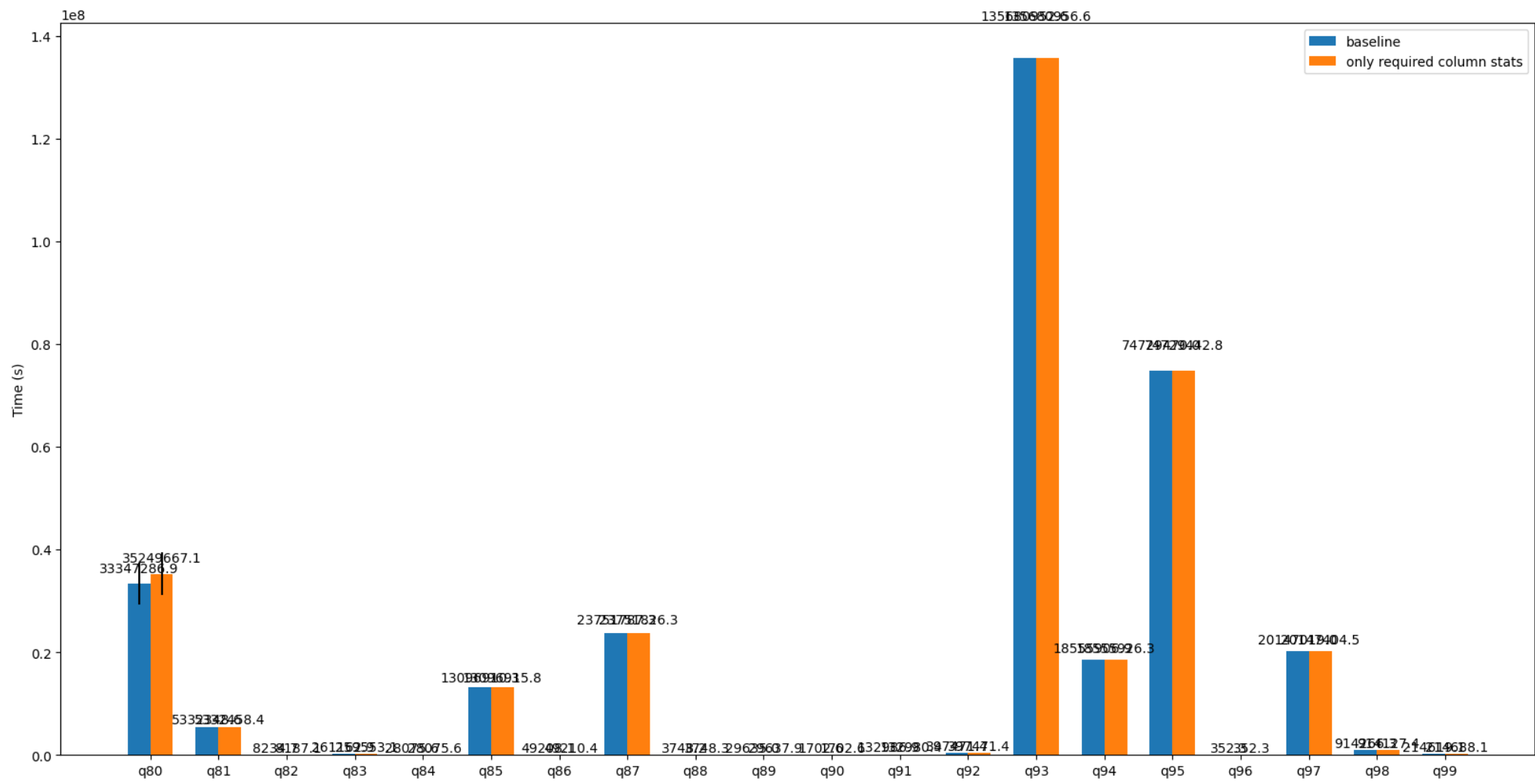










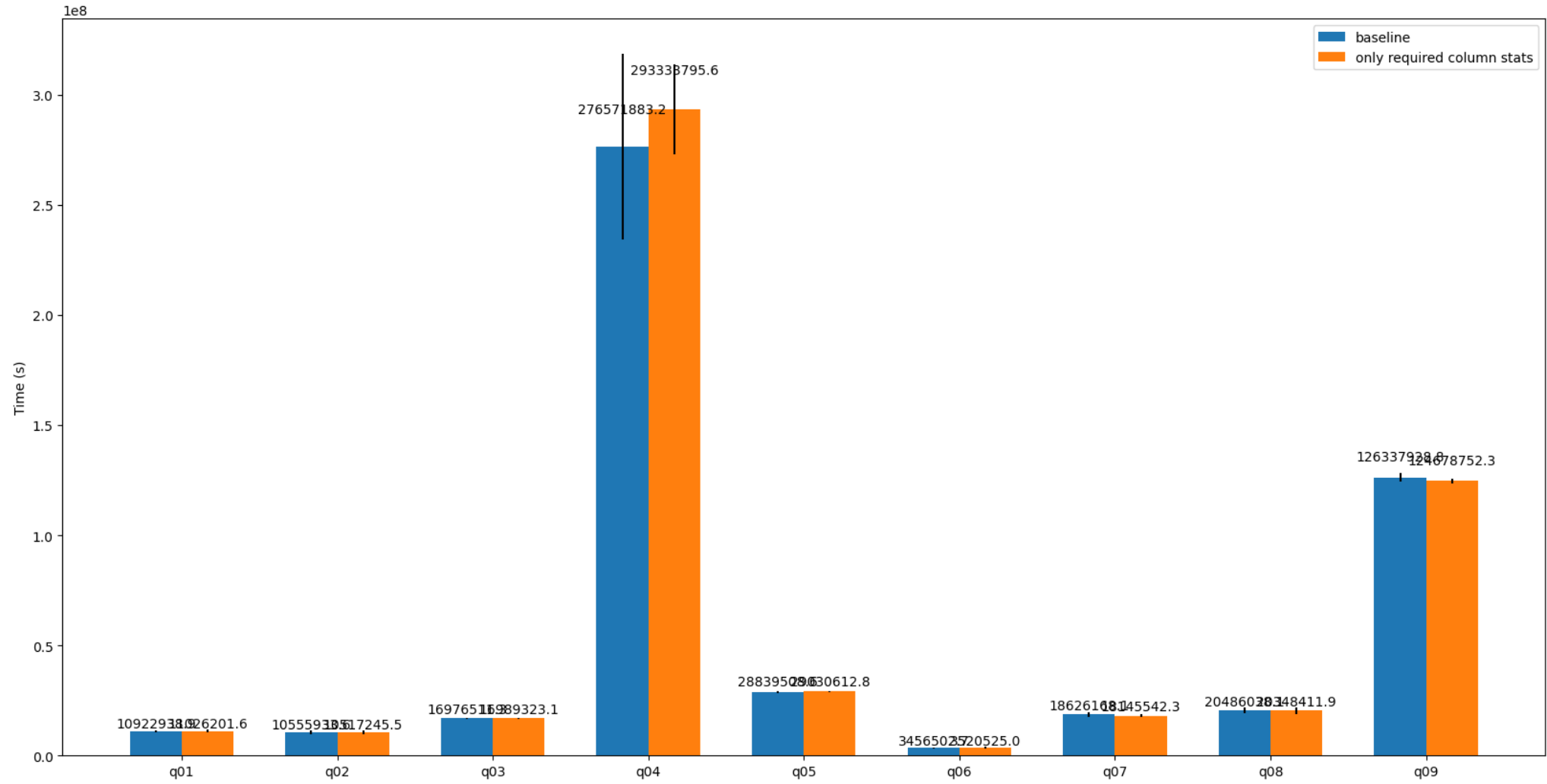


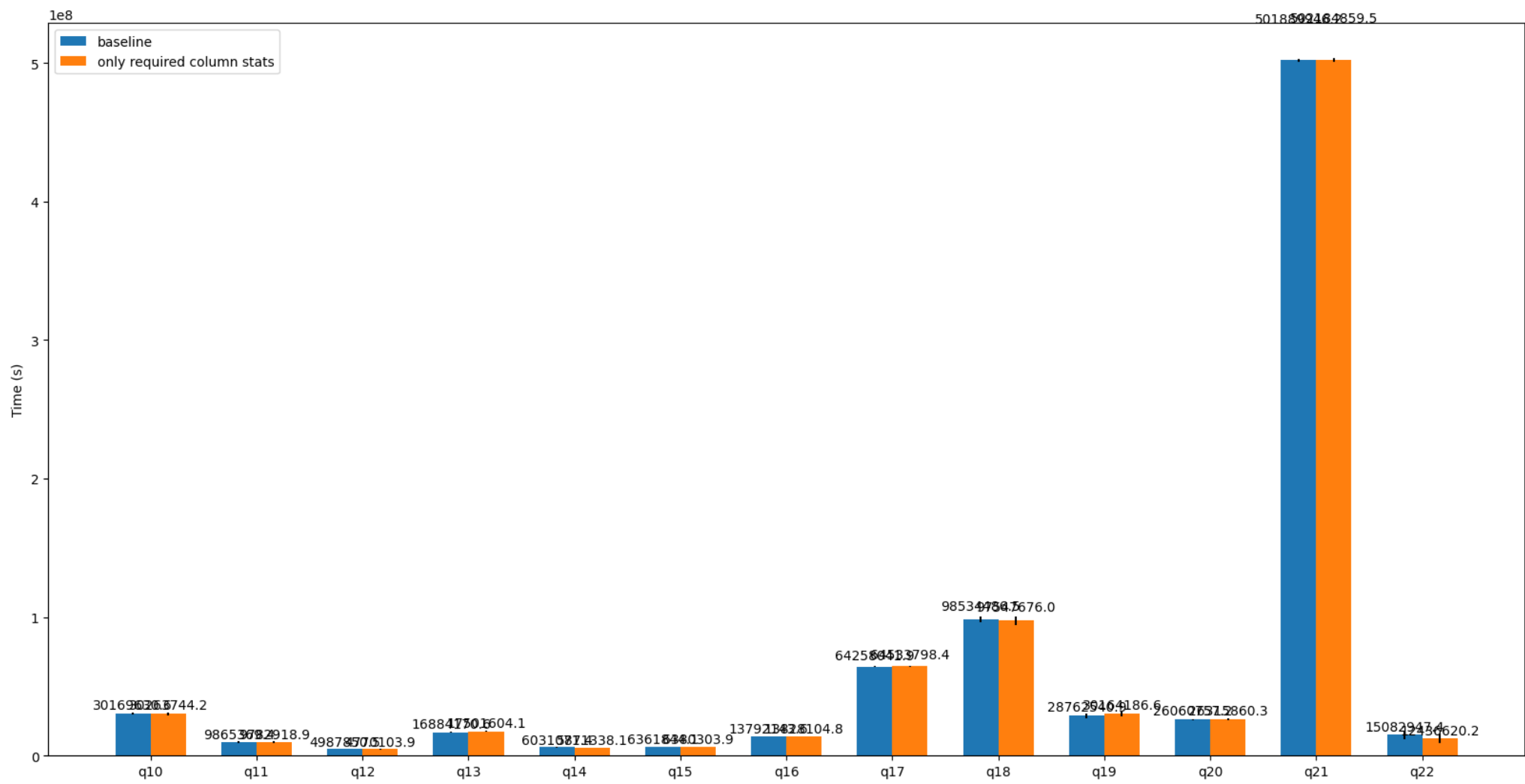
	query	baseline mean	baseline std.dev	only required column stats mean	only required column stats std.dev	% change	absolute change	baseline std.dev %	only required column stats std.dev %	p-value
39	presto/tpcds/q40	16893288.39	1564343.50	16396593.56	756581.62	-2.94	-496694.83	9.26	4.61	0.49980
32	presto/tpcds/q33	1101342.56	138.51	1072039.88	71904.60	-2.66	-29302.68	0.01	6.71	0.34171
68	presto/tpcds/q69	606587.93	445.55	590999.57	21151.45	-2.57	-15588.36	0.07	3.58	0.10125
77	presto/tpcds/q78	137019386.69	2110788.61	135748023.84	2689307.75	-0.93	-1271362.85	1.54	1.98	0.38377
82	presto/tpcds/q83	261162.93	1546.42	259553.06	2682.34	-0.62	-1609.86	0.59	1.03	0.23161
81	presto/tpcds/q82	8234.67	61.99	8187.12	45.37	-0.58	-47.56	0.75	0.55	0.16035
62	presto/tpcds/q63	3574.29	14.31	3566.90	9.09	-0.21	-7.39	0.40	0.25	0.31032
25	presto/tpcds/q26	457193.76	1512.03	456402.05	2157.16	-0.17	-791.71	0.33	0.47	0.47854
2	presto/tpcds/q03	2829.53	15.57	2825.78	8.11	-0.13	-3.75	0.55	0.29	0.61197
9	presto/tpcds/q10	310406.44	600.62	310046.70	1096.27	-0.12	-359.75	0.19	0.35	0.49693
6	presto/tpcds/q07	749391.70	3953.08	748597.97	7050.56	-0.11	-793.73	0.53	0.94	0.81478
52	presto/tpcds/q53	13746.22	13.11	13732.23	9.28	-0.10	-13.99	0.10	0.07	0.05867
66	presto/tpcds/q67	140513096.72	90966.59	140387109.78	287309.99	-0.09	-125986.94	0.06	0.20	0.32996
59	presto/tpcds/q60	859224.97	78.04	858726.86	1156.53	-0.06	-498.10	0.01	0.13	0.31730
75	presto/tpcds/q76	93078.42	81.77	93041.87	145.78	-0.04	-36.54	0.09	0.16	0.60398
41	presto/tpcds/q42	1063.54	0.00	1063.32	0.34	-0.02	-0.22	0.00	0.03	0.14493
97	presto/tpcds/q98	914266.33	364.12	914127.36	246.04	-0.02	-138.98	0.04	0.03	0.45647
63	presto/tpcds/q64	247673007.93	28624.33	247643430.14	20792.81	-0.01	-29577.79	0.01	0.01	0.06775
76	presto/tpcds/q77	7625.54	3.11	7624.94	3.42	-0.01	-0.61	0.04	0.04	0.75469
90	presto/tpcds/q91	132986.95	6.92	132980.35	12.18	-0.00	-6.59	0.01	0.01	0.27563
30	presto/tpcds/q31	13756253.14	405.54	13755714.77	747.28	-0.00	-538.37	0.00	0.01	0.15194
70	presto/tpcds/q71	5262069.52	268.36	5261932.29	267.49	-0.00	-137.23	0.01	0.01	0.39584
50	presto/tpcds/q51	10822967.33	221.14	10822721.81	143.62	-0.00	-245.53	0.00	0.00	0.04572
56	presto/tpcds/q57	2467323.14	13.10	2467301.82	20.84	-0.00	-21.32	0.00	0.00	0.05981
14	presto/tpcds/q15	2463138.75	29.87	2463120.40	28.77	-0.00	-18.34	0.00	0.00	0.30402
27	presto/tpcds/q28	3180528.08	55.60	3180506.92	56.96	-0.00	-21.16	0.00	0.00	0.52954
73	presto/tpcds/q74	49973342.96	381.13	49973039.84	456.85	-0.00	-303.12	0.00	0.00	0.24047
60	presto/tpcds/q61	1155546.94	2.57	1155542.15	6.33	-0.00	-4.78	0.00	0.00	0.11693
34	presto/tpcds/q35	4343485.92	385.83	4343470.05	666.44	-0.00	-15.87	0.01	0.02	0.96074
23	presto/tpcds/q24	33098675.01	123.18	33098584.79	68.33	-0.00	-90.22	0.00	0.00	0.14775
10	presto/tpcds/q11	61017470.73	292.94	61017321.21	444.40	-0.00	-149.52	0.00	0.00	0.50704
46	presto/tpcds/q47	1581170.05	73.69	1581166.64	48.48	-0.00	-3.40	0.00	0.00	0.92658
48	presto/tpcds/q49	11197813.22	140.11	11197793.55	26.31	-0.00	-19.66	0.00	0.00	0.74246

