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

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## Scenario: 1-1jp__ng

## Scale factor: 50 GB

## The 1000-query pack was generated on: 2023-11-08

## 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, 43] 10 / 10
SELECT_n_of_non_aggr_funcLOG	
0	889 (89%)
1	100 (10%)
2	11 (1.1%)
SELECT_n_of_non_aggr_funcSUBSTR	,
0	790 (79%)
1	162 (16%)
2	$38 \ (3.8\%)$
3	7 (0.7%)
4	$2\;(0.2\%)$
5	1(0.1%)
SELECT_n_of_non_aggr_funcUPPER	, ,
0	779 (78%)
1	164 (16%)

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

Query parameter or value	Descriptive statistics
2	44 (4.4%)
3	$13\ (1.3\%)$
SELECT_n_of_non_aggr_funcABS	•
0	934 (93%)
1	61~(6.1%)
2	5~(0.5%)
SELECT_n_of_non_aggr_funcSQRT	
0	814 (81%)
1	141 (14%)
2	$41 \ (4.1\%)$
3	4~(0.4%)
SELECT_n_of_non_aggr_funcTRUNC	
0	947~(95%)
1	$46 \ (4.6\%)$
2	7 (0.7%)
SELECT_n_of_non_aggr_funcLTRIM	(
0	771 (77%)
1	174 (17%)
2	44 (4.4%)
3	9 (0.9%)
	2~(0.2%)
SELECT_n_of_non_aggr_funcFLOOR	0.40 (050/)
0	948 (95%)
1	50 (5.0%)
2 CELECT p of non oran func. LOWED	2~(0.2%)
SELECT_n_of_non_aggr_funcLOWER 0	797 (80%)
1	158 (16%)
2	33 (3.3%)
3	12 (1.2%)
SELECT_n_of_non_aggr_funcRTRIM	12 (1.270)
0	776 (78%)
1	172 (17%)
2	39 (3.9%)
~ 3	10 (1.0%)
4	3 (0.3%)
SELECT_n_of_non_aggr_funcDAY	3 (3.370)
0	918 (92%)
1	67(6.7%)
2	$14\ (1.4\%)$
3	1 (0.1%)
SELECT_n_of_non_aggr_funcMONTH	,
0 = 0	858 (86%)
1	99 (9.9%)
2	$32\ (3.2\%)$
3	10 (1.0%)

Query parameter or value	Descriptive statistics
4	1 (0.1%)
SELECT_n_of_non_aggr_funcYEAR	
0	858 (86%)
1	92 (9.2%)
2	45 (4.5%)
3	4~(0.4%)
4	1 (0.1%)
SELECT_n_of_non_aggr_funcROUND	
$\theta$	927 (93%)
1	69~(6.9%)
2	4~(0.4%)
SELECT_n_of_non_aggr_funcDOW	
$\theta$	893~(89%)
1	84 (8.4%)
2	17 (1.7%)
3	6~(0.6%)
SELECT_n_of_all_non_aggr_func	[0.0,  1.0,  24.0]  2.7  /  3.8
SELECT_n_of_aggr_funcCOUNT_DISTINCT	
$\theta$	937 (94%)
1	24 (2.4%)
2	$20 \ (2.0\%)$
3	8 (0.8%)
4	7~(0.7%)
5	2~(0.2%)
6	2~(0.2%)
SELECT_n_of_aggr_funcMAX	
0	$936 \ (94\%)$
1	23~(2.3%)
2	$14 \ (1.4\%)$
3	$17 \ (1.7\%)$
4	5~(0.5%)
5	4~(0.4%)
6	1 (0.1%)
SELECT_n_of_aggr_funcMIN	
0	$921 \ (92\%)$
1	34 (3.4%)
2	$16 \ (1.6\%)$
3	$15 \ (1.5\%)$
4	$11 \ (1.1\%)$
5	3~(0.3%)
SELECT_n_of_aggr_funcCOUNT	
0	934 (93%)
1	$28 \ (2.8\%)$
2	21 (2.1%)
3	10 (1.0%)
4	$5\;(0.5\%)$

