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

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## Scenario: 1-3jp_rjjp__g_h0-3ss_h0-3nss

## Scale factor: 2000 GB

## The 1000-query pack was generated on: 2023-11-06

## 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, 103] 10 / 13
SELECT_n_of_non_aggr_funcLOG	
0	894 (89%)
1	91 (9.1%)
2	10 (1.0%)
3	5~(0.5%)
SELECT_n_of_non_aggr_funcABS	,
0	953~(95%)
1	40 (4.0%)
2	7 (0.7%)
SELECT_n_of_non_aggr_funcDOW	, ,
0	902 (90%)
1	81 (8.1%)
2	10 (1.0%)
3	$4\ (0.4\%)^{'}$

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

3 (0.3%) SELECT_n_of_non_aggr_funcLTRIM 0 699 (70%) 1 236 (24%) 2 42 (4.2%) 3 (0.3%)	
SELECT_n_of_non_aggr_funcLTRIM 699 (70%) 1 236 (24%) 2 42 (4.2%)	
1 2 2 42 (4.2%)	
2 42 (4.2%)	
<i>3</i> 17 (1.7%)	
3 (0.3%)	
5 2 (0.2%)	
6 1 (0.1%)	
SELECT_n_of_non_aggr_funcUPPER	
0 702 (70%)	
1 229 (23%)	
2 50 (5.0%)	
3 13 (1.3%)	
6 (0.6%)	
SELECT_n_of_non_aggr_funcLOWER	
0 713 (71%)	
1 223 (22%)	
$\frac{2}{2}$ 43 (4.3%)	
9(0.9%)	
4 (0.4%)	
5 5 (0.5%)	
6 2 (0.2%)	
8 $1 (0.1\%)$ SELECT p of non-aggreefung. MONTH	
SELECT_n_of_non_aggr_funcMONTH 0 853 (85%)	
1 110 (11%)	
2 26 (2.6%)	
$\frac{2}{3}$ $\frac{23}{7}$ $\frac{(2.376)}{(0.7\%)}$	
4 1 (0.1%)	
5 $2(0.2%)$	
7 1 (0.1%)	
SELECT_n_of_non_aggr_funcYEAR	
0 866 (87%)	
1 110 (11%)	
20(2.0%)	
1(0.1%)	
1(0.1%)	
6 1 (0.1%)	
8 1 (0.1%)	
SELECT_n_of_non_aggr_funcRTRIM	
0 722 (72%)	
1 217 (22%)	
2 43 (4.3%)	
9 (0.9%)	
4 (0.4%)	

