## Distribution of Parameters for Generated SQL Queries on the TPC-H Database

```
## Scenario: 1-3jp_rjjp__g_h0-3ss_h0nss

## Scale factor: 100 GB

## The 1000-query pack was generated on: 2023-11-07

## First column ('Query parameter or value') displays either:

## - a parameter name, or

## - a value of the current parameter (only for low-cardinality parameters).

## Second column ('Descriptive statistics') displays:

## - for low cardinality parameters: frequency and proportion from total (of 1000 queries)
```

Query parameter or value	Descriptive statistics
SELECT_n_of_columns	[1, 6, 100] 10 / 12
SELECT_n_of_non_aggr_funcDAY	
0	928 (93%)
1	$66 \ (6.6\%)$
2	5~(0.5%)
4	1 (0.1%)
SELECT_n_of_non_aggr_funcLOWER	
0	699 (70%)
1	227 (23%)
2	58 (5.8%)
3	9~(0.9%)
4	5~(0.5%)
6	2~(0.2%)
SELECT_n_of_non_aggr_funcMONTH	
0	858 (86%)

## - for higher cardinality parameters: [min, median, max] mean / SD

Query parameter or value	Descriptive statistics
1	114 (11%)
2	16 (1.6%)
3	5 (0.5%)
4	4 (0.4%)
6	$3\ (0.3\%)$
SELECT_n_of_non_aggr_funcROUND	
0	$952 \; (95\%)$
1	45~(4.5%)
2	$3\;(0.3\%)$
SELECT_n_of_non_aggr_funcRTRIM	
0	685~(69%)
1	$263\ (26\%)$
2	37 (3.7%)
3	9~(0.9%)
4	4 (0.4%)
5	1 (0.1%)
6	1(0.1%)
SELECT_n_of_non_aggr_funcSUBSTR	,
0	705 (71%)
1	236 (24%)
2	$46\ (4.6\%)$
3	10 (1.0%)
4	2(0.2%)
5	1 (0.1%)
SELECT_n_of_non_aggr_funcUPPER	, ,
0	688 (69%)
1	235 (24%)
2	61 (6.1%)
3	10~(1.0%)
4	4~(0.4%)
5	1 (0.1%)
6	1 (0.1%)
SELECT_n_of_non_aggr_funcYEAR	
0	876 (88%)
1	106 (11%)
2	$12\ (1.2\%)$
3	4 (0.4%)
5	1 (0.1%)
6	1 (0.1%)
SELECT_n_of_non_aggr_funcSQRT	
0	862~(86%)
1	109 (11%)
2	$21\ (2.1\%)$
3	$3\ (0.3\%)^{'}$
9	
4	3~(0.3%)

Query parameter or value	Descriptive statistics
6	1 (0.1%)
SELECT_n_of_non_aggr_funcLTRIM	,
0	707 (71%)
1	$226\ (23\%)$
2	51 (5.1%)
3	11 (1.1%)
4	4(0.4%)
5	1(0.1%)
SELECT_n_of_non_aggr_funcTRUNC	
0	$949 \; (95\%)$
1	50 (5.0%)
2	1 (0.1%)
SELECT_n_of_non_aggr_funcLOG	
0	902 (90%)
1	86 (8.6%)
2	7~(0.7%)
3	4~(0.4%)
4	1 (0.1%)
SELECT_n_of_non_aggr_funcABS	
0	946 (95%)
1	51 (5.1%)
2	3~(0.3%)
SELECT_n_of_non_aggr_funcDOW	
0	907 (91%)
1	$73 \ (7.3\%)$
2	$14 \ (1.4\%)$
3	4 (0.4%)
5	$2\;(0.2\%)$
SELECT_n_of_non_aggr_funcFLOOR	(200)
0	957 (96%)
1	41 (4.1%)
2	2 (0.2%)
SELECT_n_of_all_non_aggr_func	[0.00, 2.00, 44.00] $3.02 / 3.92$
SELECT_n_of_aggr_funcCOUNT	$[0.00, 0.00, 9.00] \ 0.63 \ / \ 1.40$
SELECT_n_of_aggr_funcCOUNT_DISTINCT	[0.00, 0.00, 10.00] $0.64 / 1.45$
SELECT_n_of_aggr_funcMAX	$[0.00, 0.00, 10.00] \ 0.65 \ / \ 1.51$
SELECT_n_of_aggr_funcMIN	[0.00, 0.00, 10.00] 0.62 / 1.48
SELECT_n_of_aggr_funcAVG	000 (0404)
0	936 (94%)
1	46 (4.6%)
2	13 (1.3%)
3	5~(0.5%)
SELECT_n_of_aggr_funcSUM	0.40 (0.407)
0	940 (94%)
1	46 (4.6%)
2	$12\ (1.2\%)$