Query parameter or value	Descriptive statistics
5	1 (0.1%)
6	1 (0.1%)
SELECT_n_of_aggr_funcSUM	,
0	$986 \ (99\%)$
1	10 (1.0%)
2	$4\ (0.4\%)$
SELECT_n_of_aggr_funcAVG	
0	988 (99%)
1	7~(0.7%)
2	4~(0.4%)
3	1 (0.1%)
SELECT_n_of_all_aggr_func	
0	752 (75%)
1	71 (7.1%)
2	68~(6.8%)
3	53 (5.3%)
4	$31 \ (3.1\%)$
5	19 (1.9%)
6	4~(0.4%)
7	2~(0.2%)
FROM_n_of_join_paths	
1	$1,000\ (100\%)$
FROM_n_of_joinsRIGHT	
0	$460 \ (46\%)$
1	$347 \; (35\%)$
2	$146 \ (15\%)$
3	$36 \ (3.6\%)$
4	11 (1.1%)
FROM_n_of_joinsINNER	
0	482 (48%)
1	$329 \ (33\%)$
2	143 (14%)
3	$43 \ (4.3\%)$
4	3 (0.3%)
FROM_n_of_processed_rows	[5, 49,990,245, 382,516,427] 140,504,415 /
	157,428,481
WHERE_n_of_predicates	220 (2204)
0	228 (23%)
1	253 (25%)
2	193 (19%)
3	178 (18%)
4	91 (9.1%)
5	42 (4.2%)
	15 (1.5%)
WHERE_n_of_attribs_of_typecharacter_va	
0	523~(52%)

Query parameter or value	Descriptive statistics
1	344 (34%)
2	110 (11%)
3	$21\ (2.1\%)$
4	2~(0.2%)
WHERE_n_of_attribs_of_typeinteger	
0	563~(56%)
1	334 (33%)
2	84 (8.4%)
3	18 (1.8%)
4	$1\;(0.1\%)$
WHERE_n_of_attribs_of_typecharacter	
0	827 (83%)
1	153 (15%)
2	17 (1.7%)
3	$3\ (0.3\%)$
WHERE_n_of_attribs_of_typenumeric	
0	$738 \ (74\%)$
1	206 (21%)
2	48 (4.8%)
3	7 (0.7%)
4	1 (0.1%)
WHERE_n_of_attribs_of_typedate	
0	890 (89%)
1	101 (10%)
2	9~(0.9%)
WHERE_n_of_pkey_attribs	
0	713 (71%)
1	252~(25%)
2	32 (3.2%)
3	3~(0.3%)
$WHERE\_n\_of\_connect\_OR$	
0	601 (60%)
1	213 (21%)
2	121 (12%)
3	47 (4.7%)
4	15 (1.5%)
5	3~(0.3%)
WHERE_n_of_operatorsgreater_or_less	
0	539 (54%)
1	302 (30%)
2	$125\ (13\%)$
3	$26 \ (2.6\%)$
4	7~(0.7%)
5	1(0.1%)
WHERE_n_of_operatorsin	
0	711 (71%)