5 3 (0.3%) 6 2 (0.2%) SELECT_n_of_non_aggr_fune_SQRT 0 852 (85%) 1 109 (11%) 2 26 (2.6%) 3 7 (0.7%) 4 5 (0.5%) 6 1 (0.1%) SELECT_n_of_non_aggr_fune_SUBSTR 690 (69%) 1 238 (24%) 2 53 (5.3%) 3 12 (1.2%) 4 5 (0.5%) 5 2 (0.2%) SELECT_n_of_non_aggr_fune_FLOOR 939 (94%) 0 939 (94%) 1 54 (5.4%) 2 7 (0.7%) SELECT_n_of_non_aggr_fune_ROUND 941 (94%) 0 941 (94%) 1 56 (5.6%) 2 3 (0.3%) SELECT_n_of_non_aggr_fune_DAY 922 (92%) 4 1 (0.1%) SELECT_n_of_all_non_aggr_fune_TRUNC 941 (94%) 1 53 (5.3%) 2 (0.0%) SELECT_n_of_aggr_fune_COUNT (0.00, 2.00, 54.00) 3.15 / 4.52 SELECT_n_of_aggr_fune_COUNT <td< th=""><th>Query parameter or value</th><th>Descriptive statistics</th></td<>	Query parameter or value	Descriptive statistics
SELECT_n of_non_aggr_func_SQRT 0	5	3 (0.3%)
0 \$52 (85%) 1 109 (11%) 2 26 (2.6%) 3 7 (0.7%) 4 5 (0.5%) 6 1 (0.1%) SELECT_n_of_non_aggr_func_SUBSTR 0 690 (69%) 1 238 (24%) 2 35 (5.3%) 3 12 (1.2%) 4 5 (0.5%) 5 2 (0.2%) SELECT_n_of_non_aggr_func_FLOOR 939 (94%) 0 939 (94%) 1 54 (5.4%) 2 7 (0.7%) SELECT_n_of_non_aggr_func_ROUND 941 (94%) 1 56 (5.6%) 2 3 (0.3%) SELECT_n_of_non_aggr_func_DAY 922 (92%) 1 68 (6.8%) 2 2 (0.2%) 4 1 (0.1%) SELECT_n_of_non_aggr_func_TRUNC 941 (94%) 1 53 (5.3%) 2 6 (0.6%) 5 5 (5.6%) 2 6 (0.6%) 5 6 (0.6%) 5 6 (0.6%) 6<	6	2~(0.2%)
1	$SELECT_n_of_non_aggr_func__SQRT$	
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	0	, ,
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		` ,
4		` '
$\begin{array}{cccccccccccccccccccccccccccccccccccc$, ,
SELECT_n_of_non_aggr_func_SUBSTR 0 690 (69%) 1 238 (24%) 2 53 (5.3%) 3 12 (1.2%) 4 5 (0.5%) 5 2 (0.2%) SELECT_n_of_non_aggr_func_FLOOR 0 939 (94%) 1 54 (5.4%) 2 7 (0.7%) SELECT_n_of_non_aggr_func_ROUND 0 941 (94%) 1 56 (5.6%) 2 3 (0.3%) SELECT_n_of_non_aggr_func_DAY 0 921 (92%) 1 68 (6.8%) 2 7 (0.7%) SELECT_n_of_non_aggr_func_TRUNC 0 941 (94%) 1 53 (5.3%) 2 (0.2%) 4 1 (0.1%) SELECT_n_of_all_non_aggr_func_TRUNC 0 941 (94%) 1 53 (5.3%) 2 (6.06%) SELECT_n_of_all_non_aggr_func_TRUNC 0 941 (94%) 1 53 (5.3%) 2 6 (0.6%) SELECT_n_of_all_non_aggr_func_TRUNC 0 941 (94%) 1 53 (5.3%) 2 6 (0.6%) SELECT_n_of_all_non_aggr_func_TRUNC 0 941 (94%) 1 53 (5.3%) 2 6 (0.6%) SELECT_n_of_all_non_aggr_func_TRUNC 0 941 (94%) 1 53 (5.3%) 2 6 (0.6%) SELECT_n_of_all_non_aggr_func_TRUNC 0 941 (94%) 1 53 (5.3%) 2 6 (0.6%) SELECT_n_of_all_non_aggr_func_TRUNC 0 941 (94%) 1 53 (5.3%) 2 8 (2.8%) 4 23 (2.3%) 5 16 (1.6%) 6 9 (0.9%) 7 8 (0.8%) 8 (0.8%) 8 (0.8%) 8 (0.8%) 8		,
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		1~(0.1%)
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$\begin{array}{cccccccccccccccccccccccccccccccccccc$, ,
4 5 (0.5%) 5 2 (0.2%) SELECT_n_of_non_aggr_funcFLOOR 0 939 (94%) 1 54 (5.4%) 2 7 (0.7%) SELECT_n_of_non_aggr_funcROUND 0 941 (94%) 1 56 (5.6%) 2 3 (0.3%) SELECT_n_of_non_aggr_funcDAY 0 922 (92%) 1 68 (6.8%) 2 7 (0.7%) 3 2 (0.2%) 4 1 (0.1%) SELECT_n_of_non_aggr_funcTRUNC 0 941 (94%) 1 53 (5.3%) 2 (0.2%) 4 1 (0.1%) SELECT_n_of_all_non_aggr_funcTRUNC 0 941 (94%) 1 53 (5.3%) 2 6 (0.6%) SELECT_n_of_all_non_aggr_funcTRUNC 0 941 (94%) 1 991 (9.1%) 2 57 (5.7%) 3 28 (2.8%) 4 23 (2.3%) 5 16 (1.6%) 6 9 (0.9%) 7 8 8 (0.8%) 8		` '
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$\begin{array}{cccccccccccccccccccccccccccccccccccc$		7 (0.7%)
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$\begin{array}{cccccccccccccccccccccccccccccccccccc$		022 (0207)
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$\begin{array}{cccccccccccccccccccccccccccccccccccc$		1 (0.170)
1 53 (5.3%) 2 6 (0.6%) SELECT_n_of_all_non_aggr_func SELECT_n_of_aggr_func_COUNT 0 764 (76%) 1 91 (9.1%) 2 57 (5.7%) 3 28 (2.8%) 4 23 (2.3%) 5 16 (1.6%) 6 9 (0.9%) 7 8 (0.8%) 8		941 (94%)
2 6 (0.6%) SELECT_n_of_all_non_aggr_func SELECT_n_of_aggr_funcCOUNT 0 764 (76%) 1 91 (9.1%) 2 57 (5.7%) 3 28 (2.8%) 4 23 (2.3%) 5 16 (1.6%) 6 9 (0.9%) 7 8 (0.8%) 8 (0.8%)		, ,
SELECT_n_of_all_non_aggr_func [0.00, 2.00, 54.00] 3.15 / 4.52 SELECT_n_of_aggr_funcCOUNT 764 (76%) 0 91 (9.1%) 2 57 (5.7%) 3 28 (2.8%) 4 23 (2.3%) 5 16 (1.6%) 6 9 (0.9%) 7 8 (0.8%) 8 4 (0.4%)		, ,
SELECT_n_of_aggr_funcCOUNT 764 (76%) 1 91 (9.1%) 2 57 (5.7%) 3 28 (2.8%) 4 23 (2.3%) 5 16 (1.6%) 6 9 (0.9%) 7 8 (0.8%) 8 4 (0.4%)		, ,
764 (76%) 1 91 (9.1%) 2 57 (5.7%) 3 28 (2.8%) 4 23 (2.3%) 5 16 (1.6%) 6 9 (0.9%) 7 8 (0.8%) 8		[0.00, 2.00, 0.00] 0.00 / 2.00
1 91 (9.1%) 2 57 (5.7%) 3 28 (2.8%) 4 23 (2.3%) 5 16 (1.6%) 6 9 (0.9%) 7 8 (0.8%) 8 4 (0.4%)		764 (76%)
2 57 (5.7%) 3 28 (2.8%) 4 23 (2.3%) 5 16 (1.6%) 6 9 (0.9%) 7 8 (0.8%) 8 4 (0.4%)		, ,
3 28 (2.8%) 4 23 (2.3%) 5 16 (1.6%) 6 9 (0.9%) 7 8 (0.8%) 8 4 (0.4%)	2	, ,
23 (2.3%) 5 16 (1.6%) 6 9 (0.9%) 7 8 (0.8%) 8 4 (0.4%)	3	` '
5 16 (1.6%) 6 9 (0.9%) 7 8 (0.8%) 8 4 (0.4%)	4	, ,
6 9 (0.9%) 7 8 (0.8%) 8 4 (0.4%)		, ,
7 8 (0.8%) 4 (0.4%)		, ,
4(0.4%)		` ,
		,
	SELECT_n_of_aggr_funcMIN	, ,

