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

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

## Scale factor: 50 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, 93] 10 / 13	
SELECT_n_of_non_aggr_funcLOWER		
0	711 (71%)	
1	$219\ (22\%)$	
2	48 (4.8%)	
3	15 (1.5%)	
4	3~(0.3%)	
5	2~(0.2%)	
6	2~(0.2%)	
SELECT_n_of_non_aggr_funcMONTH		
0	832 (83%)	
1	126 (13%)	
2	24 (2.4%)	
3	8 (0.8%)	
4	5~(0.5%)	

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

Query parameter or value	Descriptive statistics
5	3 (0.3%)
6	2(0.2%)
SELECT_n_of_non_aggr_funcSUBSTR	
$\theta$	696 (70%)
1	226~(23%)
2	$58 \ (5.8\%)$
3	$15 \ (1.5\%)$
4	4~(0.4%)
5	1~(0.1%)
SELECT_n_of_non_aggr_funcTRUNC	
0	945 (95%)
1	47 (4.7%)
2	5~(0.5%)
3	$3\;(0.3\%)$
SELECT_n_of_non_aggr_funcYEAR	212 (224)
0	848 (85%)
1	108 (11%)
2	29 (2.9%)
3	10(1.0%)
4 ADG	5~(0.5%)
SELECT_n_of_non_aggr_funcABS	050 (0504)
0	950 (95%)
1	43 (4.3%)
2	5 (0.5%)
3	1 (0.1%)
4 SELECT_n_of_non_aggr_funcDOW	1 (0.1%)
0	878 (88%)
1	98 (9.8%)
2	16 (1.6%)
<del>2</del> 3	6 (0.6%)
4	2(0.2%)
SELECT_n_of_non_aggr_funcLOG	_ (0.270)
	892 (89%)
1	92 (9.2%)
2	14 (1.4%)
3	$2\;(0.2\%)^{'}$
SELECT_n_of_non_aggr_funcLTRIM	,
0	677 (68%)
1	252 (25%)
2	55 (5.5%)
3	9~(0.9%)
4	3~(0.3%)
5	3~(0.3%)
6	1~(0.1%)
SELECT_n_of_non_aggr_funcROUND	

Query parameter or value	Descriptive statistics
0	936 (94%)
1	57 (5.7%)
2	6 (0.6%)
3	1 (0.1%)
SELECT_n_of_non_aggr_funcSQRT	
0	841 (84%)
1	$128 \ (13\%)$
2	20~(2.0%)
3	7 (0.7%)
4	3~(0.3%)
5	1 (0.1%)
SELECT_n_of_non_aggr_funcRTRIM	
0	719~(72%)
1	$217\ (22\%)$
2	51 (5.1%)
3	6 (0.6%)
4	5~(0.5%)
$ ilde{5}$	2(0.2%)
SELECT_n_of_non_aggr_funcUPPER	
0	713~(71%)
1	$220\ (22\%)$
2	$48 \ (4.8\%)$
3	9~(0.9%)
4	8 (0.8%)
5	1 (0.1%)
6	1 (0.1%)
SELECT_n_of_non_aggr_funcDAY	
0	898 (90%)
1	81 (8.1%)
2	18 (1.8%)
3	3~(0.3%)
SELECT_n_of_non_aggr_funcFLOOR	
0	945~(95%)
1	49~(4.9%)
2	6~(0.6%)
SELECT_n_of_all_non_aggr_func	[0.0,  2.0,  38.0]  3.3  /  4.7
SELECT_n_of_aggr_funcCOUNT_DISTINCT	[0.00,  0.00,  9.00]  0.66  /  1.46
SELECT_n_of_aggr_funcMIN	[0.00,  0.00,  9.00]  0.62  /  1.45
SELECT_n_of_aggr_funcCOUNT	[0.00,  0.00,  9.00]  0.68  /  1.50
SELECT_n_of_aggr_funcAVG	
0	$942 \ (94\%)$
1	47 (4.7%)
	II (III)
2	9 (0.9%)
$rac{2}{3}$	, ,
	9 (0.9%)

Query parameter or value	Descriptive statistics
SELECT_n_of_aggr_funcSUM	
0	939 (94%)
1	44 (4.4%)
2	11 (1.1%)
3	6~(0.6%)
SELECT_n_of_all_aggr_func	[0.00, 2.00, 11.00] 2.73 / 2.34
FROM_n_of_join_paths	
1	333~(33%)
2	346 (35%)
3	$321\ (32\%)$
FROM_n_of_super_joinsLEFT	, ,
0	790 (79%)
1	$185\ (19\%)$
2	$25 \; (2.5\%)$
FROM_n_of_super_joinsFULL	,
0	773 (77%)
1	$206\ (21\%)$
2	21 (2.1%)
FROM_n_of_super_joinsRIGHT	,
0	763~(76%)
1	$216\ (22\%)$
2	21 (2.1%)
FROM_n_of_joinsINNER	,
0 = $3$ =	238 (24%)
1	$259\ (26\%)$
2	219(22%)
3	151 (15%)
4	83 (8.3%)
5	$36\ (3.6\%)$
6	11 (1.1%)
$\gamma$	$2\;(0.2\%)^{'}$
8	1 (0.1%)
FROM_n_of_joinsRIGHT	(- /-)
0	235 (24%)
1	277 (28%)
2	222~(22%)
3	133 (13%)
4	77 (7.7%)
5	34 (3.4%)
6	12 (1.2%)
7	8 (0.8%)
8	2(0.2%)
FROM_n_of_processed_rows	[5, 340,491,970, 1,147,549,221] 326,551,560 /
	301,017,159
WIIDDD C 1:	·
WHERE_n_of_predicates	[0.00, 3.00, 9.00] 2.78 / 2.14

