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

```
## Scenario: 1-3jp_ujjp__g__h0-3ss_h0nss

## Scale factor: 1 GB

## The 1000-query pack was generated on: 2023-11-09

## 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)

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

Query parameter or value	Descriptive statistics	_
SELECT_n_of_columns	[1, 6, 107] 10 / 13	
SELECT_n_of_non_aggr_funcRTRIM		
0	693~(69%)	
1	240 (24%)	
2	51 (5.1%)	
3	12(1.2%)	
4	3(0.3%)	
5	1(0.1%)	
SELECT_n_of_non_aggr_funcUPPER	,	
0	659~(66%)	
1	271 (27%)	
2	47 (4.7%)	
3	$13\ (1.3\%)$	
4	7 (0.7%)	
5	2~(0.2%)	
	• •	

Query parameter or value	Descriptive statistics
8	1 (0.1%)
SELECT_n_of_non_aggr_funcLOWER	,
0	703 (70%)
1	238 (24%)
2	38 (3.8%)
3	$18 \ (1.8\%)$
4	1 (0.1%)
5	2~(0.2%)
SELECT_n_of_non_aggr_funcLTRIM	<b>7</b> 01 ( <b>7</b> 00)
0	701 (70%)
1	232 (23%)
12	$ \begin{array}{c} 1 \ (0.1\%) \\ 53 \ (5.3\%) \end{array} $
2 3	7 (0.7%)
	3 (0.3%)
<i>4 5</i>	1 (0.1%)
$\gamma$	1 (0.1%)
8	1 (0.1%)
SELECT_n_of_non_aggr_funcSUBSTR	= (0.270)
0	681 (68%)
1	236 (24%)
2	61 (6.1%)
3	13~(1.3%)
4	4~(0.4%)
5	5~(0.5%)
SELECT_n_of_non_aggr_funcTRUNC	
0	954 (95%)
1	43 (4.3%)
	3~(0.3%)
SELECT_n_of_non_aggr_funcLOG	000 (0007)
0	888 (89%)
1 2	$98 \ (9.8\%) \ 6 \ (0.6\%)$
3	5 (0.5%)
4	2 (0.2%)
5	1 (0.1%)
SELECT_n_of_non_aggr_funcROUND	1 (0.170)
0	947 (95%)
1	49 (4.9%)
2	$3\ (0.3\%)$
3	1~(0.1%)
SELECT_n_of_non_aggr_funcSQRT	•
0	834 (83%)
1	139 (14%)
2	$22 \ (2.2\%)$
3	4 (0.4%)

Query parameter or value	Descriptive statistics
4	1 (0.1%)
SELECT_n_of_non_aggr_funcDOW	
0	901 (90%)
1	82 (8.2%)
2	13 (1.3%)
3	4~(0.4%)
SELECT_n_of_non_aggr_funcYEAR	
0	863~(86%)
1	$97 \ (9.7\%)$
2	$27 \ (2.7\%)$
3	8~(0.8%)
4	3~(0.3%)
6	1~(0.1%)
8	1~(0.1%)
SELECT_n_of_non_aggr_funcABS	
0	939 (94%)
1	53 (5.3%)
2	$8 \; (0.8\%)$
SELECT_n_of_non_aggr_funcFLOOR	
0	936 (94%)
1	62 (6.2%)
2	2~(0.2%)
SELECT_n_of_non_aggr_funcMONTH	
0	873 (87%)
1	86 (8.6%)
2	$26\ (2.6\%)$
3	8 (0.8%)
4	3(0.3%)
5	2(0.2%)
6	1 (0.1%)
7	1 (0.1%)
SELECT_n_of_non_aggr_funcDAY	011 (0101)
0	911 (91%)
1	64 (6.4%)
2	18 (1.8%)
3	6 (0.6%)
	1 (0.1%)
SELECT_n_of_all_non_aggr_func	[0.0, 2.0, 48.0] $3.3 / 4.6$
SELECT_n_of_aggr_funcCOUNT_DISTINCT	$[0.00, 0.00, 9.00] \ 0.68 \ / \ 1.50$
SELECT_n_of_aggr_funcMAX	[0.00, 0.00, 12.00] 0.67 / 1.54
SELECT_n_of_aggr_funcCOUNT	[0.00,  0.00,  9.00]  0.61  /  1.41
SELECT_n_of_aggr_funcAVG	020 (0407)
0	939 (94%)
1	47 (4.7%)
2	12 (1.2%)
3	2~(0.2%)

Query parameter or value	Descriptive statistics
SELECT_n_of_aggr_funcMIN	[0.00, 0.00, 11.00] 0.66 / 1.53
SELECT_n_of_aggr_funcSUM	
0	$952 \; (95\%)$
1	$39 \; (3.9\%)$
2	7 (0.7%)
3	2 (0.2%)
SELECT_n_of_all_aggr_func	[0.00,  2.00,  12.00]  2.76  /  2.38
FROM_n_of_join_paths	
1	337 (34%)
2	316 (32%)
3	347 (35%)
FROM_n_of_super_joinsLEFT	
0	758~(76%)
1	215~(22%)
2	$27\ (2.7\%)$
FROM_n_of_super_joinsFULL	
0	779~(78%)
1	202~(20%)
2	19~(1.9%)
FROM_n_of_super_joinsRIGHT	
0	780 (78%)
1	200~(20%)
2	20~(2.0%)
FROM_n_of_joinsRIGHT	
$\theta$	244~(24%)
1	270~(27%)
2	$217 \; (22\%)$
3	$138 \ (14\%)$