Query parameter or value	Descriptive statistics
SELECT_n_of_aggr_funcMAX	[0.00, 0.00, 12.00] 0.63 / 1.48
SELECT_n_of_aggr_funcSUM	
0	945 (95%)
1	$44 \ (4.4\%)$
2	8 (0.8%)
3	3~(0.3%)
SELECT_n_of_aggr_funcCOUNT_DISTINCT SELECT_n_of_aggr_funcAVG	$[0.00, 0.00, 9.00] \ 0.59 \ / \ 1.39$
0	950 (95%)
1	$40 \ (4.0\%)$
2	$10 \; (1.0\%)$
SELECT_n_of_all_aggr_func FROM_n_of_join_paths	[0.00, 2.00, 13.00] 2.61 / 2.28
1	$330 \ (33\%)$
2	368 (37%)
3	302 (30%)
$FROM_n_of_super_joins__FULL$	
0	763~(76%)
1	213~(21%)
2	$24 \ (2.4\%)$
FROM_n_of_super_joinsLEFT	
0	792 (79%)
1	195 (20%)
2 EDOM (DIGHT	$13\ (1.3\%)$
FROM_n_of_super_joinsRIGHT	775 (7007)
<i>0 1</i>	775 (78%) 211 (21%)
2	14 (1.4%)
$FROM_n_of_joins__INNER$	
θ	$257 \ (26\%)$
1	$247 \ (25\%)$
2	232 (23%)
3	139 (14%)
4	74 (7.4%)
5	31 (3.1%)
6	10 (1.0%)
7	7(0.7%)
8 EDOM n of joins DICHT	3~(0.3%)
FROM_n_of_joinsRIGHT	249 (2507)
<i>0 1</i>	248 (25%) 259 (26%)
2	219 (22%)
3	144 (14%)
4	75 (7.5%)
5	41 (4.1%)
6	11 (1.1%)
	(-, -,