234 (23%) 2	Query parameter or value	Descriptive statistics
\$ 5 (0.5%)  ### WHERE_n_of_operators_like  ### WHERE_n_of_operators_like  ### WHERE_n_of_operators_between  ### WHERE_n_of_operators_like  ### WHERE_n_of_operators_between  ### WHERE_n_of_operators_like  ### ### WHERE_n_of_operators_like  ### WHERE_n_of_operators_like  ### ### WHERE_n_of_operators_like  ### WHERE_n_of_operators_like  ### ### ### ### ### ### ### ### ### #	1	234 (23%)
### TRUEST OF THE PROPERTY OF	2	49~(4.9%)
WHERE_n_of_operators_like 0	3	5 (0.5%)
WHERE_n_of_operators_like  0	4	1 (0.1%)
### ### ##############################		,
### 25	0	881 (88%)
WHERE_n_of_operators_between 0	1	113 (11%)
WHERE_n_of_operators_between  0	2	6 (0.6%)
0       714 (71%)         1       236 (24%)         2       41 (4.1%)         3       8 (0.8%)         4       1 (0.1%)         WHERE_n_of_non_aggr_func_SQRT       946 (95%)         0       946 (95%)         1       53 (5.3%)         2       1 (0.1%)         WHERE_n_of_non_aggr_func_DAY       980 (98%)         0       979 (98%)         1       20 (2.0%)         WHERE_n_of_non_aggr_func_YEAR       974 (97%)         1       26 (2.6%)         WHERE_n_of_non_aggr_func_DOW       979 (98%)         1       21 (2.1%)         WHERE_n_of_non_aggr_func_TRUNC       979 (98%)         1       21 (2.1%)         WHERE_n_of_non_aggr_func_TRUNC       971 (97%)         1       29 (2.9%)         WHERE_n_of_non_aggr_func_FLOOR       975 (98%)         0       975 (98%)         1       25 (2.5%)         WHERE_n_of_non_aggr_func_ABS       962 (96%)         0       982 (98%)         1       (0.1%)         WHERE_n_of_non_aggr_func_MONTH       989 (99%)	WHERE n of operators between	,
1		714 (71%)
2		` '
3       8 (0.8%)         4       1 (0.1%)         WHERE_n_of_non_aggr_funcSQRT       946 (95%)         0       93 (5.3%)         2       1 (0.1%)         WHERE_n_of_non_aggr_funcDAY       980 (98%)         0       979 (98%)         1       20 (2.0%)         WHERE_n_of_non_aggr_funcYEAR       974 (97%)         0       979 (98%)         1       26 (2.6%)         WHERE_n_of_non_aggr_funcDOW       979 (98%)         1       21 (2.1%)         WHERE_n_of_non_aggr_funcTRUNC       971 (97%)         1       29 (2.9%)         WHERE_n_of_non_aggr_funcFLOOR       975 (98%)         1       25 (2.5%)         WHERE_n_of_non_aggr_funcLOG       962 (96%)         0       962 (96%)         1       37 (3.7%)         2       1 (0.1%)         WHERE_n_of_non_aggr_funcABS       982 (98%)         0       982 (98%)         1       18 (1.8%)         WHERE_n_of_non_aggr_funcMONTH       989 (99%)		, ,
### TRUNC ####################################		, ,
WHERE_n_of_non_aggr_funeSQRT  0 946 (95%) 1 53 (5.3%) 2 1 (0.1%)  WHERE_n_of_non_aggr_funeDAY 0 980 (98%) 1 20 (2.0%)  WHERE_n_of_non_aggr_funeROUND 0 979 (98%) 1 21 (2.1%)  WHERE_n_of_non_aggr_funeYEAR 0 974 (97%) 1 26 (2.6%)  WHERE_n_of_non_aggr_fune_DOW 0 979 (98%) 1 21 (2.1%)  WHERE_n_of_non_aggr_fune_DOW 0 979 (98%) 1 21 (2.1%)  WHERE_n_of_non_aggr_fune_TRUNC 0 971 (97%) 1 29 (2.9%)  WHERE_n_of_non_aggr_fune_FLOOR 0 975 (98%) 1 25 (2.5%)  WHERE_n_of_non_aggr_fune_LOG 0 962 (96%) 1 37 (3.7%) 2 1 (0.1%)  WHERE_n_of_non_aggr_fune_ABS 0 982 (98%) 1 1 (0.1%)  WHERE_n_of_non_aggr_fune_ABS 0 982 (98%) 1 18 (1.8%)  WHERE_n_of_non_aggr_fune_MONTH 0 989 (99%)		, ,