	query	baseline mean	baseline std.dev	only required column stats mean	only required column stats std.dev	% change	absolute change	baseline std.dev %	only required column stats std.dev %	p-value
44	presto/tpcds/q45	1901382.85	16.88	1901379.57	7.07	-0.00	-3.28	0.00	0.00	0.67005
26	presto/tpcds/q27	69438.85	23.16	69438.76	10.00	-0.00	-0.09	0.03	0.01	0.99346
31	presto/tpcds/q32	540948.70	1.44	540948.19	1.30	-0.00	-0.51	0.00	0.00	0.53150
78	presto/tpcds/q79	1635557.93	2.59	1635556.97	5.57	-0.00	-0.96	0.00	0.00	0.71036
17	presto/tpcds/q18	2513258.71	41.02	2513257.24	36.33	-0.00	-1.47	0.00	0.00	0.94901
1	presto/tpcds/q02	35133038.37	158.27	35133020.74	345.28	-0.00	-17.63	0.00	0.00	0.91172
94	presto/tpcds/q95	74729470.04	144.08	74729442.84	88.17	-0.00	-27.19	0.00	0.00	0.70160
5	presto/tpcds/q06	2429801.09	1.63	2429800.60	2.02	-0.00	-0.49	0.00	0.00	0.65511
15	presto/tpcds/q16	11594355.46	18.98	11594354.87	37.45	-0.00	-0.59	0.00	0.00	0.97314
22	presto/tpcds/q23	276644598.95	14.69	276644594.52	28.99	-0.00	-4.43	0.00	0.00	0.74531
89	presto/tpcds/q90	1702.60	0.00	1702.60	0.00	0.00	0.00	0.00	0.00	nan
54	presto/tpcds/q55	3156.94	0.00	3156.94	0.00	0.00	0.00	0.00	0.00	nan
51	presto/tpcds/q52	4423.31	0.00	4423.31	0.00	0.00	0.00	0.00	0.00	nan
83	presto/tpcds/q84	28075.57	0.00	28075.57	0.00	0.00	0.00	0.00	0.00	nan
91	presto/tpcds/q92	397471.39	0.00	397471.39	0.00	0.00	0.00	0.00	0.00	nan
40	presto/tpcds/q41	58.20	0.00	58.20	0.00	0.00	0.00	0.00	0.00	nan
11	presto/tpcds/q12	197207.86	0.00	197207.86	0.00	0.00	0.00	0.00	0.00	nan
18	presto/tpcds/q19	1510646.05	0.00	1510646.05	0.00	0.00	0.00	0.00	0.00	nan
20	presto/tpcds/q21	145856.29	0.00	145856.29	0.00	0.00	0.00	0.00	0.00	nan
21	presto/tpcds/q22	13403702.57	0.00	13403702.57	0.00	0.00	0.00	0.00	0.00	nan
24	presto/tpcds/q25	6781280.60	0.11	6781280.64	0.00	0.00	0.04	0.00	0.00	0.34089
92	presto/tpcds/q93	135680952.63	57.19	135680956.60	24.69	0.00	3.98	0.00	0.00	0.87883
35	presto/tpcds/q36	869052.00	14.37	869052.05	13.27	0.00	0.05	0.00	0.00	0.99552
69	presto/tpcds/q70	21731339.88	9.01	21731343.66	8.73	0.00	3.79	0.00	0.00	0.47689
16	presto/tpcds/q17	10346464.07	8.02	10346466.45	10.31	0.00	2.38	0.00	0.00	0.66445
71	presto/tpcds/q72	22143709.76	21.33	22143715.08	25.22	0.00	5.33	0.00	0.00	0.70114
84	presto/tpcds/q85	13096910.29	102.71	13096915.85	84.35	0.00	5.55	0.00	0.00	0.92052
74	presto/tpcds/q75	58076888.48	161.54	58076914.69	304.02	0.00	26.21	0.00	0.00	0.85580
47	presto/tpcds/q48	583719.62	3.18	583719.90	7.09	0.00	0.28	0.00	0.00	0.93111
38	presto/tpcds/q39	2160705.74	4.61	2160707.90	3.44	0.00	2.16	0.00	0.00	0.37957
93	presto/tpcds/q94	18555906.95	88.14	18555926.34	85.77	0.00	19.39	0.00	0.00	0.70750
37	presto/tpcds/q38	23751839.18	183.55	23751864.62	42.73	0.00	25.45	0.00	0.00	0.74767
86	presto/tpcds/q87	23751787.28	85.79	23751826.34	97.01	0.00	39.07	0.00	0.00	0.47693

	query	baseline mean	baseline std.dev	only required column stats mean	only required column stats std.dev	% change	absolute change	baseline std.dev %	only required column stats std.dev %	p-value
28	presto/tpcds/q29	4591034.56	65.39	4591049.12	27.14	0.00	14.56	0.00	0.00	0.62537
3	presto/tpcds/q04	126579541.90	1019.25	126579988.51	933.15	0.00	446.61	0.00	0.00	0.44694
12	presto/tpcds/q13	1138335.28	8.61	1138343.91	9.12	0.00	8.64	0.00	0.00	0.12266
13	presto/tpcds/q14	7204840.20	467.60	7204897.03	247.90	0.00	56.84	0.01	0.00	0.79785
29	presto/tpcds/q30	2644855.78	40.06	2644883.14	76.11	0.00	27.36	0.00	0.00	0.45390
64	presto/tpcds/q65	39197785.20	2436.45	39198225.15	2881.07	0.00	439.96	0.01	0.01	0.78100
87	presto/tpcds/q88	3748.23	1.32	3748.28	0.91	0.00	0.05	0.04	0.02	0.93885
43	presto/tpcds/q44	525419.23	28.23	525428.27	37.32	0.00	9.04	0.01	0.01	0.64608
49	presto/tpcds/q50	583355.85	23.36	583366.21	37.19	0.00	10.36	0.00	0.01	0.57635
96	presto/tpcds/q97	20147018.98	441.26	20147404.47	481.77	0.00	385.49	0.00	0.00	0.17896
80	presto/tpcds/q81	5332348.59	97.51	5332458.37	112.04	0.00	109.78	0.00	0.00	0.10033
95	presto/tpcds/q96	352.30	0.02	352.30	0.04	0.00	0.01	0.01	0.01	0.66425
7	presto/tpcds/q08	2570761.66	313.92	2570844.71	252.78	0.00	83.05	0.01	0.01	0.62466
85	presto/tpcds/q86	49208.08	8.81	49210.39	6.86	0.00	2.30	0.02	0.01	0.62442
61	presto/tpcds/q62	81994.61	18.67	81998.74	14.64	0.01	4.13	0.02	0.02	0.67853
67	presto/tpcds/q68	596545.86	45.21	596577.43	34.24	0.01	31.57	0.01	0.01	0.20260
88	presto/tpcds/q89	29634.99	11.24	29637.88	10.31	0.01	2.88	0.04	0.03	0.65313
72	presto/tpcds/q73	7832.29	1.27	7833.26	1.02	0.01	0.97	0.02	0.01	0.17660
0	presto/tpcds/q01	4653430.87	417.65	4654303.59	588.98	0.02	872.72	0.01	0.01	0.01427
98	presto/tpcds/q99	214619.13	29.80	214688.10	73.78	0.03	68.97	0.01	0.03	0.05969
33	presto/tpcds/q34	16387.48	6.88	16393.04	12.69	0.03	5.56	0.04	0.08	0.36771
8	presto/tpcds/q09	2147.76	8.86	2148.53	4.22	0.04	0.76	0.41	0.20	0.85286
65	presto/tpcds/q66	9342.62	37.03	9347.85	63.30	0.06	5.23	0.40	0.68	0.86482
57	presto/tpcds/q58	503563.52	930.82	503885.87	982.47	0.06	322.35	0.18	0.19	0.57254
58	presto/tpcds/q59	214773.27	298.53	214984.69	182.50	0.10	211.42	0.14	0.08	0.16965
19	presto/tpcds/q20	581843.78	1538.53	582444.07	1045.73	0.10	600.29	0.26	0.18	0.44762
55	presto/tpcds/q56	251130.87	987.22	251574.99	133.37	0.18	444.12	0.39	0.05	0.30043
42	presto/tpcds/q43	7277.55	21.56	7290.66	21.88	0.18	13.10	0.30	0.30	0.32066
45	presto/tpcds/q46	778430.95	12059.81	783350.62	17.52	0.63	4919.67	1.55	0.00	0.34124
36	presto/tpcds/q37	2060.23	31.77	2080.02	37.29	0.96	19.79	1.54	1.79	0.34567
53	presto/tpcds/q54	10574627.05	355183.02	10707155.04	352477.20	1.25	132527.98	3.36	3.29	0.53112
4	presto/tpcds/q05	37544964.83	1542385.54	38480498.13	737321.31	2.49	935533.30	4.11	1.92	0.20976
79	presto/tpcds/q80	33347286.94	4120278.89	35249667.11	4128173.51	5.70	1902380.18	12.36	11.71	0.44289

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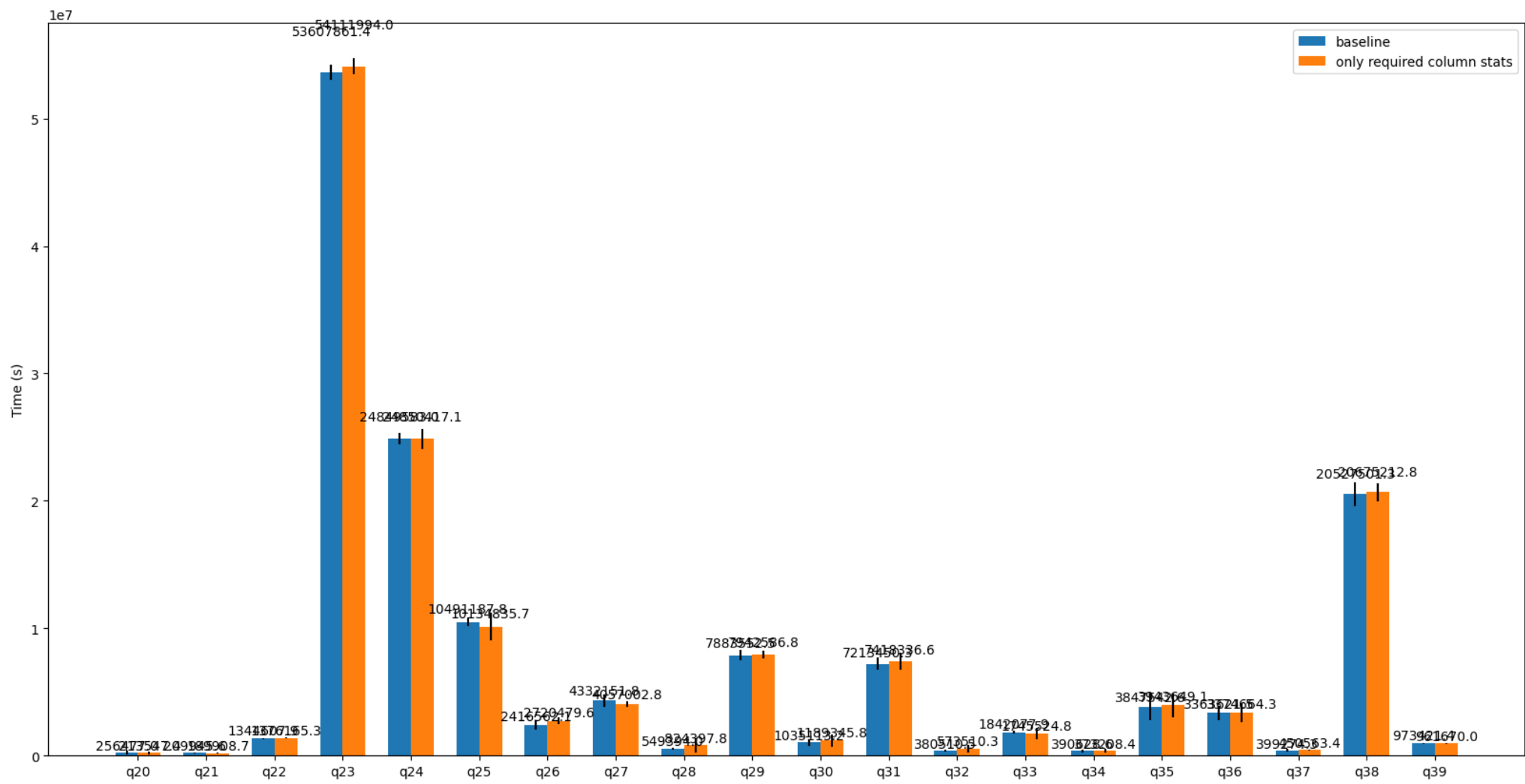