Query parameter or value	Descriptive statistics
3	2 (0.2%)
SELECT_n_of_all_aggr_func	[0.00, 2.00, 12.00] $[0.71 / 2.31]$
FROM_n_of_join_paths	[0.00, 2.00, 12.00] 2.71 / 2.01
1	319 (32%)
2	349 (35%)
~ 3	332 (33%)
FROM_n_of_super_joinsFULL	(**,**)
	753 (75%)
1	231 (23%)
2	16 (1.6%)
FROM_n_of_super_joinsLEFT	
0	762~(76%)
1	211 (21%)
2	27(2.7%)
FROM_n_of_super_joinsRIGHT	
0	$767 \ (77\%)$
1	$218\ (22\%)$
2	$15\ (1.5\%)$
FROM_n_of_joinsINNER	
0 — — —	$237\ (24\%)$
1	263~(26%)
2	$218\ (22\%)$
3	137 (14%)
4	89 (8.9%)
5	41 (4.1%)
6	11 (1.1%)
7	2~(0.2%)
8	$2\;(0.2\%)$
FROM_n_of_joinsRIGHT	
0	244~(24%)
1	263~(26%)
2	201~(20%)
3	$150 \ (15\%)$
4	85~(8.5%)
5	39~(3.9%)
6	14 (1.4%)
7	2~(0.2%)
8	$2\;(0.2\%)$
FROM_n_of_processed_rows	$[5,681,\!037,\!902,2,\!295,\!113,\!756]630,\!994,\!140/$
	$596,\!369,\!638$
WHERE_n_of_predicates	[0.00, 2.00, 10.00] 2.79/ 2.21
WHERE_n_of_attribs_of_typecharacter	
0	717~(72%)
1	224~(22%)
2	44 (4.4%)
3	14 (1.4%)

Query parameter or value	Descriptive statistics
4	1 (0.1%)
WHERE_n_of_attribs_of_typecharacter_varying	
0	457 (46%)
1	310 (31%)
2	$154 \ (15\%)$
3	$60 \ (6.0\%)$
4	$16 \ (1.6\%)$
5	$2\;(0.2\%)$
6	1 (0.1%)
WHERE_n_of_attribs_of_typeinteger	(150)
0	445 (45%)
1	329 (33%)
2	146 (15%)
3	63 (6.3%)
4	14 (1.4%)
5	2 (0.2%)
	1 (0.1%)
WHERE_n_of_attribs_of_typenumeric	601 (600/)
0	621 (62%)
1	280 (28%)
2	86 (8.6%)
3	12 (1.2%)
WHERE n_of_attribs_of_typedate	1 (0.1%)
0	835 (84%)
1	150 (15%)
2	14 (1.4%)
3	1 (0.1%)
WHERE_n_of_pkey_attribs	1 (0.170)
0	612 (61%)
1	296 (30%)
2	77 (7.7%)
3	14 (1.4%)
5	1 (0.1%)
WHERE_n_of_connect_OR	
0	447 (45%)
1	198 (20%)
2	128 (13%)
3	$92\ (9.2\%)$
4	71 (7.1%)
5	$42\ (4.2\%)$
6	$16\ (1.6\%)$
7	5 (0.5%)
8	1 (0.1%)
$WHERE\_n\_of\_operators\_\_between$	
0	602~(60%)

