## 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: 500 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)
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## - for higher cardinality parameters: [min, median, max] mean / SD

Query parameter or value	Descriptive statistics
SELECT_n_of_columns	[1, 6, 117] 10 / 13
SELECT_n_of_non_aggr_funcFLOOR	
0	953~(95%)
1	44 (4.4%)
2	3~(0.3%)
SELECT_n_of_non_aggr_funcROUND	,
0	957 (96%)
1	$42\ (4.2\%)$
2	1 (0.1%)
SELECT_n_of_non_aggr_funcRTRIM	,
0	685 (69%)
1	$251\ (25\%)$
2	47 (4.7%)
3	$12\;(1.2\%)$
4	5 (0.5%)

Query parameter or value	Descriptive statistics
SELECT_n_of_non_aggr_funcSQRT	
0	877 (88%)
1	108 (11%)
2	8 (0.8%)
3	$3\;(0.3\%)$
4	4~(0.4%)
SELECT_n_of_non_aggr_funcSUBSTR	
0	695~(70%)
1	233 (23%)
2	$56 \ (5.6\%)$
3	11 (1.1%)
4	3~(0.3%)
5	1~(0.1%)
6	1 (0.1%)
SELECT_n_of_non_aggr_funcLTRIM	
$\theta$	682~(68%)
1	255~(26%)
2	49~(4.9%)
3	$8 \; (0.8\%)$
4	$2\;(0.2\%)$
5	4~(0.4%)
SELECT_n_of_non_aggr_funcLOWER	
0	722~(72%)
1	217 (22%)
2	54 (5.4%)
3	$6\ (0.6\%)$
4	1 (0.1%)
SELECT_n_of_non_aggr_funcMONTH	202 (2101)
0	836 (84%)
1	125 (13%)
2	31 (3.1%)
3	5 (0.5%)
4	3~(0.3%)
SELECT_n_of_non_aggr_funcYEAR	077 (0007)
0	877 (88%)
1	102 (10%)
2	15 (1.5%)
3	4 (0.4%)
4 ADG	$2 \; (0.2\%)$
SELECT_n_of_non_aggr_funcABS	040 (0507)
0	949 (95%)
<i>1 3</i>	50 (5.0%)
	$1\ (0.1\%)$
SELECT_n_of_non_aggr_funcDAY	020 (0207)
0	920 (92%)
1	69~(6.9%)

Query parameter or value	Descriptive statistics
2	10 (1.0%)
3	1 (0.1%)
SELECT_n_of_non_aggr_funcLOG	(- / -)
	932 (93%)
1	59 (5.9%)
2	7 (0.7%)
3	2~(0.2%)
SELECT_n_of_non_aggr_funcTRUNC	(- / -)
	941 (94%)
1	57 (5.7%)
2	2 (0.2%)
SELECT_n_of_non_aggr_funcUPPER	= (0.=70)
0	697 (70%)
1	234 (23%)
2	56 (5.6%)
3	12 (1.2%)
4	1 (0.1%)
SELECT_n_of_non_aggr_funcDOW	1 (0.170)
0	880 (88%)
1	104 (10%)
2	7 (0.7%)
~ 3	7 (0.7%)
4	2(0.2%)
SELECT_n_of_all_non_aggr_func	[0.00, 2.00, 32.00] $[0.98 / 3.58]$
SELECT_n_of_aggr_funcMAX	[0.00, 0.00, 11.00] 0.65 / 1.49
SELECT_n_of_aggr_funcMIN	[0.00, 0.00, 9.00] 0.71 / 1.56
SELECT_n_of_aggr_funcCOUNT	[0.00, 0.00, 9.00] $[0.01 / 1.46]$
SELECT_n_of_aggr_funcSUM	[0.00, 0.00, 0.00] 0.01 / 1.10
0	929 (93%)
1	53 (5.3%)
2	13 (1.3%)
~ 3	5 (0.5%)
SELECT_n_of_aggr_funcAVG	0.070)
0	945 (95%)
1	42 (4.2%)
2	10 (1.0%)
<del>2</del> 3	3(0.3%)
SELECT_n_of_aggr_funcCOUNT_DISTINCT	[0.00, 0.00, 15.00] 0.65 / 1.51
SELECT_n_of_all_aggr_func	[0.00, 2.00, 15.00] 2.79 / 2.37
FROM_n_of_join_paths	[0.00, 2.00, 10.00] 2.13 / 2.01
1	348 (35%)
2	326 (33%)
3	326 (33%)
FROM_n_of_super_joinsRIGHT	020 (0070)
0	783 (78%)
1	188 (19%)
*	100 (10/0)