	query	baseline mean	baseline std.dev	only required column stats mean	only required column stats std.dev	% change	absolute change	baseline std.dev %	only required column stats std.dev %	p-value
21	presto/tpch/q22	15082947.36	2916265.56	12436620.18	3556504.86	-17.55	-2646327.18	19.33	28.60	0.18905
11	presto/tpch/q12	4987850.47	134144.73	4770103.94	168981.13	-4.37	-217746.53	2.69	3.54	0.03298
13	presto/tpch/q14	6031071.44	117132.52	5871338.05	104492.65	-2.65	-159733.39	1.94	1.78	0.03185
6	presto/tpch/q07	18626168.08	1217370.31	18145542.31	706284.95	-2.58	-480625.77	6.54	3.89	0.42242
8	presto/tpch/q09	126337928.84	1780045.12	124678752.32	1015287.77	-1.31	-1659176.52	1.41	0.81	0.07546
17	presto/tpch/q18	98534486.53	2222981.94	97547676.02	3177424.06	-1.00	-986810.51	2.26	3.26	0.54702
10	presto/tpch/q11	9865369.42	800058.15	9782918.94	642128.58	-0.84	-82450.48	8.11	6.56	0.84787
7	presto/tpch/q08	20486038.12	1262309.22	20348411.94	1687488.12	-0.67	-137626.18	6.16	8.29	0.87609
1	presto/tpch/q02	10555933.56	915839.02	10517245.51	761683.51	-0.37	-38688.05	8.68	7.24	0.93816
20	presto/tpch/q21	501889946.20	983099.05	502184859.49	1438673.69	0.06	294913.28	0.20	0.29	0.68721
2	presto/tpch/q03	16976511.29	133408.79	16989323.07	183869.58	0.08	12811.78	0.79	1.08	0.89287
15	presto/tpch/q16	13792143.64	174725.79	13828104.82	173399.52	0.26	35961.19	1.27	1.25	0.72790
14	presto/tpch/q15	6361844.14	94420.66	6380303.91	75092.50	0.29	18459.76	1.48	1.18	0.71563
9	presto/tpch/q10	30169630.59	784356.87	30263744.17	894800.84	0.31	94113.57	2.60	2.96	0.85026
16	presto/tpch/q17	64258041.91	427470.21	64533798.40	466943.19	0.43	275756.49	0.67	0.72	0.31106
4	presto/tpch/q05	28839508.58	378285.81	29030612.79	416615.43	0.66	191104.21	1.31	1.44	0.42491
0	presto/tpch/q01	10922938.90	587536.96	11026201.64	673807.73	0.95	103262.74	5.38	6.11	0.78300
19	presto/tpch/q20	26060757.18	316016.42	26315860.32	500395.53	0.98	255103.14	1.21	1.90	0.31589
5	presto/tpch/q06	3456502.70	265826.89	3520525.01	464682.57	1.85	64022.31	7.69	13.20	0.77556
12	presto/tpch/q13	16884170.55	422764.79	17501604.15	248551.77	3.66	617433.59	2.50	1.42	0.01156
18	presto/tpch/q19	28762540.87	1944609.20	30164186.57	1812066.78	4.87	1401645.70	6.76	6.01	0.22552
3	presto/tpch/q04	276571883.20	42072066.31	293333795.63	20529066.29	6.06	16761912.44	15.21	7.00	0.40103

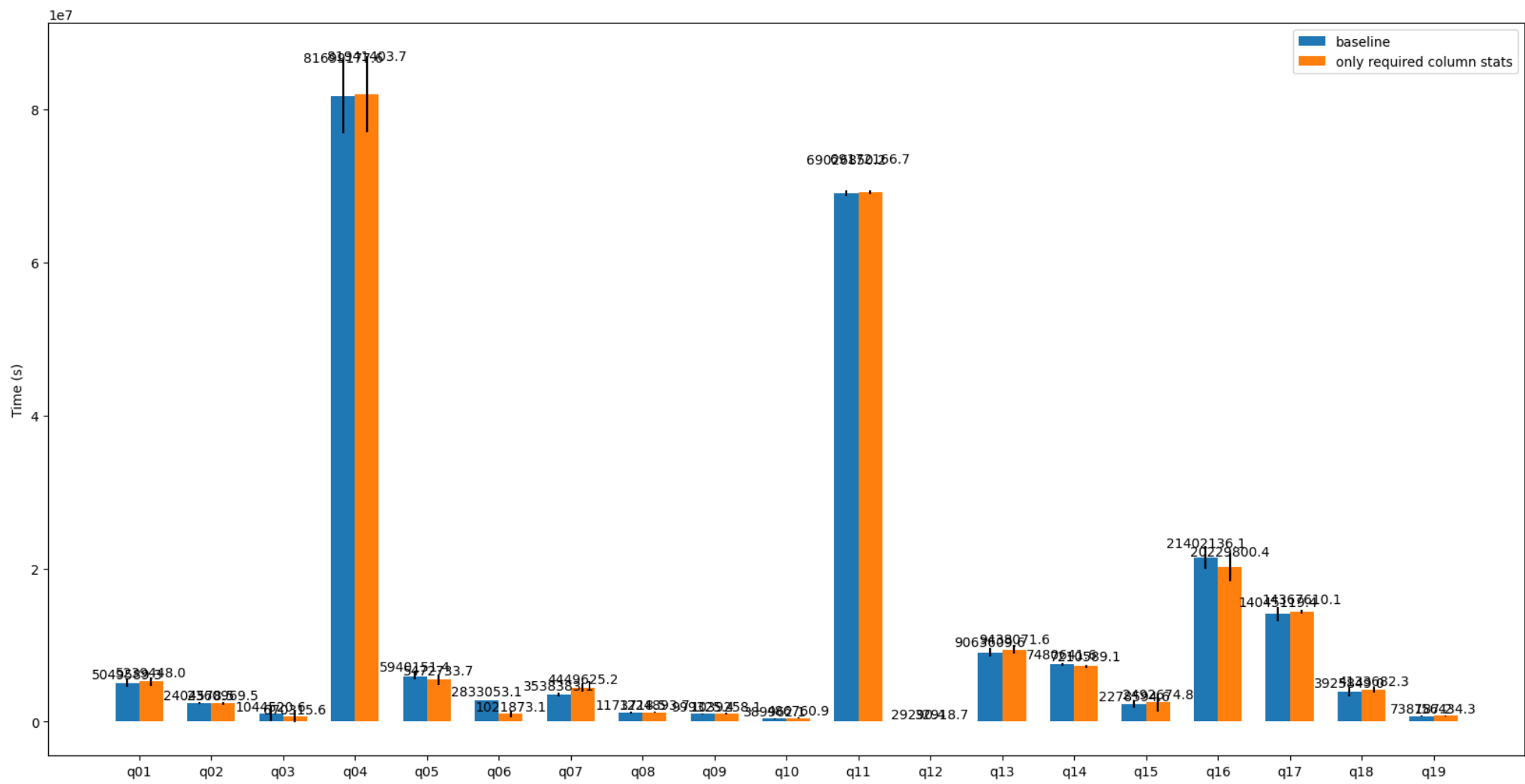
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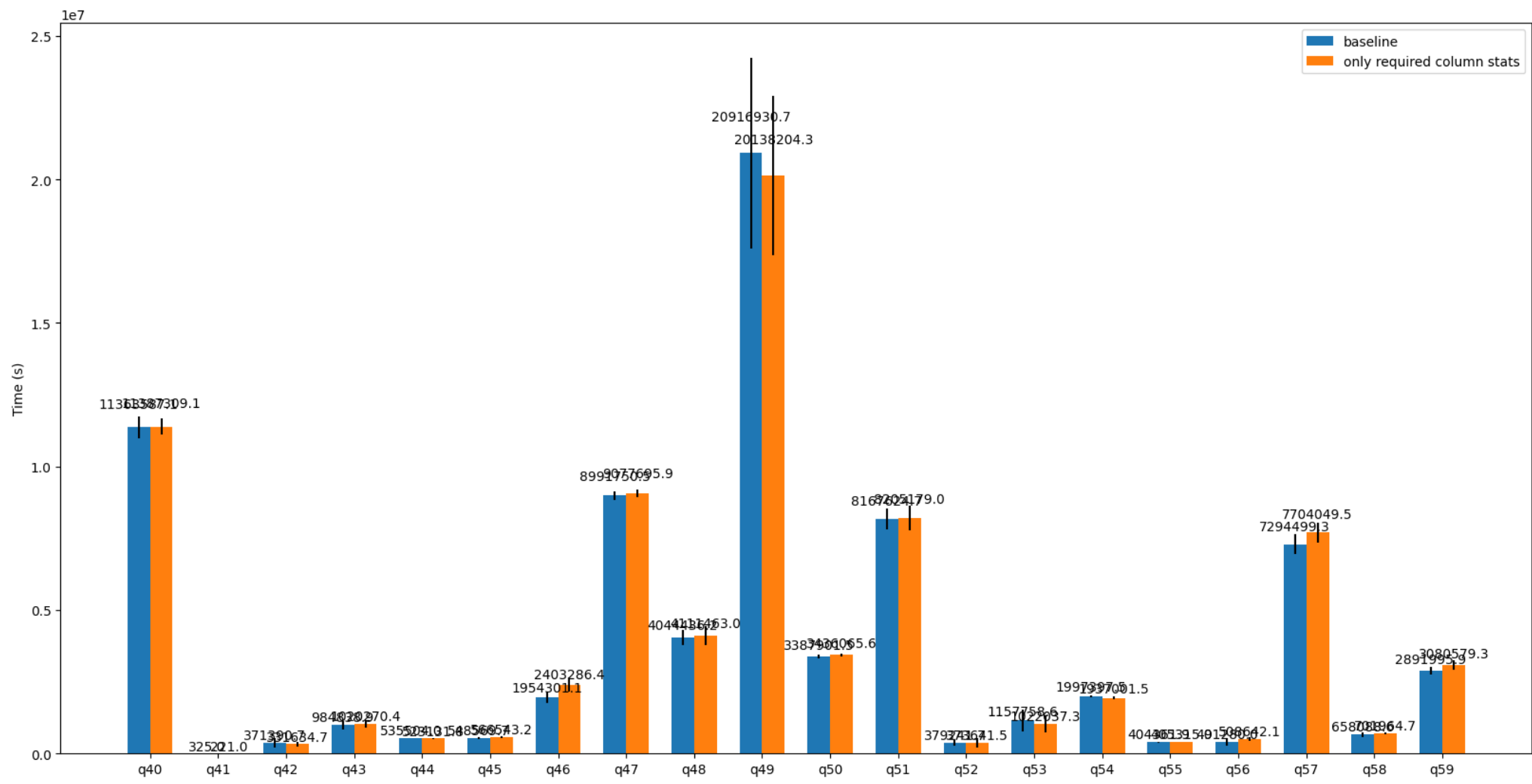
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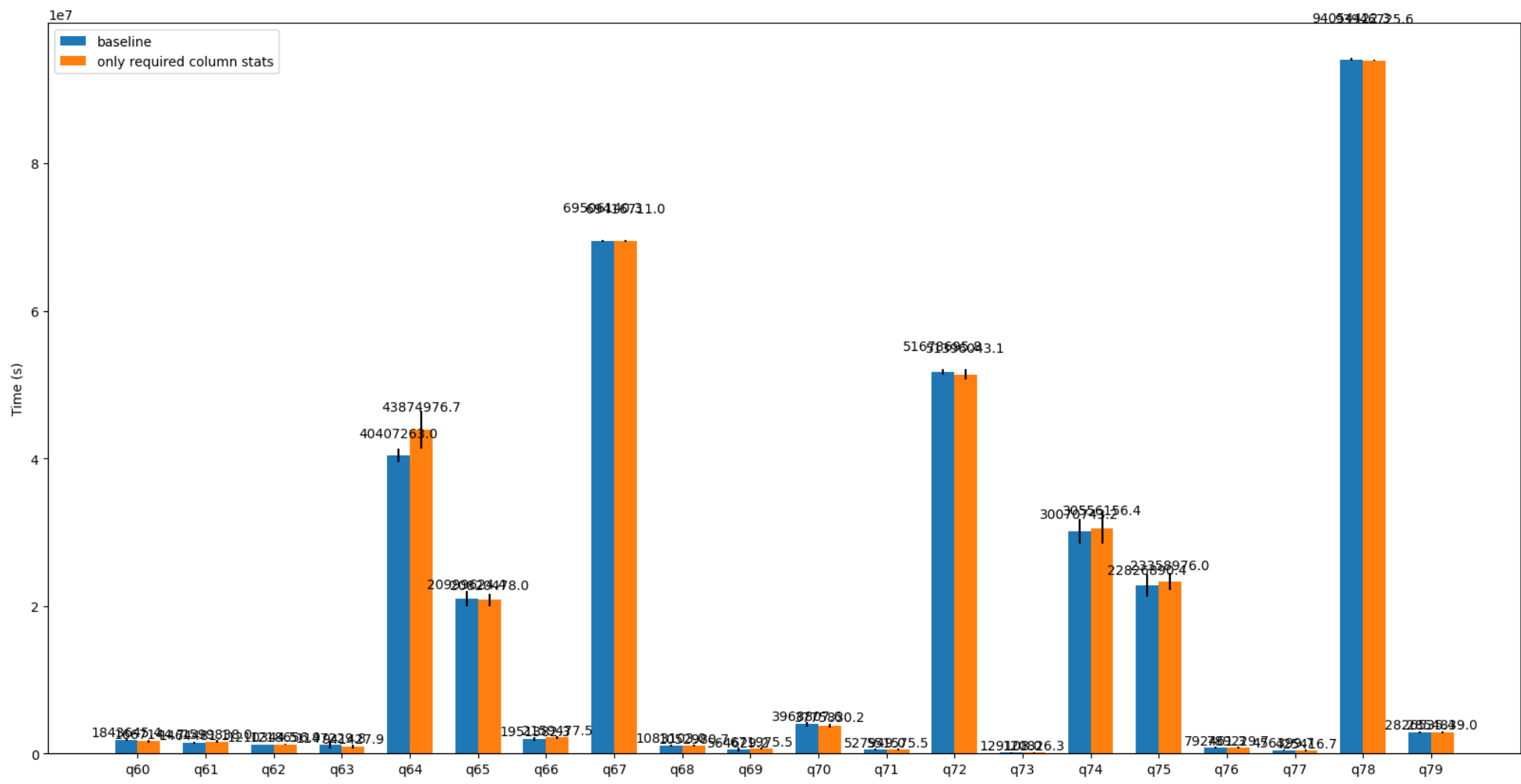
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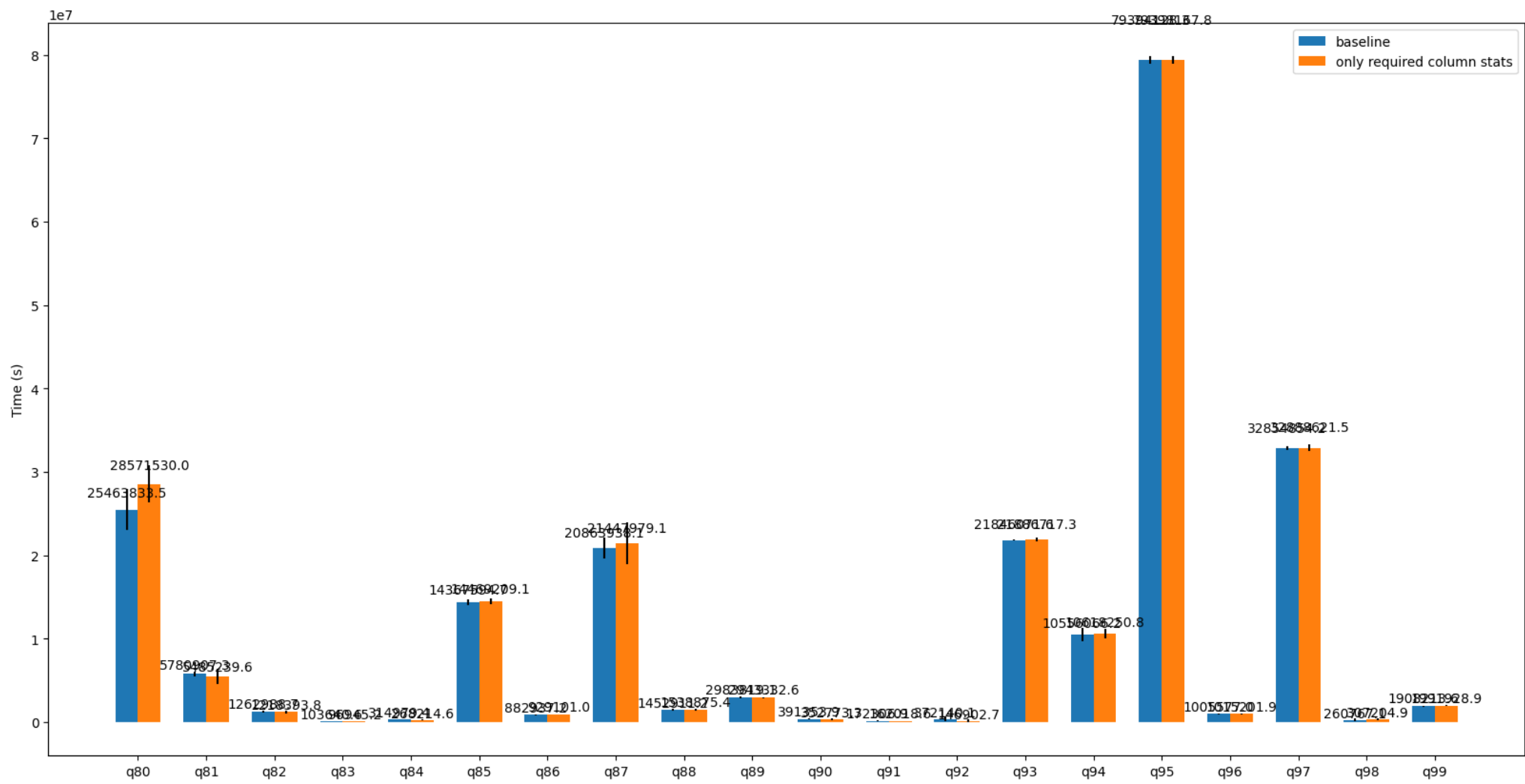