4	86~(8.6%)
5	28~(2.8%)
6	$12 \ (1.2\%)$
$\gamma$	5~(0.5%)
FROM_n_of_joinsINNER	
$\theta$	254~(25%)
1	234~(23%)
2	224~(22%)
3	141 (14%)
4	81 (8.1%)
5	48~(4.8%)
6	$13 \ (1.3\%)$
7	5~(0.5%)
FROM_n_of_processed_rows	[5, 6,810,616, 22,951,863] $[6,481,810 / 6,026,818]$
WHERE_n_of_predicates	[0.00,  3.00,  10.00]  2.83  /  2.13
WHERE_n_of_attribs_of_typeinteger	
0	444 (44%)
1	314 (31%)

Query parameter or value	Descriptive statistics
2	169 (17%)
3	57 (5.7%)
4	14 (1.4%)
5	2(0.2%)
WHERE_n_of_attribs_of_typecharacter	,
)	735 (74%)
1	$205\ (21\%)$
2	49 (4.9%)
3	6 (0.6%)
4	3~(0.3%)
5	2(0.2%)
WHERE_n_of_attribs_of_typecharacter_varying	(5 , 8)
)	414 (41%)
1	313 (31%)
2	171 (17%)
3	76 (7.6%)
4	20 (2.0%)
	6 (0.6%)
WHERE n_of_attribs_of_typedate	0 (0.070)
)	846 (85%)
, <u>1</u>	139 (14%)
	15 (14%)
WHERE_n_of_attribs_of_typenumeric	19 (1.970)
)	661 (66%)
, 1	259 (26%)
	` ,
2	61 (6.1%)
3	18 (1.8%)
WHEDE n of play of this	$1\;(0.1\%)$
WHERE_n_of_pkey_attribs	600 (6107)
9	608 (61%)
1	300 (30%)
2	76 (7.6%)
3	14 (1.4%)
/	$2\;(0.2\%)$
WHERE_n_of_connect_OR	ADT (ADD)
)	425 (43%)
1	203 (20%)
	147 (15%)
}	109 (11%)
4	56 (5.6%)
5	44 (4.4%)
<u>6</u>	9 (0.9%)
7	4 (0.4%)
8	3~(0.3%)
WHERE_n_of_operatorsgreater_or_less	
0	406 (41%)

Query parameter or value	Descriptive statistics
1	300 (30%)
2	179 (18%)
3	87 (8.7%)
4	$25\ (2.5\%)$
5	3 (0.3%)
WHERE_n_of_operatorsbetween	,
0	614 (61%)
1	271 (27%)
2	94 (9.4%)
3	17 (1.7%)
4	4 (0.4%)
WHERE_n_of_operatorsin	, ,
0	621~(62%)
1	$259\ (26\%)$
2	$95\ (9.5\%)$
3	$21\ (2.1\%)$
4	4 (0.4%)
WHERE_n_of_operatorslike	, ,
0	817 (82%)
1	163 (16%)
2	18 (1.8%)
3	2 (0.2%)
WHERE_n_of_non_aggr_funcMONTH	, ,
	981 (98%)
1	19 (1.9%)
WHERE_n_of_non_aggr_funcLOG	,
0	938 (94%)
1	$61 \ (6.1\%)$
2	1 (0.1%)
WHERE_n_of_non_aggr_funcSQRT	,
0	903 (90%)
1	89 (8.9%)
2	7 (0.7%)
3	1 (0.1%)
WHERE_n_of_non_aggr_funcROUND	,
0	968 (97%)
1	31 (3.1%)
2	1 (0.1%)
WHERE_n_of_non_aggr_funcABS	,
0	964 (96%)
1	36 (3.6%)
WHERE_n_of_non_aggr_funcFLOOR	( · · · · /
0	976 (98%)
1	24 (2.4%)
WHERE_n_of_non_aggr_funcYEAR	( , , ,
0	982 (98%)
	(

Query parameter or value	Descriptive statistics
1	17 (1.7%)
2	1 (0.1%)
WHERE_n_of_non_aggr_funcDOW	
0	976 (98%)
1	23~(2.3%)
2	1 (0.1%)
$WHERE\_n\_of\_non\_aggr\_func\_\_TRUNC$	
0	$970 \; (97\%)$
1	$30 \ (3.0\%)$
WHERE_n_of_non_aggr_funcDAY	
0	$970 \; (97\%)$
1	$30 \; (3.0\%)$
WHERE_n_of_all_non_aggr_func	
0	701 (70%)
1	234 (23%)
2	48 (4.8%)
3	$13\ (1.3\%)$
4	4 (0.4%)
GROUP_BY_n_of_columns	[0.00,  2.00,  9.00]  2.33  /  2.13
HAVING_n_of_main_predicates	20- (2001)
0	297 (30%)
1	96 (9.6%)
2	145 (15%)
3	183 (18%)
4	128 (13%)
5	102 (10%)
6	49 (4.9%)
HAVING_n_of_main_predicatesscalar_subquer	
0 1	430 (43%) 166 (17%)
2	202 (20%)
3	202 (20%)
HAVING n of subqueries scalar subquery	$[0.0, 1.0, 22.0] \ 2.5 \ / \ 3.7$
HAVING_n_of_processed_rows_by_subquerie[0, 3]	
ORDER BY n of columns	00,000, 401,000,001] 10,754,502 / 50,220,047
0	287 (29%)
1	374 (37%)
2	245 (25%)
3	65 (6.5%)
4	16 (1.6%)
5	9 (0.9%)
6	4 (0.4%)
limit	[2, 491, 1,000] 497 / 283
offset	[0, 26, 994] 261 / 329