θ       946 (95%)         1       53 (5.3%)         2       1 (0.1%)         WHERE_n_of_non_aggr_funcDAY       980 (98%)         θ       20 (2.0%)         WHERE_n_of_non_aggr_funcROUND       979 (98%)         θ       21 (2.1%)         WHERE_n_of_non_aggr_funcYEAR       974 (97%)         θ       979 (98%)         1       26 (2.6%)         WHERE_n_of_non_aggr_funcDOW       979 (98%)         θ       971 (97%)         1       29 (2.9%)         WHERE_n_of_non_aggr_funcFLOOR       971 (97%)         θ       975 (98%)         1       25 (2.5%)         WHERE_n_of_non_aggr_funcLOG       962 (96%)         θ       962 (96%)         1       37 (3.7%)         2       1 (0.1%)         WHERE_n_of_non_aggr_funcABS       982 (98%)         θ       982 (98%)         1       18 (1.8%)         WHERE_n_of_non_aggr_funcMONTH       989 (99%)		- (0.270)
1       53 (5.3%)         2       1 (0.1%)         WHERE_n_of_non_aggr_funcDAY       980 (98%)         0       980 (98%)         1       20 (2.0%)         WHERE_n_of_non_aggr_funcROUND       979 (98%)         1       21 (2.1%)         WHERE_n_of_non_aggr_funcYEAR       974 (97%)         0       979 (98%)         1       26 (2.6%)         WHERE_n_of_non_aggr_funcTRUNC       979 (98%)         1       21 (2.1%)         WHERE_n_of_non_aggr_funcTRUNC       971 (97%)         0       971 (97%)         1       29 (2.9%)         WHERE_n_of_non_aggr_funcFLOOR       975 (98%)         1       25 (2.5%)         WHERE_n_of_non_aggr_funcLOG       962 (96%)         1       37 (3.7%)         2       1 (0.1%)         WHERE_n_of_non_aggr_funcABS       982 (98%)         1       18 (1.8%)         WHERE_n_of_non_aggr_funcMONTH       989 (99%)	<del>'</del>	946 (95%)
2       1 (0.1%)         WHERE_n_of_non_aggr_funcDAY       980 (98%)         1       20 (2.0%)         WHERE_n_of_non_aggr_funcROUND       979 (98%)         0       979 (98%)         1       21 (2.1%)         WHERE_n_of_non_aggr_funcYEAR       974 (97%)         1       26 (2.6%)         WHERE_n_of_non_aggr_funcDOW       979 (98%)         1       21 (2.1%)         WHERE_n_of_non_aggr_funcTRUNC       971 (97%)         1       29 (2.9%)         WHERE_n_of_non_aggr_funcFLOOR       975 (98%)         1       25 (2.5%)         WHERE_n_of_non_aggr_funcLOG       962 (96%)         1       37 (3.7%)         2       1 (0.1%)         WHERE_n_of_non_aggr_funcABS       982 (98%)         0       982 (98%)         1       18 (1.8%)         WHERE_n_of_non_aggr_funcMONTH       989 (99%)		,
WHERE_n_of_non_aggr_funcDAY 0		, ,
0       980 (98%)         1       20 (2.0%)         WHERE_n_of_non_aggr_funcROUND       979 (98%)         0       979 (98%)         1       21 (2.1%)         WHERE_n_of_non_aggr_funcYEAR       974 (97%)         1       26 (2.6%)         WHERE_n_of_non_aggr_funcDOW       979 (98%)         1       21 (2.1%)         WHERE_n_of_non_aggr_funcTRUNC       971 (97%)         1       29 (2.9%)         WHERE_n_of_non_aggr_funcFLOOR       975 (98%)         1       25 (2.5%)         WHERE_n_of_non_aggr_funcLOG       962 (96%)         1       37 (3.7%)         2       1 (0.1%)         WHERE_n_of_non_aggr_funcABS       982 (98%)         0       982 (98%)         1       18 (1.8%)         WHERE_n_of_non_aggr_funcMONTH       989 (99%)		1 (0.170)