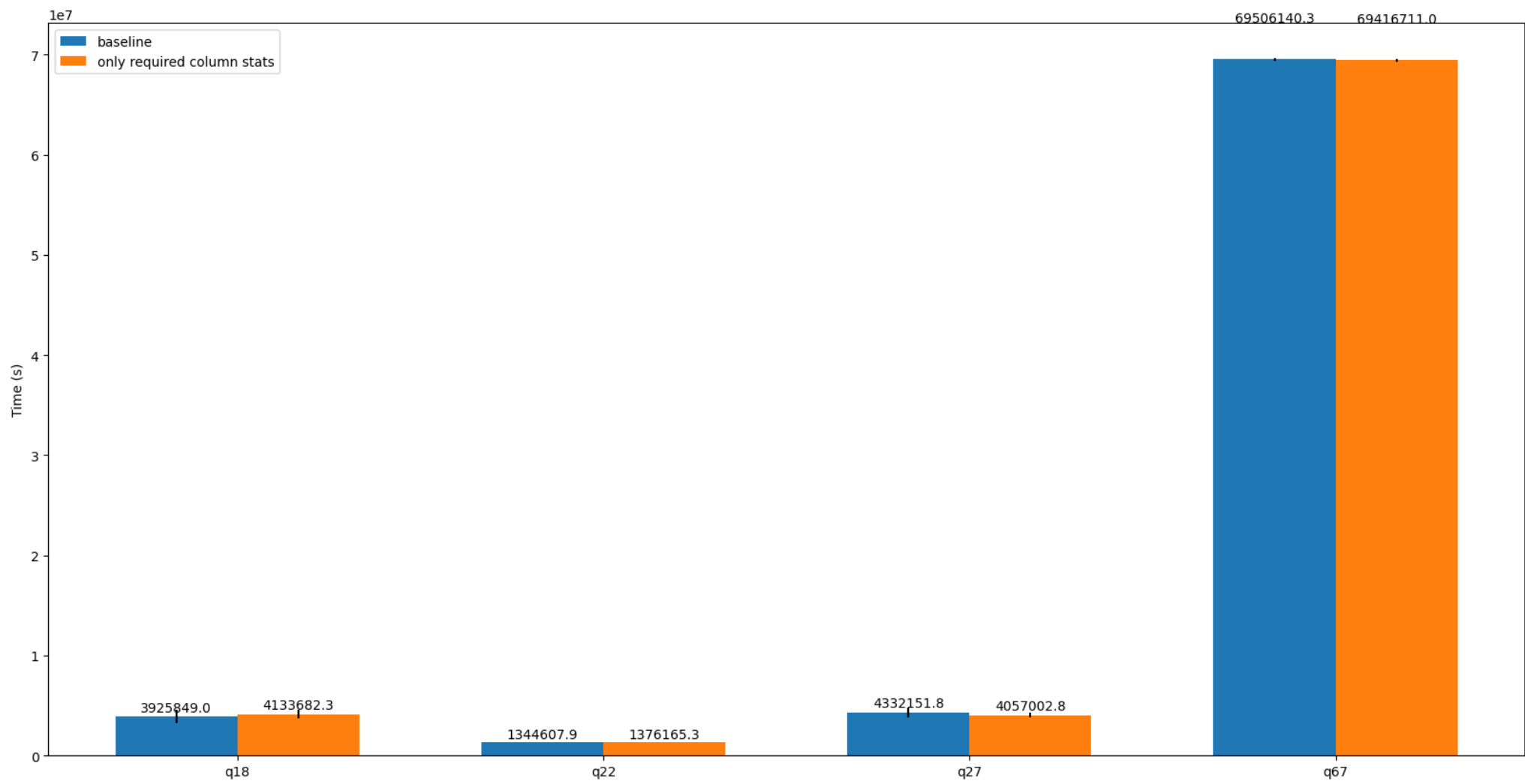












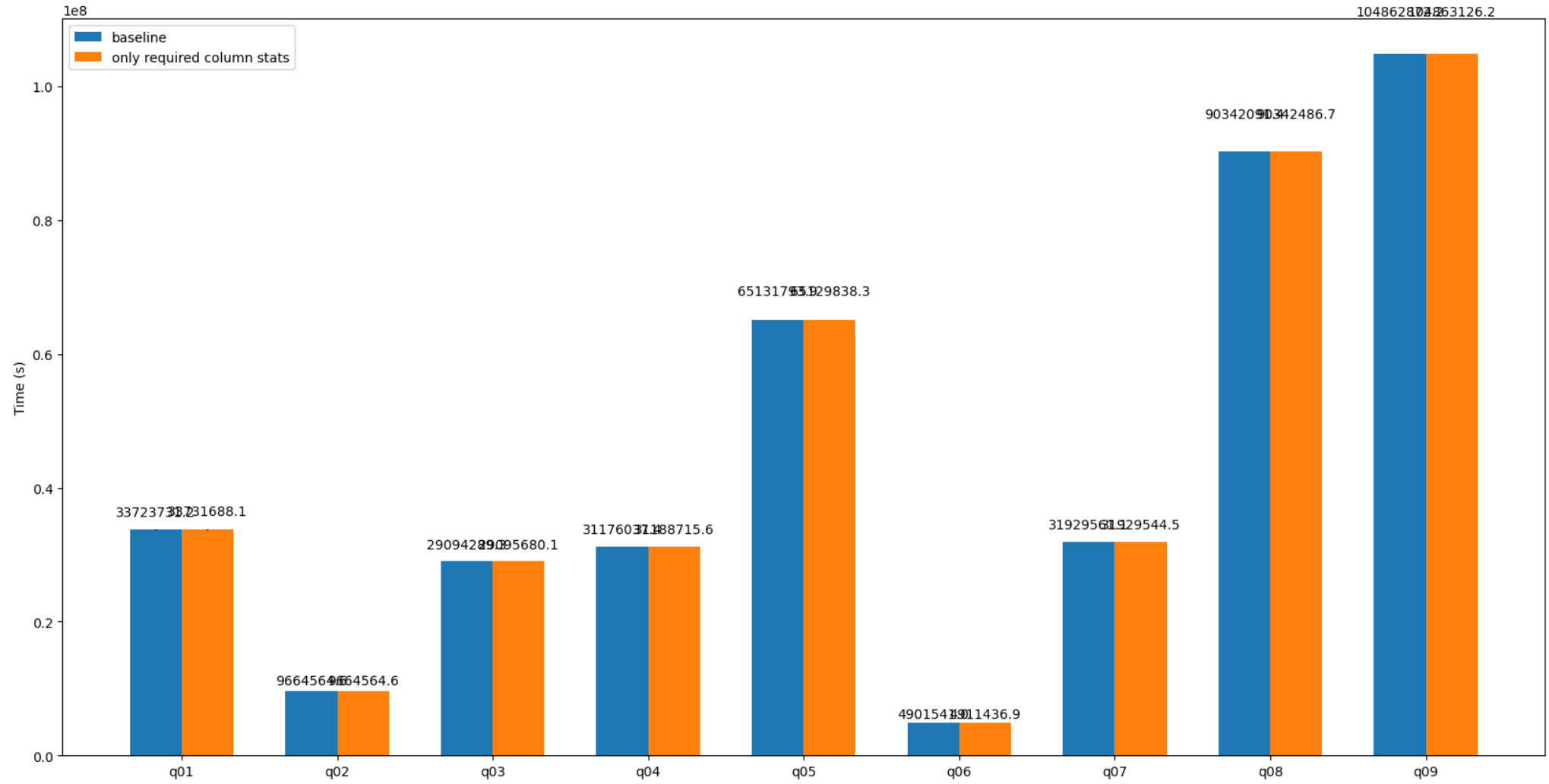
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5	presto/tpcds/q06	2833053.09	8293.47	1021873.14	422956.69	-63.93	-1811179.95	0.29	41.39	0.00000
91	presto/tpcds/q92	372140.09	274978.45	146902.67	168237.34	-60.52	-225237.42	73.89	114.52	0.11778
2	presto/tpcds/q03	1044520.57	955526.36	670315.65	772024.81	-35.83	-374204.92	91.48	115.17	0.47275
40	presto/tpcds/q41	325.02	175.79	221.03	83.65	-31.99	-103.99	54.09	37.84	0.22001
62	presto/tpcds/q63	1147229.83	517800.71	941427.93	233840.67	-17.94	-205801.90	45.13	24.84	0.39577
19	presto/tpcds/q20	256477.00	124564.51	213547.40	134940.76	-16.74	-42929.60	48.57	63.19	0.57956
83	presto/tpcds/q84	314979.37	14324.07	268214.58	41068.23	-14.85	-46764.79	4.55	15.31	0.02500
52	presto/tpcds/q53	1157758.59	377041.75	1022037.29	294095.59	-11.72	-135721.30	32.57	28.78	0.50274
41	presto/tpcds/q42	371390.70	176963.61	331634.68	76516.88	-10.70	-39756.03	47.65	23.07	0.62443
89	presto/tpcds/q90	391353.94	49845.00	352773.32	72232.39	-9.86	-38580.62	12.74	20.48	0.30685
59	presto/tpcds/q60	1843645.42	107138.14	1667144.65	223902.08	-9.57	-176500.76	5.81	13.43	0.11216
20	presto/tpcds/q21	209945.58	27732.80	189908.69	39759.31	-9.54	-20036.89	13.21	20.94	0.33519
4	presto/tpcds/q05	5940151.37	461014.42	5472733.73	663662.81	-7.87	-467417.64	7.76	12.13	0.18691
76	presto/tpcds/q77	456399.74	59831.95	425416.72	122954.91	-6.79	-30983.02	13.11	28.90	0.59108
82	presto/tpcds/q83	103640.57	20310.69	96945.24	12478.92	-6.46	-6695.34	19.60	12.87	0.50711
72	presto/tpcds/q73	129107.97	33036.21	120826.32	28017.12	-6.41	-8281.65	25.59	23.19	0.64960
26	presto/tpcds/q27	4332151.84	485040.05	4057002.82	233130.50	-6.35	-275149.03	11.20	5.75	0.23893
90	presto/tpcds/q91	172306.89	44967.96	162018.58	14433.25	-5.97	-10288.31	26.10	8.91	0.60527
15	presto/tpcds/q16	21402136.08	1492011.42	20229800.38	1856529.48	-5.48	-1172335.70	6.97	9.18	0.25570
32	presto/tpcds/q33	1842077.85	137708.33	1745524.78	438670.36	-5.24	-96553.07	7.48	25.13	0.61815
80	presto/tpcds/q81	5780907.29	264198.05	5485239.62	913561.76	-5.11	-295667.67	4.57	16.65	0.46391
69	presto/tpcds/q70	3968807.61	309914.35	3775830.19	209864.69	-4.86	-192977.42	7.81	5.56	0.23527
33	presto/tpcds/q34	390628.64	109593.99	373208.38	147532.99	-4.46	-17420.26	28.06	39.53	0.82108
48	presto/tpcds/q49	20916930.66	3320538.83	20138204.34	2761921.99	-3.72	-778726.33	15.87	13.71	0.66814
13	presto/tpcds/q14	7480641.60	165848.17	7210589.13	156120.15	-3.61	-270052.47	2.22	2.17	0.01572
81	presto/tpcds/q82	1262988.71	135034.03	1218393.76	154445.61	-3.53	-44594.96	10.69	12.68	0.60604
24	presto/tpcds/q25	10491187.78	325291.52	10134835.70	1079995.09	-3.40	-356352.08	3.10	10.66	0.45690
53	presto/tpcds/q54	1997397.48	39913.05	1937001.50	53431.13	-3.02	-60395.98	2.00	2.76	0.05085
67	presto/tpcds/q68	1083103.01	121656.80	1052980.74	151937.28	-2.78	-30122.27	11.23	14.43	0.71256
43	presto/tpcds/q44	535503.98	8701.56	523131.83	3150.10	-2.31	-12372.15	1.62	0.60	0.00836
1	presto/tpcds/q02	2404578.54	151533.56	2360969.54	145087.42	-1.81	-43609.00	6.30	6.15	0.62168
51	presto/tpcds/q52	379241.72	97664.80	373641.55	165455.23	-1.48	-5600.17	25.75	44.28	0.94449
88	presto/tpcds/q89	2983819.11	148622.90	2943332.64	58441.89	-1.36	-40486.47	4.98	1.99	0.54850