Query parameter or value	Descriptive statistics
1	276 (28%)
2	96 (9.6%)
3	$21\ (2.1\%)$
4	4 (0.4%)
5	1 (0.1%)
WHERE_n_of_operatorsgreater_or_less	
0	439 (44%)
1	292~(29%)
2	155 (16%)
3	84 (8.4%)
4	$21\ (2.1\%)$
5	7 (0.7%)
6	2~(0.2%)
WHERE_n_of_operatorsin	
$\theta$	599 (60%)
1	297 (30%)
2	77 (7.7%)
3	$24 \ (2.4\%)$
4	3~(0.3%)
WHERE_n_of_operatorslike	
0	827~(83%)
1	159~(16%)
2	13~(1.3%)
3	1~(0.1%)
WHERE_n_of_non_aggr_funcDAY	
$\theta$	979 (98%)
1	$21\ (2.1\%)$
WHERE_n_of_non_aggr_funcLOG	2.12 (2.29)
0	945 (95%)
1	53 (5.3%)
2	2~(0.2%)
WHERE_n_of_non_aggr_funcSQRT	227 (2194)
0	905 (91%)
1	88 (8.8%)
2	7 (0.7%)
WHERE_n_of_non_aggr_funcABS	000 (0=0)
0	969 (97%)
1	$31 \ (3.1\%)$
WHERE_n_of_non_aggr_funcMONTH	079 (070/)
0	972 (97%)
1	$28 \; (2.8\%)$
WHERE_n_of_non_aggr_funcTRUNC	000 (000)
0	962 (96%)
1	$38 \ (3.8\%)$
WHERE_n_of_non_aggr_funcROUND	060 (070/)
0	969 (97%)

Query parameter or value	Descriptive statistics
1	31 (3.1%)
WHERE_n_of_non_aggr_funcYEAR	- (- / - / - / - / - / - / - / - / - / -
0 $=$ $=$ $=$ $0$ $=$ $0$	971 (97%)
1	$28\ (2.8\%)$
2	1 (0.1%)
WHERE_n_of_non_aggr_funcDOW	
0	$983 \ (98\%)$
1	17 (1.7%)
WHERE_n_of_non_aggr_funcFLOOR	
0	971 (97%)
1	29~(2.9%)
WHERE_n_of_all_non_aggr_func	
0	709 (71%)
1	215 (22%)
2	63 (6.3%)
3	11 (1.1%)
5	2(0.2%)
GROUP_BY_n_of_columns	$[0.00, 2.00, 9.00] \ 2.26 \ / \ 2.08$
HAVING_n_of_main_predicates	001 (0007)
0	281 (28%)
1	98 (9.8%)
2 3	$164 \ (16\%)$ $186 \ (19\%)$
	133 (13%)
<i>4 5</i>	87 (8.7%)
6	51 (5.1%)
HAVING_n_of_main_predicatesscalar_subquery	01 (0.170)
0 = 0	427 (43%)
1	$196\ (20\%)$
2	$201\ (20\%)$
3	176 (18%)
HAVING_n_of_subqueriesscalar_subquery	$[0.0, 1.0, 24.0] \ 2.3 \ / \ 3.6$
HAVING_n_of_processed_rows_by_subqueri@s 45,00	$[00,083,\ 36,601,819,296]\ 1,592,277,252\ /$
	3,821,839,071
ORDER_BY_n_of_columns	
0	296 (30%)
1	395~(40%)
2	228~(23%)
3	57 (5.7%)
4	11 (1.1%)
5	7 (0.7%)
6	4 (0.4%)
7	2~(0.2%)
limit	[1, 513, 1,000] 506 / 293
offset	[0, 3, 999] 262 / 332