1       20 (2.0%)         WHERE_n_of_non_aggr_funeROUND       979 (98%)         1       21 (2.1%)         WHERE_n_of_non_aggr_funeYEAR       974 (97%)         0       974 (97%)         1       26 (2.6%)         WHERE_n_of_non_aggr_funeDOW       979 (98%)         0       979 (98%)         1       21 (2.1%)         WHERE_n_of_non_aggr_funeTRUNC       971 (97%)         1       29 (2.9%)         WHERE_n_of_non_aggr_funeFLOOR       975 (98%)         1       25 (2.5%)         WHERE_n_of_non_aggr_funeLOG       962 (96%)         1       37 (3.7%)         2       1 (0.1%)         WHERE_n_of_non_aggr_funeABS       982 (98%)         0       982 (98%)         1       18 (1.8%)         WHERE_n_of_non_aggr_funeMONTH       989 (99%)		980 (98%)
WHERE_n_of_non_aggr_funcROUND 0 979 (98%) 1 21 (2.1%) WHERE_n_of_non_aggr_funcYEAR 0 974 (97%) 1 26 (2.6%) WHERE_n_of_non_aggr_funcDOW 0 979 (98%) 1 21 (2.1%) WHERE_n_of_non_aggr_funcTRUNC 0 971 (97%) 1 29 (2.9%) WHERE_n_of_non_aggr_funcFLOOR 0 975 (98%) 1 25 (2.5%) WHERE_n_of_non_aggr_funcLOG 0 962 (96%) 1 37 (3.7%) 2 1 (0.1%) WHERE_n_of_non_aggr_funcABS 0 982 (98%) 1 18 (1.8%) WHERE_n_of_non_aggr_funcMONTH 0 989 (99%)		` /
0       979 (98%)         1       21 (2.1%)         WHERE_n_of_non_aggr_funcYEAR       974 (97%)         0       974 (97%)         1       26 (2.6%)         WHERE_n_of_non_aggr_funcDOW       979 (98%)         0       979 (98%)         1       21 (2.1%)         WHERE_n_of_non_aggr_funcTRUNC       971 (97%)         1       29 (2.9%)         WHERE_n_of_non_aggr_funcFLOOR       975 (98%)         1       25 (2.5%)         WHERE_n_of_non_aggr_funcLOG       962 (96%)         1       37 (3.7%)         2       1 (0.1%)         WHERE_n_of_non_aggr_funcABS       982 (98%)         1       18 (1.8%)         WHERE_n_of_non_aggr_funcMONTH       989 (99%)	-	20 (2.070)
1       21 (2.1%)         WHERE_n_of_non_aggr_funcYEAR       974 (97%)         1       26 (2.6%)         WHERE_n_of_non_aggr_funcDOW       979 (98%)         1       21 (2.1%)         WHERE_n_of_non_aggr_funcTRUNC       971 (97%)         1       29 (2.9%)         WHERE_n_of_non_aggr_funcFLOOR       975 (98%)         1       25 (2.5%)         WHERE_n_of_non_aggr_funcLOG       962 (96%)         0       962 (96%)         1       37 (3.7%)         2       1 (0.1%)         WHERE_n_of_non_aggr_funcABS       982 (98%)         1       18 (1.8%)         WHERE_n_of_non_aggr_funcMONTH       989 (99%)		070 (08%)
WHERE_n_of_non_aggr_funcYEAR  0	1	, ,
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	WHEDE is of non-agen fund. VEAD	21 (2.1/0)
1       26 (2.6%)         WHERE_n_of_non_aggr_funcDOW       979 (98%)         1       21 (2.1%)         WHERE_n_of_non_aggr_funcTRUNC       971 (97%)         0       971 (97%)         1       29 (2.9%)         WHERE_n_of_non_aggr_funcFLOOR       975 (98%)         1       25 (2.5%)         WHERE_n_of_non_aggr_funcLOG       962 (96%)         1       37 (3.7%)         2       1 (0.1%)         WHERE_n_of_non_aggr_funcABS       982 (98%)         1       18 (1.8%)         WHERE_n_of_non_aggr_funcMONTH       989 (99%)		074 (070/)
WHERE_n_of_non_aggr_funcDOW  0		, ,