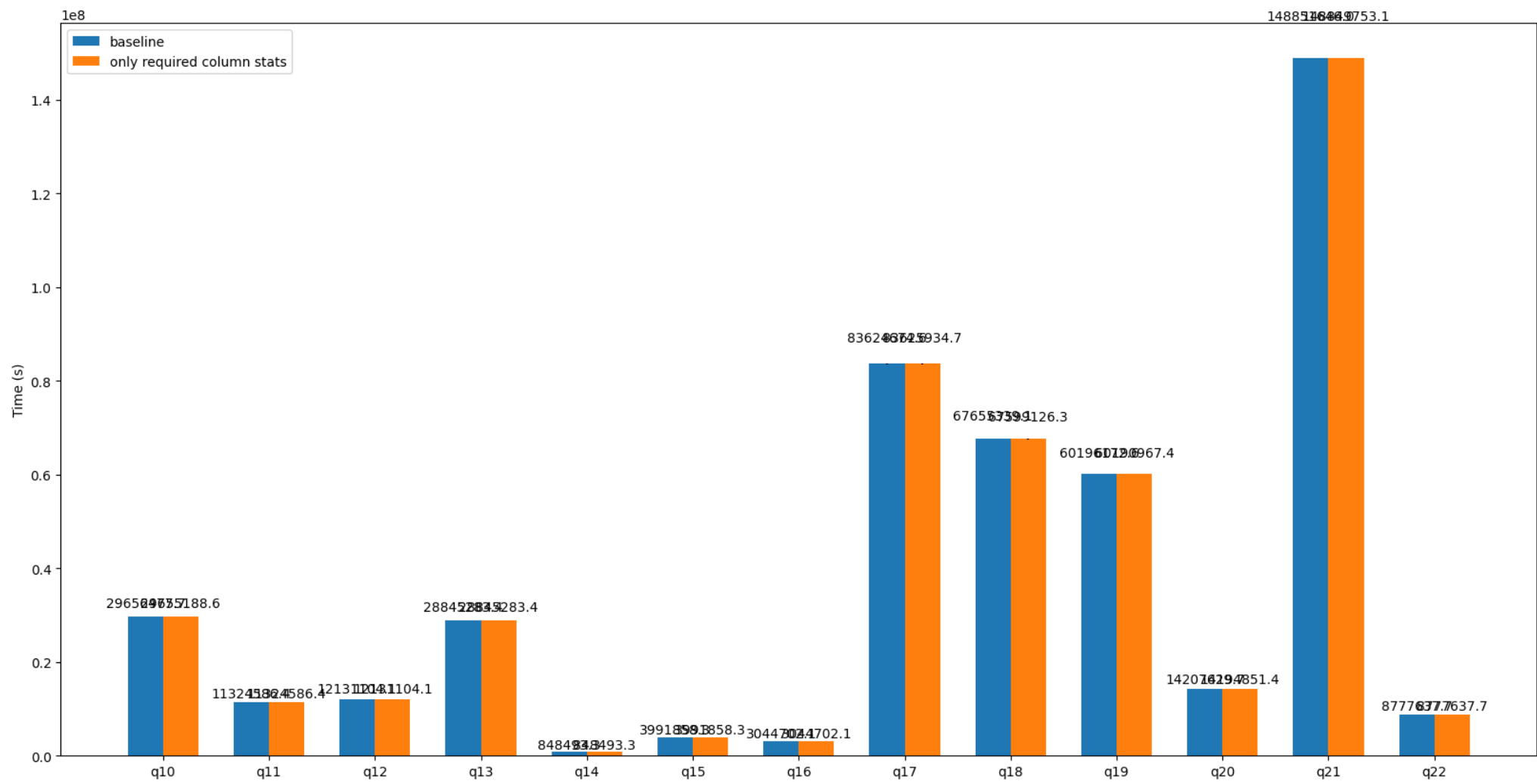
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64	presto/tpcds/q65	20999624.43	973834.72	20820478.01	806298.53	-0.85	-179146.42	4.64	3.87	0.73572
71	presto/tpcds/q72	51678695.80	374554.33	51396043.10	759820.95	-0.55	-282652.70	0.72	1.48	0.43280
75	presto/tpcds/q76	792461.27	129466.68	789229.67	99310.14	-0.41	-3231.60	16.34	12.58	0.96226
66	presto/tpcds/q67	69506140.25	145791.98	69416711.00	112508.80	-0.13	-89429.25	0.21	0.16	0.26171
77	presto/tpcds/q78	94054422.30	224240.89	93946725.63	76089.35	-0.11	-107696.66	0.24	0.08	0.29132
23	presto/tpcds/q24	24849582.98	449816.52	24850417.06	793644.15	0.00	834.08	1.81	3.19	0.99826
94	presto/tpcds/q95	79394128.31	435333.65	79398167.84	411488.61	0.01	4039.52	0.55	0.52	0.98715
96	presto/tpcds/q97	32854854.21	198986.33	32888621.51	394107.54	0.10	33767.29	0.61	1.20	0.85513
92	presto/tpcds/q93	21846071.58	55538.92	21886717.30	243755.42	0.19	40645.72	0.25	1.11	0.69882
39	presto/tpcds/q40	11363587.15	372567.54	11387309.14	288883.89	0.21	23721.99	3.28	2.54	0.90435
10	presto/tpcds/q11	69026850.17	391055.32	69172166.67	243976.43	0.21	145316.50	0.57	0.35	0.45782
54	presto/tpcds/q55	404361.93	15301.77	405315.89	8996.82	0.24	953.96	3.78	2.22	0.89788
3	presto/tpcds/q04	81699177.63	4816264.57	81941403.70	4947801.68	0.30	242226.07	5.90	6.04	0.93322
35	presto/tpcds/q36	3363621.45	556951.85	3374664.25	759527.43	0.33	11042.80	16.56	22.51	0.97765
50	presto/tpcds/q51	8167624.68	365392.69	8205178.96	428290.93	0.46	37554.28	4.47	5.22	0.87346
93	presto/tpcds/q94	10556066.22	802232.94	10618250.78	621845.19	0.59	62184.56	7.60	5.86	0.88370
61	presto/tpcds/q62	1210344.49	34372.12	1218656.86	60080.08	0.69	8312.37	2.84	4.93	0.77465
84	presto/tpcds/q85	14367594.74	351868.67	14469209.07	332122.00	0.71	101614.32	2.45	2.30	0.61814
37	presto/tpcds/q38	20527501.27	947107.00	20675212.76	714992.25	0.72	147711.49	4.61	3.46	0.76670
28	presto/tpcds/q29	7883552.50	402182.87	7942586.79	284483.91	0.75	59034.29	5.10	3.58	0.77511
22	presto/tpcds/q23	53607861.40	594888.13	54111994.03	642429.35	0.94	504132.63	1.11	1.19	0.18877
46	presto/tpcds/q47	8991750.50	155484.41	9077695.85	132441.69	0.96	85945.36	1.73	1.46	0.32695
95	presto/tpcds/q96	1005576.99	43696.52	1015201.92	61274.06	0.96	9624.93	4.35	6.04	0.76051
78	presto/tpcds/q79	2826535.42	144415.20	2854838.98	100152.72	1.00	28303.55	5.11	3.51	0.70150
49	presto/tpcds/q50	3387901.53	66980.82	3436065.57	59578.27	1.42	48164.04	1.98	1.73	0.21752
73	presto/tpcds/q74	30070743.21	1672225.25	30556156.37	2084122.41	1.61	485413.16	5.56	6.82	0.66581
47	presto/tpcds/q48	4044436.20	254707.91	4111463.04	319323.76	1.66	67026.83	6.30	7.77	0.69618
16	presto/tpcds/q17	14045119.43	931876.82	14367610.11	221371.07	2.30	322490.67	6.63	1.54	0.42876
74	presto/tpcds/q75	22826890.39	1562579.04	23358975.99	1156390.59	2.33	532085.60	6.85	4.95	0.51775
21	presto/tpcds/q22	1344607.90	35585.52	1376165.30	27099.66	2.35	31557.41	2.65	1.97	0.11465
18	presto/tpcds/q19	738187.20	70001.91	756434.32	32458.83	2.47	18247.13	9.48	4.29	0.57523
34	presto/tpcds/q35	3847542.59	1050698.27	3943649.06	926224.10	2.50	96106.47	27.31	23.49	0.86988