Query parameter or value	Descriptive statistics
$\overline{\gamma}$	3 (0.3%)
FROM_n_of_processed_rows	[5, 13,620,027,828, 45,900,083,457] 12,806,382,154 /
_	12,115,752,433
$WHERE_n_of_predicates$	[0.00, 2.00, 10.00] 2.73 / 2.20
$WHERE_n_of_attribs_of_type__$	_character
0	751 (75%)
1	$186 \; (19\%)$
2	$53 \ (5.3\%)$
3	9~(0.9%)
4	1~(0.1%)
WHERE_n_of_attribs_of_type	
0	427 (43%)
1	$340 \ (34\%)$
2	160 (16%)
3	$56 \ (5.6\%)$
4	$14 \ (1.4\%)$
5	3~(0.3%)
WHERE_n_of_attribs_of_type	_
0	466 (47%)
1	299 (30%)
2	159 (16%)
3	57 (5.7%)
4	15 (1.5%)
5	4 (0.4%)
WHERE_n_of_attribs_of_type	
0	660 (66%)
1 2	$\begin{array}{c} 253 \; (25\%) \\ 71 \; (7.1\%) \end{array}$
3	16 (1.6%)
WHERE_n_of_attribs_of_type	` ,
0	827 (83%)
1	154 (15%)
2	17 (1.7%)
~ 3	2(0.2%)
WHERE_n_of_pkey_attribs	= (0.270)
0	631~(63%)
1	269 (27%)
2	80 (8.0%)
3	$19\ (1.9\%)$
4	1 (0.1%)
WHERE_n_of_connect_OR	, ,
0	480 (48%)
1	174 (17%)
2	$131\ (13\%)$
3	95 (9.5%)
4	71 (7.1%)