0       979 (98%)         1       21 (2.1%)         WHERE_n_of_non_aggr_funcTRUNC       971 (97%)         0       971 (97%)         1       29 (2.9%)         WHERE_n_of_non_aggr_funcFLOOR       975 (98%)         1       25 (2.5%)         WHERE_n_of_non_aggr_funcLOG       962 (96%)         1       37 (3.7%)         2       1 (0.1%)         WHERE_n_of_non_aggr_funcABS       982 (98%)         1       18 (1.8%)         WHERE_n_of_non_aggr_funcMONTH       989 (99%)	-	20 (2.0%)
1       21 (2.1%)         WHERE_n_of_non_aggr_funcTRUNC       971 (97%)         0       971 (97%)         1       29 (2.9%)         WHERE_n_of_non_aggr_funcFLOOR       975 (98%)         0       975 (98%)         1       25 (2.5%)         WHERE_n_of_non_aggr_funcLOG       962 (96%)         1       37 (3.7%)         2       1 (0.1%)         WHERE_n_of_non_aggr_funcABS       982 (98%)         1       18 (1.8%)         WHERE_n_of_non_aggr_funcMONTH       989 (99%)	<del>-</del> -	070 (000/)
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		` /
0       971 (97%)         1       29 (2.9%)         WHERE_n_of_non_aggr_funcFLOOR       975 (98%)         0       975 (98%)         1       25 (2.5%)         WHERE_n_of_non_aggr_funcLOG       962 (96%)         1       37 (3.7%)         2       1 (0.1%)         WHERE_n_of_non_aggr_funcABS       982 (98%)         1       18 (1.8%)         WHERE_n_of_non_aggr_funcMONTH       989 (99%)	-	21 (2.1%)
1       29 (2.9%)         WHERE_n_of_non_aggr_funcFLOOR       975 (98%)         0       975 (98%)         1       25 (2.5%)         WHERE_n_of_non_aggr_funcLOG       962 (96%)         1       37 (3.7%)         2       1 (0.1%)         WHERE_n_of_non_aggr_funcABS       982 (98%)         1       18 (1.8%)         WHERE_n_of_non_aggr_funcMONTH       989 (99%)		071 (070)
WHERE_n_of_non_aggr_funcFLOOR  0		· · · · · · · · · · · · · · · · · · ·
0       975 (98%)         1       25 (2.5%)         WHERE_n_of_non_aggr_funcLOG       962 (96%)         0       962 (96%)         1       37 (3.7%)         2       1 (0.1%)         WHERE_n_of_non_aggr_funcABS       982 (98%)         1       18 (1.8%)         WHERE_n_of_non_aggr_funcMONTH       989 (99%)		29 (2.9%)
1		000
WHERE_n_of_non_aggr_funcLOG  0		` '
0       962 (96%)         1       37 (3.7%)         2       1 (0.1%)         WHERE_n_of_non_aggr_funcABS       982 (98%)         1       18 (1.8%)         WHERE_n_of_non_aggr_funcMONTH       989 (99%)	<del>-</del>	25 (2.5%)
1 37 (3.7%) 2 1 (0.1%) WHERE_n_of_non_aggr_funcABS 0 982 (98%) 1 18 (1.8%) WHERE_n_of_non_aggr_funcMONTH 0 989 (99%)		(
2		` '
WHERE_n_of_non_aggr_funcABS  0		` ,
0 982 (98%) 1 18 (1.8%) WHERE_n_of_non_aggr_funcMONTH 0 989 (99%)		1~(0.1%)
1 18 (1.8%) WHERE_n_of_non_aggr_funcMONTH 0 989 (99%)		000 (000)
WHERE_n_of_non_aggr_funcMONTH $\theta$ 989 (99%)		, ,
989 (99%)	<del>-</del>	$18 \ (1.8\%)$
11 (1.1%)	0	` '
	1	$11 \ (1.1\%)$

Query parameter or value	Descriptive statistics
WHERE_n_of_all_non_aggr_func	
0	780 (78%)
1	179 (18%)
2	37 (3.7%)
3	4~(0.4%)
GROUP_BY_n_of_columns	
0	1,000 (100%)
HAVING_n_of_main_predicates	
0	1,000 (100%)
ORDER_BY_n_of_columns	
0	449~(45%)
1	292~(29%)
2	154 (15%)
3	64~(6.4%)
4	29~(2.9%)
5	7 (0.7%)
6	5~(0.5%)
limit	[2, 470, 1,000] 489 / 289
offset	$[0,  0,  1,\!000]  222  /  311$