	query	baseline mean	baseline std.dev	only required column stats mean	only required column stats std.dev	% change	absolute change	baseline std.dev %	only required column stats std.dev %	p-value
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30	presto/tpcds/q31	7213450.33	504126.92	7418336.64	691837.39	2.84	204886.31	6.99	9.33	0.57069
44	presto/tpcds/q45	548569.72	35254.90	566543.17	22690.47	3.28	17973.45	6.43	4.01	0.31839
42	presto/tpcds/q43	984838.89	153312.12	1020270.44	110106.86	3.60	35431.56	15.57	10.79	0.65549
0	presto/tpcds/q01	5049589.25	551968.24	5239448.02	592127.85	3.76	189858.77	10.93	11.30	0.57832
8	presto/tpcds/q09	999325.44	77395.47	1039258.11	84039.11	4.00	39932.67	7.74	8.09	0.41195
12	presto/tpcds/q13	9063609.57	612599.23	9438071.64	614481.69	4.13	374462.07	6.76	6.51	0.31532
7	presto/tpcds/q08	1173718.54	99289.30	1224893.69	94986.80	4.36	51175.16	8.46	7.75	0.38309
98	presto/tpcds/q99	1908213.59	36070.23	1991928.91	76460.29	4.39	83715.32	1.89	3.84	0.03572
70	presto/tpcds/q71	527948.98	135809.72	551575.52	179074.75	4.48	23626.54	25.72	32.47	0.80201
85	presto/tpcds/q86	882937.21	50574.52	929101.02	50450.83	5.23	46163.81	5.73	5.43	0.14452
17	presto/tpcds/q18	3925849.03	636010.57	4133682.34	404611.82	5.29	207833.31	16.20	9.79	0.51476
56	presto/tpcds/q57	7294499.26	354657.83	7704049.47	341818.66	5.61	409550.21	4.86	4.44	0.06903
87	presto/tpcds/q88	1452911.24	128198.04	1538875.35	110158.94	5.92	85964.11	8.82	7.16	0.24124
58	presto/tpcds/q59	2891995.87	127230.31	3080579.34	178906.62	6.52	188583.47	4.40	5.81	0.06165
57	presto/tpcds/q58	658088.55	89200.28	701964.71	36257.70	6.67	43876.16	13.55	5.17	0.29045
63	presto/tpcds/q64	40407263.01	883046.64	43874976.66	2566846.59	8.58	3467713.66	2.19	5.85	0.01071
60	presto/tpcds/q61	1464481.10	127558.92	1599838.03	172480.28	9.24	135356.93	8.71	10.78	0.15325
14	presto/tpcds/q15	2278594.60	461744.36	2492674.75	1205810.68	9.40	214080.15	20.26	48.37	0.69321
65	presto/tpcds/q66	1951382.30	213538.97	2159477.53	215954.79	10.66	208095.23	10.94	10.00	0.12420
79	presto/tpcds/q80	25463833.46	2444437.94	28571530.04	2217804.55	12.20	3107696.58	9.60	7.76	0.04378
11	presto/tpcds/q12	29290.38	5864.87	32918.69	20384.67	12.39	3628.31	20.02	61.92	0.68408
25	presto/tpcds/q26	2416562.07	375374.79	2720479.64	263854.72	12.58	303917.57	15.53	9.70	0.13577
36	presto/tpcds/q37	399274.32	110987.64	450563.42	47785.48	12.85	51289.10	27.80	10.61	0.32297
29	presto/tpcds/q30	1035113.21	274547.93	1189345.77	474059.46	14.90	154232.56	26.52	39.86	0.50612
97	presto/tpcds/q98	260767.07	152430.79	307204.88	121831.19	17.81	46437.82	58.45	39.66	0.57286
68	presto/tpcds/q69	564629.15	250430.17	671975.46	85775.40	19.01	107346.31	44.35	12.76	0.34398
45	presto/tpcds/q46	1954301.12	190317.11	2403286.40	261945.61	22.97	448985.28	9.74	10.90	0.00681
9	presto/tpcds/q10	389962.12	36746.64	486760.87	91285.27	24.82	96798.75	9.42	18.75	0.03671
6	presto/tpcds/q07	3538383.11	303934.16	4449625.24	534648.98	25.75	911242.13	8.59	12.02	0.00462
55	presto/tpcds/q56	401279.98	140594.67	508642.07	77682.51	26.75	107362.09	35.04	15.27	0.13263
27	presto/tpcds/q28	549394.03	44262.10	824397.82	555939.44	50.06	275003.79	8.06	67.44	0.25489
31	presto/tpcds/q32	380510.53	88543.32	573510.30	294598.43	50.72	192999.76	23.27	51.37	0.15535



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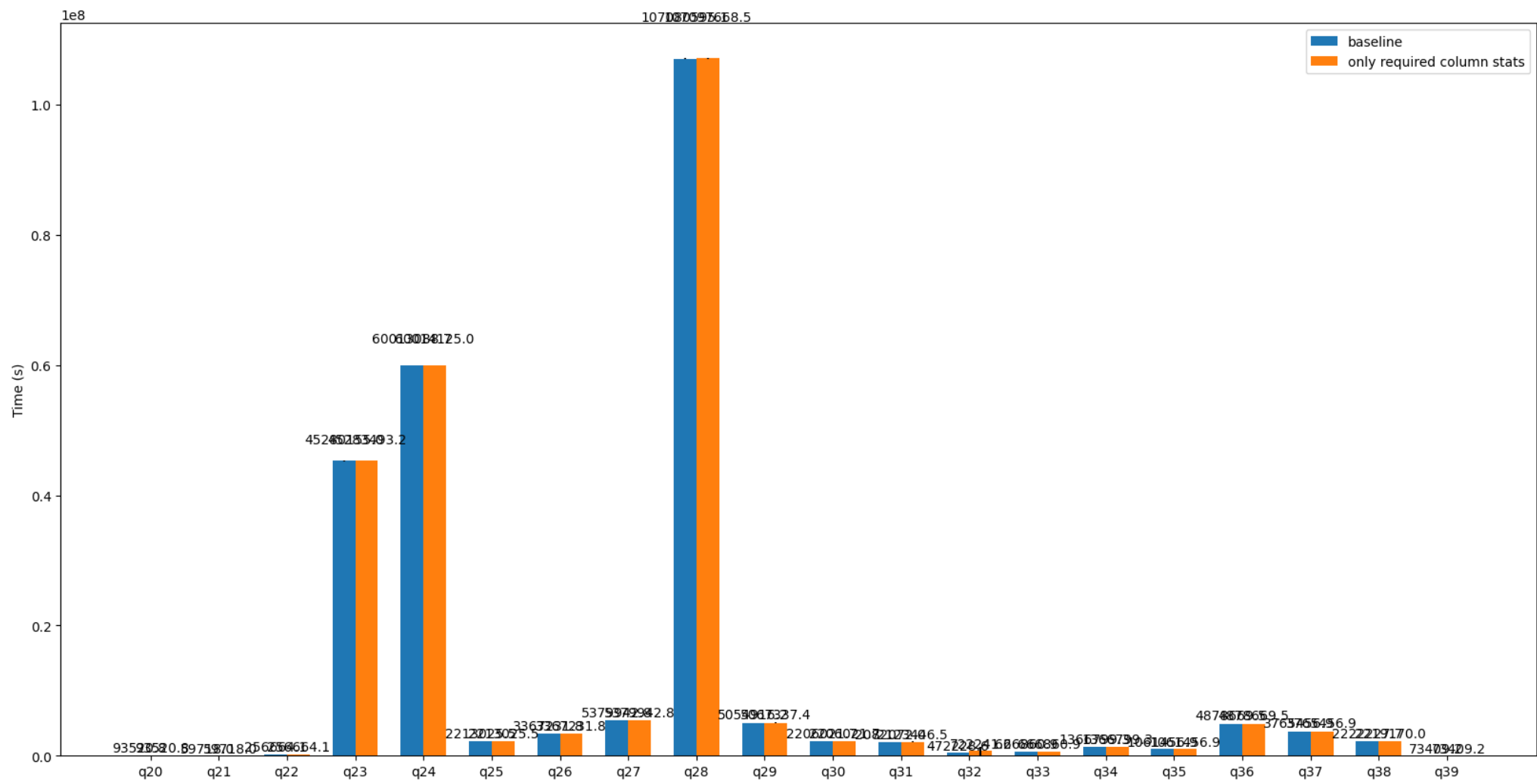


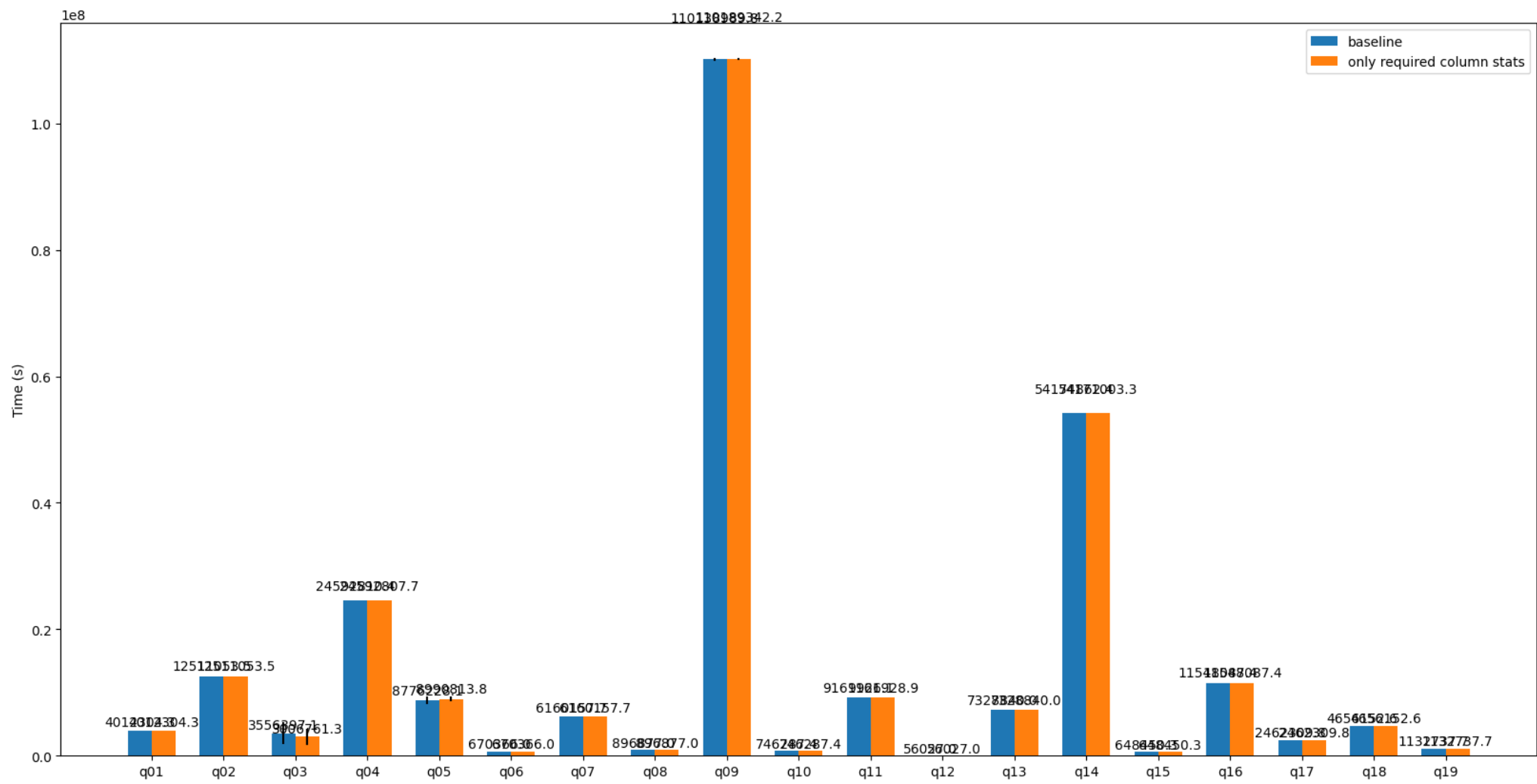
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17	presto/tpch/q18	67655339.07	34391.25	67599126.31	38466.92	-0.08	-56212.76	0.05	0.06	0.02355
18	presto/tpch/q19	60196172.61	533.36	60190967.45	12329.50	-0.01	-5205.16	0.00	0.02	0.32588
9	presto/tpch/q10	29656477.69	4414.31	29655188.61	1090.98	-0.00	-1289.08	0.01	0.00	0.50324
4	presto/tpch/q05	65131793.89	2779.00	65129838.34	63.06	-0.00	-1955.55	0.00	0.00	0.11557
20	presto/tpch/q21	148851645.98	30599.96	148849753.10	28356.05	-0.00	-1892.88	0.02	0.02	0.91370
6	presto/tpch/q07	31929561.06	208.63	31929544.55	233.75	-0.00	-16.51	0.00	0.00	0.89985
10	presto/tpch/q11	11324586.44	0.00	11324586.44	0.00	0.00	0.00	0.00	0.00	nan
15	presto/tpch/q16	3044702.08	0.00	3044702.08	0.00	0.00	0.00	0.00	0.00	nan
14	presto/tpch/q15	3991858.28	0.00	3991858.28	0.00	0.00	0.00	0.00	0.00	nan
13	presto/tpch/q14	848493.32	0.00	848493.32	0.00	0.00	0.00	0.00	0.00	nan
12	presto/tpch/q13	28845283.36	0.00	28845283.36	0.00	0.00	0.00	0.00	0.00	nan
21	presto/tpch/q22	8777637.66	0.00	8777637.66	0.00	0.00	0.00	0.00	0.00	nan
1	presto/tpch/q02	9664564.58	0.00	9664564.58	0.00	0.00	0.00	0.00	0.00	nan
11	presto/tpch/q12	12131104.14	0.00	12131104.14	0.00	0.00	0.00	0.00	0.00	nan
8	presto/tpch/q09	104862872.17	3280.76	104863126.16	4464.01	0.00	253.98	0.00	0.00	0.91281
7	presto/tpch/q08	90342091.39	85.92	90342486.74	728.04	0.00	395.36	0.00	0.00	0.21593
16	presto/tpch/q17	83624674.64	39563.59	83625934.70	39647.64	0.00	1260.06	0.05	0.05	0.95714
2	presto/tpch/q03	29094289.34	939.26	29095680.09	636.79	0.00	1390.75	0.00	0.00	0.01330
0	presto/tpch/q01	33723731.21	28337.04	33731688.06	24685.01	0.02	7956.85	0.08	0.07	0.61531
3	presto/tpch/q04	31176037.37	31463.73	31188715.62	33101.09	0.04	12678.25	0.10	0.11	0.51193
5	presto/tpch/q06	4901540.96	20573.80	4911436.85	6501.78	0.20	9895.89	0.42	0.13	0.28750