Query parameter or value	Descriptive statistics
5	30 (3.0%)
6	13~(1.3%)
7	4 (0.4%)
8	2~(0.2%)
$WHERE_n_of_operators__between$	
0	642~(64%)
1	246 (25%)
2	82~(8.2%)
3	23~(2.3%)
4	7~(0.7%)
$WHERE_n_of_operators__greater_or_less$	
0	419 (42%)
1	299 (30%)
2	169~(17%)
3	$79 \ (7.9\%)$
4	$24 \ (2.4\%)$
5	9~(0.9%)
6	1~(0.1%)
WHERE_n_of_operatorsin	
θ	608~(61%)
1	$293 \ (29\%)$
2	$76 \ (7.6\%)$
3	$21\ (2.1\%)$
4	1 (0.1%)
5	1~(0.1%)
WHERE_n_of_operatorslike	
0	839 (84%)
1	142 (14%)
2	16 (1.6%)
3	$3\;(0.3\%)$
WHERE_n_of_non_aggr_funcYEAR	0F0 (00M)
0	976 (98%)
1	$24 \ (2.4\%)$
WHERE_n_of_non_aggr_funcLOG	020 (020/)
0	930 (93%)
1	68 (6.8%)
WHIEDE is of non-agen fund. ADS	2~(0.2%)
WHERE_n_of_non_aggr_funcABS	970 (97%)
0 1	29 (2.9%)
2	(2.9%) $(0.1%)$
WHERE_n_of_non_aggr_funcSQRT	1 (0.1/0)
0	909 (91%)
<i>0 1</i>	90 (91%)
2	1 (0.1%)
	1 (U.1/0)
WHERE_n_of_non_aggr_funcROUND	

Query parameter or value	Descriptive statistics
0	972 (97%)
1	$27 \ (2.7\%)$
2	1 (0.1%)
WHERE_n_of_non_aggr_funcDOW	,
0	969 (97%)
1	30 (3.0%)
2	1~(0.1%)
WHERE_n_of_non_aggr_funcFLOOR	
θ	971 (97%)
1	$28 \ (2.8\%)$
2	1 (0.1%)
WHERE_n_of_non_aggr_funcMONTH	4
0	970 (97%)
1	29 (2.9%)
	1 (0.1%)
WHERE_n_of_non_aggr_funcDAY	070 (0704)
0	972 (97%)
	$28 \ (2.8\%)$
WHERE_n_of_non_aggr_funcTRUNC	079 (0997)
0	978 (98%)
1	$22\ (2.2\%)$
WHERE_n_of_all_non_aggr_func 0	686 (69%)
1	251 (25%)
2	53 (5.3%)
~ 3	7 (0.7%)
4	2(0.2%)
5	1 (0.1%)
GROUP_BY_n_of_columns	[0.00, 2.00, 9.00] $[0.00, 2.00]$
HAVING_n_of_main_predicates	[0.00, 4.00, 9.00] 3.40 / 2.51
HAVING_n_of_main_predicatesnon_scalar_subc	query
0	436 (44%)
1	195~(20%)
2	179 (18%)
3	$190 \ (19\%)$
HAVING_n_of_main_predicatesscalar_subquery	
θ	420 (42%)
1	195 (20%)
2	191 (19%)
3	194 (19%)
HAVING_n_of_subqueriesnon_scalar_subquery	10.0 (11.07)
0	436 (44%)
1	195 (20%)
2	179 (18%)
3	190 (19%)
HAVING_n_of_subqueriesscalar_subquery	$[0.0, \ 1.0, \ 24.0] \ 2.5 \ / \ 3.7$

Query parameter or value	Descriptive statistics
HAVING_n_of_processed_rows_	_by_subq\(\text{\theta}\)\(\text{ri8}\)\(\text{s150}\)\(\text{,000}\)\(\text{,090}\)\(\text{627}\)\(\text{841}\)\(\text{334}\)\(\text{912}\)\(\text{1334}\)\(\text{597}\)\(\text{.016}\)\(\text{7}\)
	$76,\!607,\!728,\!564$
ORDER_BY_n_of_columns	
0	301 (30%)
1	388(39%)
2	$236\ (24\%)$
3	58 (5.8%)
4	$10 \ (1.0\%)$
5	4~(0.4%)
6	$2\;(0.2\%)$
γ	1(0.1%)
limit	[2, 508, 1,000] 507 / 293
offset	[0, 0, 998] 236 / 312