Query parameter or value	Descriptive statistics
0	448 (45%)
1	$318 \; (32\%)$
2	$157 \ (16\%)$
3	59 (5.9%)
4	16 (1.6%)
5	2~(0.2%)
WHERE_n_of_attribs_of_typenumeric	
0	653~(65%)
1	$247 \ (25\%)$
2	78 (7.8%)
3	$20 \ (2.0\%)$
4	2~(0.2%)
WHERE_n_of_attribs_of_typeinteger	
0	437 (44%)
1	311 (31%)
2	179 (18%)
3	57 (5.7%)
4	12 (1.2%)
5	4~(0.4%)
WHERE_n_of_attribs_of_typecharacter	794 (7907)
0	734 (73%)
1	209 (21%)
2 3	$49 (4.9\%) \\ 8 (0.8\%)$
	8 (0.8%)
WHERE_n_of_attribs_of_typedate 0	837 (84%)
1	140 (14%)
2	20 (2.0%)
3	3(0.3%)
WHERE_n_of_pkey_attribs	3 (3.376)
0	586 (59%)
1	324 (32%)
2	74 (7.4%)
3	14 (1.4%)
4	$2\;(0.2\%)^{'}$
WHERE_n_of_connect_OR	,
0	452~(45%)
1	185 (19%)
2	141 (14%)
3	91 (9.1%)
4	$69\ (6.9\%)$
5	$38 \ (3.8\%)$
6	$16 \ (1.6\%)$
7	4~(0.4%)
8	4~(0.4%)
WHERE_n_of_operatorsgreater_or_less	

Query parameter or value	Descriptive statistics
0	400 (40%)
1	315 (32%)
2	174 (17%)
3	66 (6.6%)
4	29~(2.9%)
5	9 (0.9%)
6	7 (0.7%)
WHERE_n_of_operatorslike	
0	848 (85%)
1	133 (13%)
2	18 (1.8%)
3	1~(0.1%)
WHERE_n_of_operatorsbetween	
$\theta$	619~(62%)
1	278~(28%)
2	81 (8.1%)
3	14 (1.4%)
4	7 (0.7%)
5	1~(0.1%)
WHERE_n_of_operatorsin	
0	621~(62%)
1	273~(27%)
2	88 (8.8%)
3	17 (1.7%)
4	1~(0.1%)
WHERE_n_of_non_aggr_funcSQRT	
0	898~(90%)
1	$92 \ (9.2\%)$
2	$10 \ (1.0\%)$
WHERE_n_of_non_aggr_funcTRUNC	
0	966~(97%)
1	$34 \ (3.4\%)$
WHERE_n_of_non_aggr_funcROUND	
0	975 (98%)
1	$25 \; (2.5\%)$
WHERE_n_of_non_aggr_funcDOW	
0	973 (97%)
1	$27 \; (2.7\%)$
WHERE_n_of_non_aggr_funcFLOOR	4
0	972 (97%)
1	28~(2.8%)
WHERE_n_of_non_aggr_funcABS	
0	964 (96%)
1	$35\ (3.5\%)$
2	1~(0.1%)
WHERE_n_of_non_aggr_funcLOG	

Query parameter or value	Descriptive statistics
0	948 (95%)
1	49 (4.9%)
2	3 (0.3%)
WHERE_n_of_non_aggr_funcYEAR	- ( / - / - / - / - / - / - / - / - /
0 = 0 = 0 = 0	970 (97%)
1	$30\ (3.0\%)$
WHERE_n_of_non_aggr_funcDAY	,
0	974~(97%)
1	$25 \; (2.5\%)$
3	1 (0.1%)
WHERE_n_of_non_aggr_funcMONTH	,
0	970 (97%)
1	30 (3.0%)
WHERE_n_of_all_non_aggr_func	
0	704~(70%)
1	216~(22%)
2	54 (5.4%)
3	$23\ (2.3\%)$
4	2~(0.2%)
5	1~(0.1%)
GROUP_BY_n_of_columns	[0.00,  2.00,  9.00]  2.25  /  2.05
$HAVING\_n\_of\_main\_predicates$	
0	321 (32%)
1	$108 \ (11\%)$
2	$135 \ (14\%)$
3	$188 \ (19\%)$
4	$128 \ (13\%)$
5	79~(7.9%)
6	$41 \ (4.1\%)$
HAVING_n_of_main_predicatesscalar_subquer	
$\theta$	470 (47%)
1	194 (19%)
2	175 (18%)
3	161 (16%)
HAVING_n_of_subqueriesscalar_subquery	[0.0,  1.0,  21.0]  2.2  /  3.5
HAVING_n_of_processed_rows_by_subqueries [0,	
	1,721,949,171
ORDER_BY_n_of_columns	(
0	300 (30%)
1	383 (38%)
2	228 (23%)
3	69 (6.9%)
4	13 (1.3%)
5	5 (0.5%)
6	2(0.2%)
limit	[3, 488, 999] 498 / 290

Query parameter or value	Descriptive statistics
offset	[0, 0, 998] 250 / 329