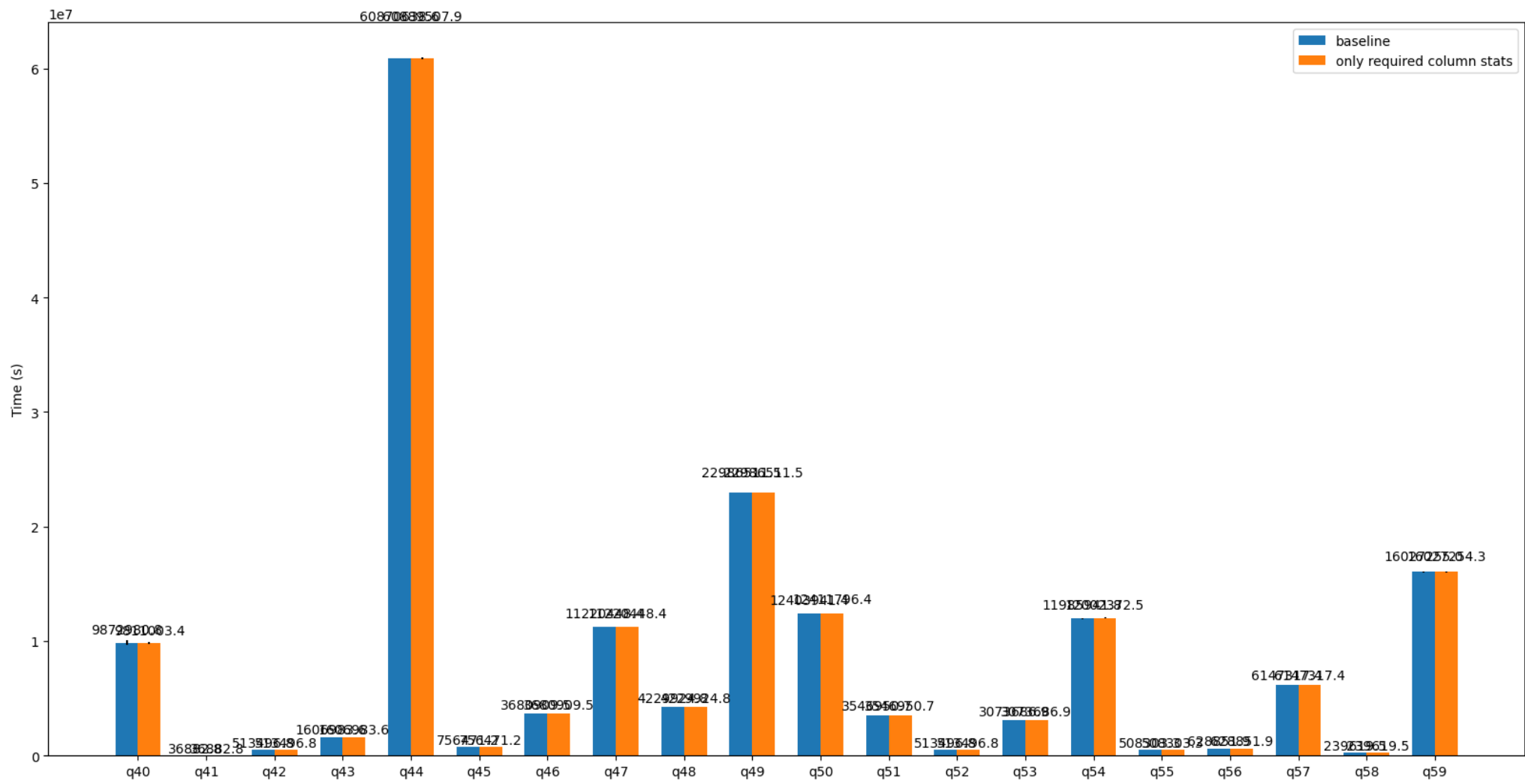
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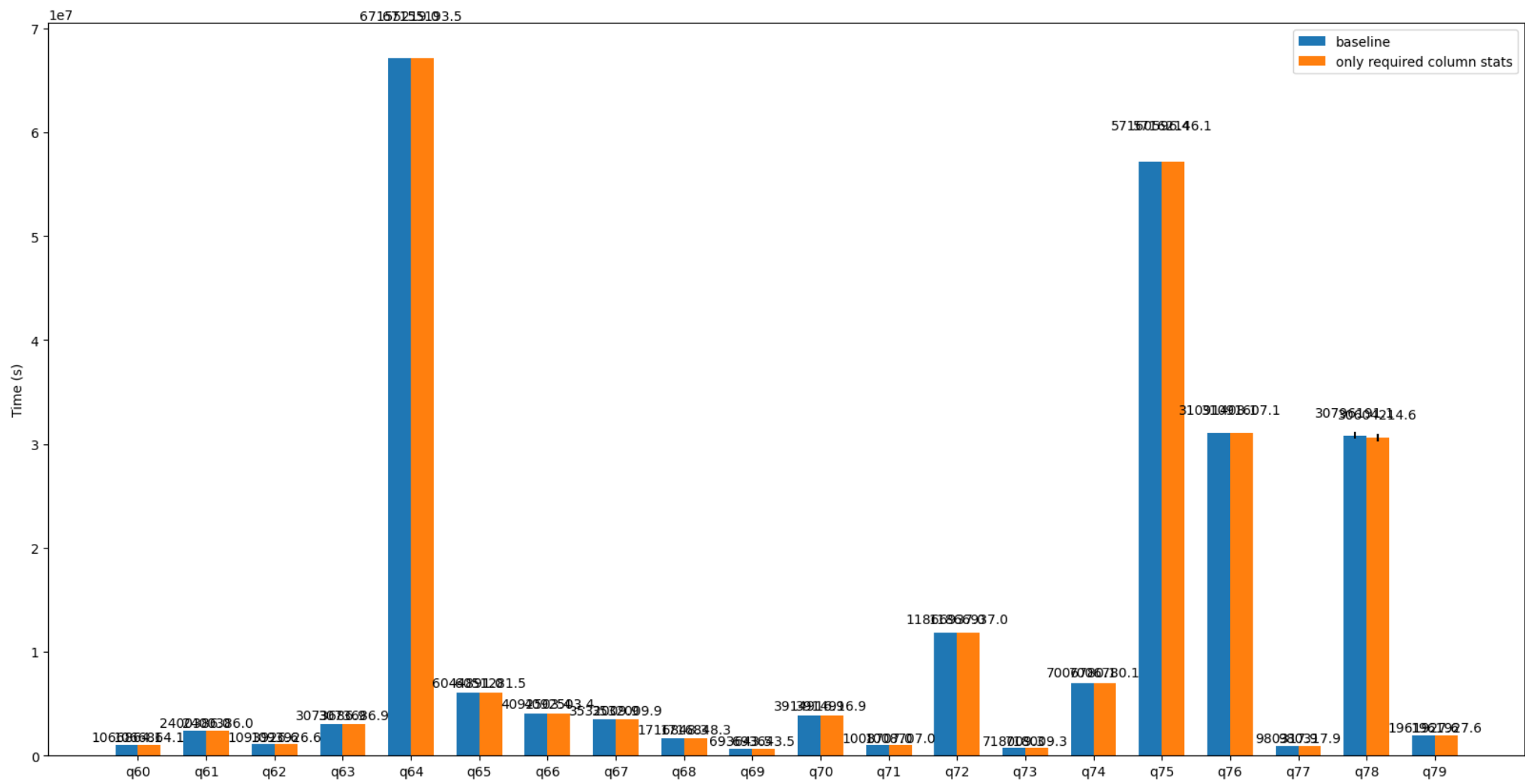
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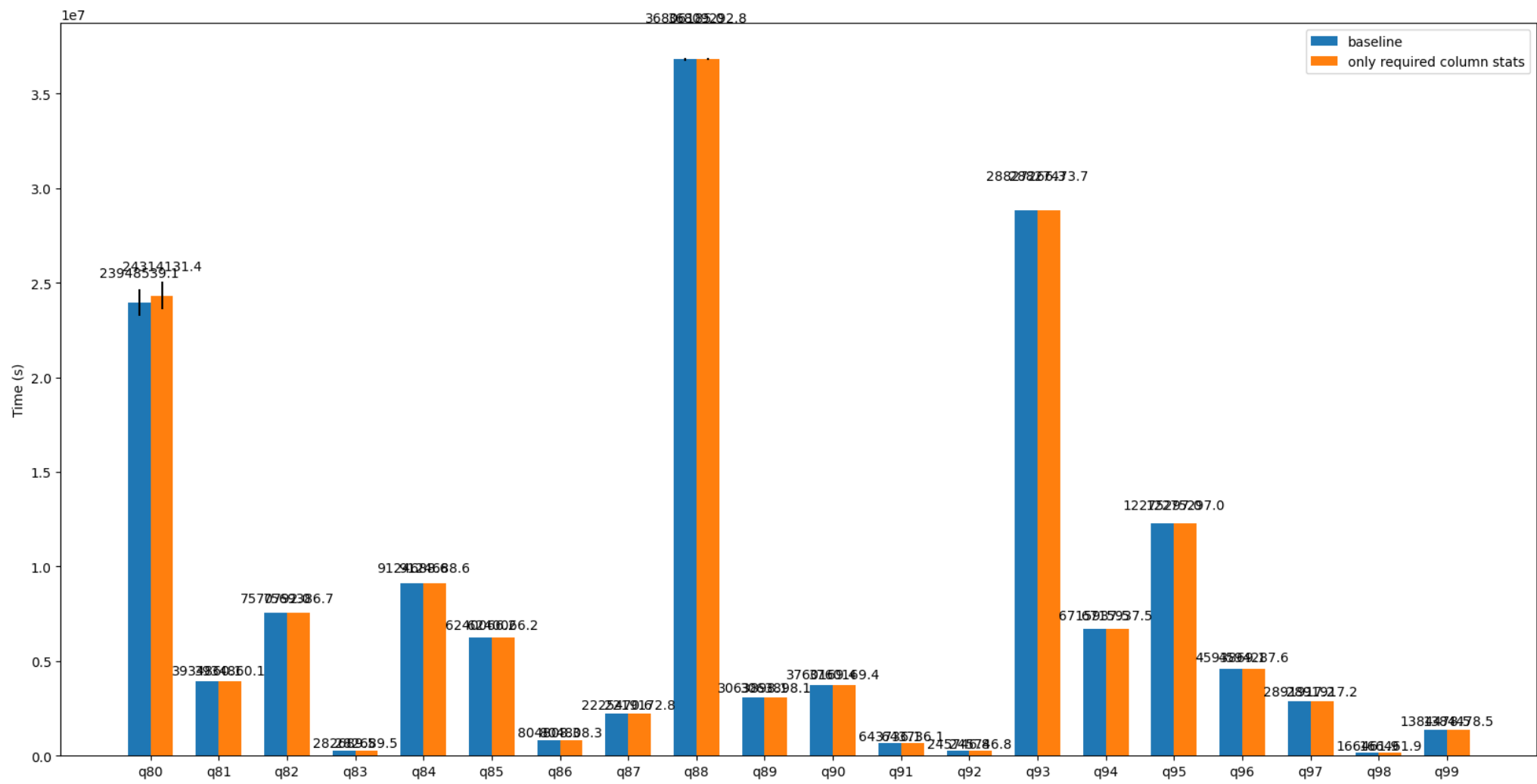
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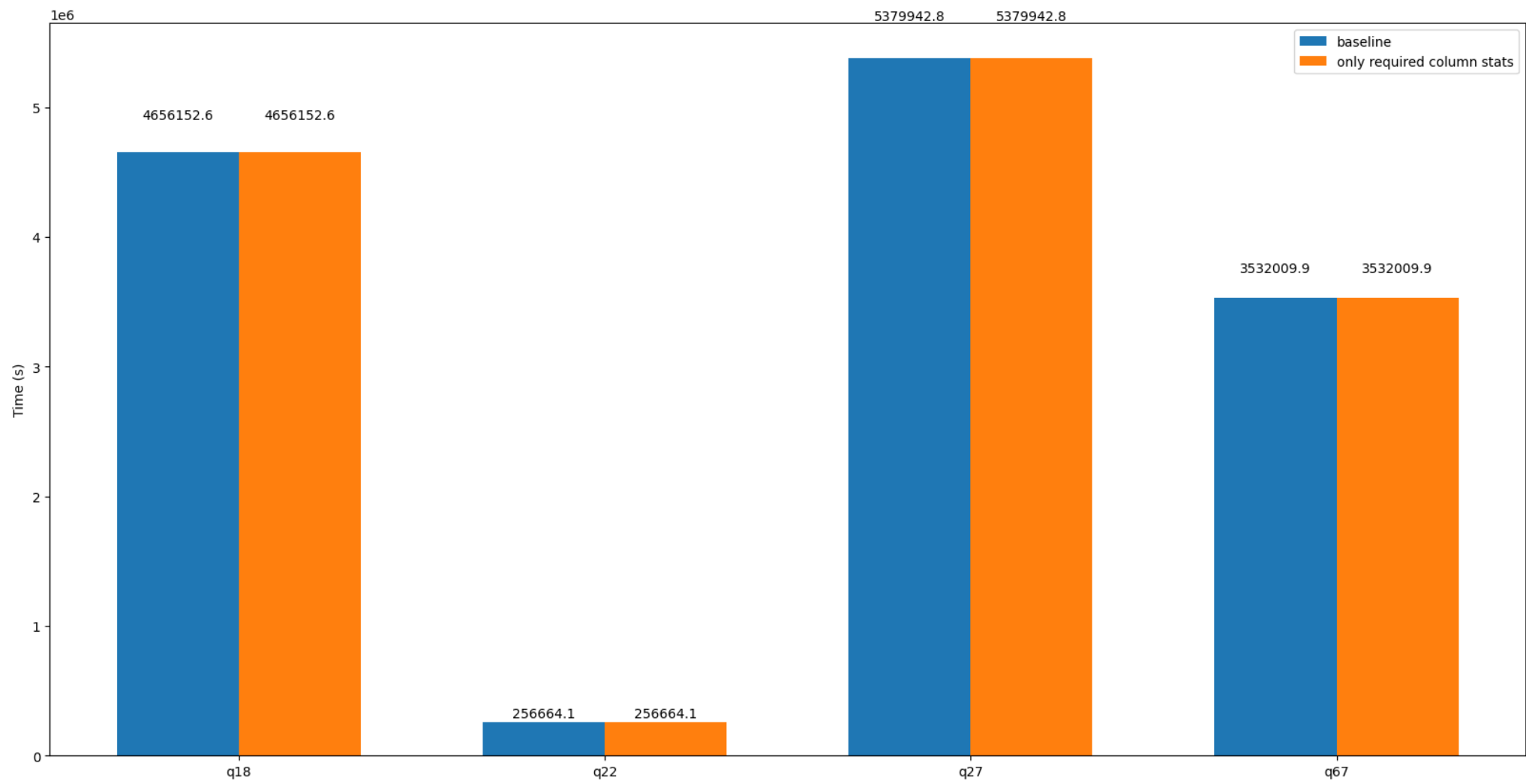












	query	baseline mean	baseline std.dev	only required column stats mean	only required column stats std.dev	% change	absolute change	baseline std.dev %	only required column stats std.dev %	p-value
2	presto/tpcds/q03	3556397.15	1678224.21	3006761.30	1307158.01	-15.45	-549635.85	47.19	43.47	0.54100
39	presto/tpcds/q40	9872980.77	214476.12	9811003.37	95822.14	-0.63	-61977.40	2.17	0.98	0.53266
77	presto/tpcds/q78	30796191.12	320858.05	30604214.58	401240.92	-0.62	-191976.53	1.04	1.31	0.38157
86	presto/tpcds/q87	2225470.61	9802.38	2219172.76	6.69	-0.28	-6297.85	0.44	0.00	0.14662
37	presto/tpcds/q38	2222227.71	7481.73	2219170.03	0.00	-0.14	-3057.68	0.34	0.00	0.34040
81	presto/tpcds/q82	7570792.03	6368.87	7569386.67	1989.13	-0.02	-1405.36	0.08	0.03	0.61712
13	presto/tpcds/q14	54174862.44	16471.79	54171003.31	4843.50	-0.01	-3859.13	0.03	0.01	0.59401
63	presto/tpcds/q64	67155219.05	1476.85	67155193.47	1919.52	-0.00	-25.58	0.00	0.00	0.97987
3	presto/tpcds/q04	24592810.41	6.69	24592807.68	0.00	-0.00	-2.73	0.00	0.00	0.34089
58	presto/tpcds/q59	16027255.04	1449.35	16027254.33	1447.61	-0.00	-0.71	0.01	0.01	0.99934
0	presto/tpcds/q01	4012304.35	0.00	4012304.35	0.00	0.00	0.00	0.00	0.00	nan
66	presto/tpcds/q67	3532009.88	0.00	3532009.88	0.00	0.00	0.00	0.00	0.00	nan
65	presto/tpcds/q66	4092503.44	0.00	4092503.44	0.00	0.00	0.00	0.00	0.00	nan
62	presto/tpcds/q63	3073686.90	0.00	3073686.90	0.00	0.00	0.00	0.00	0.00	nan
61	presto/tpcds/q62	1093926.63	0.00	1093926.63	0.00	0.00	0.00	0.00	0.00	nan
60	presto/tpcds/q61	2400385.99	0.00	2400385.99	0.00	0.00	0.00	0.00	0.00	nan
57	presto/tpcds/q58	239619.45	0.00	239619.45	0.00	0.00	0.00	0.00	0.00	nan
67	presto/tpcds/q68	1716848.27	0.00	1716848.27	0.00	0.00	0.00	0.00	0.00	nan
56	presto/tpcds/q57	6147317.41	0.00	6147317.41	0.00	0.00	0.00	0.00	0.00	nan
55	presto/tpcds/q56	628851.90	0.00	628851.90	0.00	0.00	0.00	0.00	0.00	nan
54	presto/tpcds/q55	508303.26	0.00	508303.26	0.00	0.00	0.00	0.00	0.00	nan
52	presto/tpcds/q53	3073686.90	0.00	3073686.90	0.00	0.00	0.00	0.00	0.00	nan
51	presto/tpcds/q52	513496.79	0.00	513496.79	0.00	0.00	0.00	0.00	0.00	nan
50	presto/tpcds/q51	3546950.67	0.00	3546950.67	0.00	0.00	0.00	0.00	0.00	nan
59	presto/tpcds/q60	1066864.14	0.00	1066864.14	0.00	0.00	0.00	0.00	0.00	nan
68	presto/tpcds/q69	693643.49	0.00	693643.49	0.00	0.00	0.00	0.00	0.00	nan
71	presto/tpcds/q72	11866936.96	0.00	11866936.96	0.00	0.00	0.00	0.00	0.00	nan
70	presto/tpcds/q71	1008706.97	0.00	1008706.97	0.00	0.00	0.00	0.00	0.00	nan
96	presto/tpcds/q97	2891917.21	0.00	2891917.21	0.00	0.00	0.00	0.00	0.00	nan
94	presto/tpcds/q95	12275296.97	0.00	12275296.97	0.00	0.00	0.00	0.00	0.00	nan
93	presto/tpcds/q94	6715937.48	0.00	6715937.48	0.00	0.00	0.00	0.00	0.00	nan
91	presto/tpcds/q92	245746.77	0.00	245746.77	0.00	0.00	0.00	0.00	0.00	nan
90	presto/tpcds/q91	643736.14	0.00	643736.14	0.00	0.00	0.00	0.00	0.00	nan

	query	baseline mean	baseline std.dev	only required column stats mean	only required column stats std.dev	% change	absolute change	baseline std.dev %	only required column stats std.dev %	p-value
89	presto/tpcds/q90	3760169.41	0.00	3760169.41	0.00	0.00	0.00	0.00	0.00	nan
88	presto/tpcds/q89	3063898.10	0.00	3063898.10	0.00	0.00	0.00	0.00	0.00	nan
85	presto/tpcds/q86	804808.32	0.00	804808.32	0.00	0.00	0.00	0.00	0.00	nan
84	presto/tpcds/q85	6240066.21	0.00	6240066.21	0.00	0.00	0.00	0.00	0.00	nan
83	presto/tpcds/q84	9124688.58	0.00	9124688.58	0.00	0.00	0.00	0.00	0.00	nan
82	presto/tpcds/q83	282689.53	0.00	282689.53	0.00	0.00	0.00	0.00	0.00	nan
80	presto/tpcds/q81	3934860.12	0.00	3934860.12	0.00	0.00	0.00	0.00	0.00	nan
78	presto/tpcds/q79	1961927.56	0.00	1961927.56	0.00	0.00	0.00	0.00	0.00	nan
76	presto/tpcds/q77	980317.88	0.00	980317.88	0.00	0.00	0.00	0.00	0.00	nan
73	presto/tpcds/q74	7006780.08	6.69	7006780.08	6.69	0.00	0.00	0.00	0.00	1.00000
72	presto/tpcds/q73	718009.32	0.00	718009.32	0.00	0.00	0.00	0.00	0.00	nan
97	presto/tpcds/q98	166461.95	0.00	166461.95	0.00	0.00	0.00	0.00	0.00	nan
69	presto/tpcds/q70	3914916.93	6.69	3914916.93	6.69	0.00	0.00	0.00	0.00	1.00000
48	presto/tpcds/q49	22986511.50	0.00	22986511.50	0.00	0.00	0.00	0.00	0.00	nan
98	presto/tpcds/q99	1384478.50	0.00	1384478.50	0.00	0.00	0.00	0.00	0.00	nan
46	presto/tpcds/q47	11220448.38	0.00	11220448.38	0.00	0.00	0.00	0.00	0.00	nan
24	presto/tpcds/q25	2213025.51	0.00	2213025.51	0.00	0.00	0.00	0.00	0.00	nan
47	presto/tpcds/q48	4229924.79	0.00	4229924.79	0.00	0.00	0.00	0.00	0.00	nan
20	presto/tpcds/q21	59717.96	0.00	59717.96	0.00	0.00	0.00	0.00	0.00	nan
19	presto/tpcds/q20	93520.77	0.00	93520.77	0.00	0.00	0.00	0.00	0.00	nan
18	presto/tpcds/q19	1132737.69	0.00	1132737.69	0.00	0.00	0.00	0.00	0.00	nan
17	presto/tpcds/q18	4656152.64	0.00	4656152.64	0.00	0.00	0.00	0.00	0.00	nan
16	presto/tpcds/q17	2462309.84	0.00	2462309.84	0.00	0.00	0.00	0.00	0.00	nan
25	presto/tpcds/q26	3367231.79	0.00	3367231.79	0.00	0.00	0.00	0.00	0.00	nan
15	presto/tpcds/q16	11548087.40	0.00	11548087.40	0.00	0.00	0.00	0.00	0.00	nan
12	presto/tpcds/q13	7328839.98	0.00	7328839.98	0.00	0.00	0.00	0.00	0.00	nan
11	presto/tpcds/q12	56027.04	0.00	56027.04	0.00	0.00	0.00	0.00	0.00	nan
9	presto/tpcds/q10	746287.39	0.00	746287.39	0.00	0.00	0.00	0.00	0.00	nan
7	presto/tpcds/q08	896876.96	0.00	896876.96	0.00	0.00	0.00	0.00	0.00	nan
6	presto/tpcds/q07	6160157.66	0.00	6160157.66	0.00	0.00	0.00	0.00	0.00	nan
5	presto/tpcds/q06	670366.04	0.00	670366.04	0.00	0.00	0.00	0.00	0.00	nan
1	presto/tpcds/q02	12511053.45	0.00	12511053.45	0.00	0.00	0.00	0.00	0.00	nan
14	presto/tpcds/q15	648450.32	0.00	648450.32	0.00	0.00	0.00	0.00	0.00	nan

	query	baseline mean	baseline std.dev	only required column stats mean	only required column stats std.dev	% change	absolute change	baseline std.dev %	only required column stats std.dev %	p-value
26	presto/tpcds/q27	5379942.75	0.00	5379942.75	0.00	0.00	0.00	0.00	0.00	nan
21	presto/tpcds/q22	256664.14	0.00	256664.14	0.00	0.00	0.00	0.00	0.00	nan
38	presto/tpcds/q39	73409.21	0.00	73409.21	0.00	0.00	0.00	0.00	0.00	nan
41	presto/tpcds/q42	513496.79	0.00	513496.79	0.00	0.00	0.00	0.00	0.00	nan
40	presto/tpcds/q41	36882.75	0.00	36882.75	0.00	0.00	0.00	0.00	0.00	nan
36	presto/tpcds/q37	3765456.89	0.00	3765456.89	0.00	0.00	0.00	0.00	0.00	nan
35	presto/tpcds/q36	4878669.54	0.00	4878669.54	0.00	0.00	0.00	0.00	0.00	nan
34	presto/tpcds/q35	1061456.91	0.00	1061456.91	0.00	0.00	0.00	0.00	0.00	nan
33	presto/tpcds/q34	1366799.28	0.00	1366799.28	0.00	0.00	0.00	0.00	0.00	nan
32	presto/tpcds/q33	666860.92	0.00	666860.92	0.00	0.00	0.00	0.00	0.00	nan
42	presto/tpcds/q43	1606983.62	0.00	1606983.62	0.00	0.00	0.00	0.00	0.00	nan
45	presto/tpcds/q46	3680909.55	0.00	3680909.55	0.00	0.00	0.00	0.00	0.00	nan
29	presto/tpcds/q30	2206021.71	0.00	2206021.71	0.00	0.00	0.00	0.00	0.00	nan
44	presto/tpcds/q45	756471.25	0.00	756471.25	0.00	0.00	0.00	0.00	0.00	nan
10	presto/tpcds/q11	9161926.13	0.00	9161928.86	6.69	0.00	2.73	0.00	0.00	0.34089
75	presto/tpcds/q76	31091408.08	6814.26	31091607.14	3314.75	0.00	199.06	0.02	0.01	0.94996
92	presto/tpcds/q93	28827266.34	1508.38	28827473.73	1659.58	0.00	207.40	0.01	0.01	0.82535
23	presto/tpcds/q24	60013088.66	2810.43	60014124.99	5104.99	0.00	1036.33	0.00	0.01	0.67238
74	presto/tpcds/q75	57160596.40	5533.31	57162146.12	5638.63	0.00	1549.71	0.01	0.01	0.64121
22	presto/tpcds/q23	45280154.99	11922.90	45283493.21	10028.72	0.01	3338.22	0.03	0.02	0.61113
87	presto/tpcds/q88	36806185.04	72324.35	36809292.85	50062.17	0.01	3107.81	0.20	0.14	0.93274
95	presto/tpcds/q96	4593869.09	996.89	4594287.62	2022.07	0.01	418.53	0.02	0.04	0.65901
27	presto/tpcds/q28	107080595.10	58330.42	107097668.54	68797.80	0.02	17073.44	0.05	0.06	0.65282
43	presto/tpcds/q44	60870638.59	32168.98	60889507.93	75060.90	0.03	18869.33	0.05	0.12	0.58388
8	presto/tpcds/q09	110138989.77	227450.88	110189342.22	127024.90	0.05	50352.45	0.21	0.12	0.64607
49	presto/tpcds/q50	12403941.42	2158.50	12411796.37	18176.94	0.06	7854.95	0.02	0.15	0.31794
64	presto/tpcds/q65	6044891.04	522.09	6051281.51	16175.48	0.11	6390.47	0.01	0.27	0.35624
53	presto/tpcds/q54	11985941.77	43460.53	12002372.46	42941.24	0.14	16430.69	0.36	0.36	0.52494
28	presto/tpcds/q29	5054916.16	19242.97	5067337.44	19242.97	0.25	12421.29	0.38	0.38	0.28969
79	presto/tpcds/q80	23948539.14	707709.93	24314131.35	721077.31	1.53	365592.22	2.96	2.97	0.39625
30	presto/tpcds/q31	2082072.03	64084.43	2123446.55	64078.09	1.99	41374.52	3.08	3.02	0.28958
4	presto/tpcds/q05	8776228.06	555976.54	8990813.83	327186.89	2.45	214585.77	6.34	3.64	0.43417
31	presto/tpcds/q32	472228.55	0.00	722241.16	612403.32	52.94	250012.61	0.00	84.79	0.34089

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