Query parameter or value	Descriptive statistics
2	29 (2.9%)
FROM_n_of_super_joinsLEFT	(, /, )
0	763~(76%)
1	218 (22%)
2	19 (1.9%)
FROM_n_of_super_joinsFULL	
0	793~(79%)
1	190 (19%)
2	17 (1.7%)
FROM_n_of_joinsINNER	,
0	$253\ (25\%)$
1	$253\ (25\%)$
2	$229\ (23\%)$
3	136 (14%)
4	79 (7.9%)
5	25~(2.5%)
6	18 (1.8%)
$\gamma$	6~(0.6%)
8	1 (0.1%)
FROM_n_of_joinsRIGHT	
0	241~(24%)
1	258~(26%)
2	227~(23%)
3	$137 \ (14\%)$
4	84 (8.4%)
5	31 (3.1%)
6	20~(2.0%)
8	1~(0.1%)
g	1~(0.1%)
FROM_n_of_processed_rows	[5, 3,405,028,267, 11,475,084,811] $3,152,362,004$ /
	2,906,878,311
WHERE_n_of_predicates	[0.00, 2.00, 9.00] 2.78/ 2.19
WHERE_n_of_attribs_of_typecharact	
0	430 (43%)
1	333 (33%)
2	158 (16%)
3	52 (5.2%)
4	24 (2.4%)
5	$3\;(0.3\%)$
WHERE_n_of_attribs_of_typedate	099 (0907)
0	833 (83%)
1	141 (14%)
2	24 (2.4%)
3	1 (0.1%)
WHERE n of attribs of type integer	$1\ (0.1\%)$
WHERE_n_of_attribs_of_typeinteger	

Query parameter or value	Descriptive statistics
0	472 (47%)
1	306 (31%)
2	162 (16%)
3	41 (4.1%)
4	16 (1.6%)
5	1 (0.1%)
6	1 (0.1%)
7	1 (0.1%)
$WHERE\_n\_of\_attribs\_of\_type\_\_numeric$	
0	658~(66%)
1	252~(25%)
2	77 (7.7%)
3	11 (1.1%)
4	2~(0.2%)
$WHERE\_n\_of\_attribs\_of\_type\_\_character$	
0	708 (71%)
1	213~(21%)
2	64~(6.4%)
3	$12 \ (1.2\%)$
4	3~(0.3%)
$WHERE\_n\_of\_pkey\_attribs$	
0	642~(64%)
1	260~(26%)
2	82~(8.2%)
3	$14 \ (1.4\%)$
4	1 (0.1%)
6	1 (0.1%)
$WHERE\_n\_of\_connect\_OR$	
0	466 (47%)
1	190 (19%)
2	$120 \ (12\%)$
3	102 (10%)
4	58 (5.8%)
5	$44 \ (4.4\%)$
6	$16 \ (1.6\%)$
7	4~(0.4%)
WHERE_n_of_operatorsgreater_or_less	
0	$423 \ (42\%)$
1	288~(29%)
2	171 (17%)
3	80 (8.0%)
4	28~(2.8%)
5	10 (1.0%)
WHERE_n_of_operatorsin	
0	635~(64%)
1	$251 \ (25\%)$

Query parameter or value	Descriptive statistics
2	84 (8.4%)
3	$23\ (2.3\%)$
4	7 (0.7%)
WHERE_n_of_operatorslike	` ,
0	839 (84%)
1	147 (15%)
2	$13\ (1.3\%)$
3	1 (0.1%)
WHERE_n_of_operatorsbetween	
0	600~(60%)
1	284~(28%)
2	84 (8.4%)
3	28 (2.8%)
4	3~(0.3%)
5	1 (0.1%)
$WHERE\_n\_of\_non\_aggr\_func\_\_DOW$	
0	977 (98%)
1	$22\ (2.2\%)$
2	1 (0.1%)
WHERE_n_of_non_aggr_funcLOG	
0	$950 \ (95\%)$
1	$49 \ (4.9\%)$
2	1~(0.1%)
$WHERE\_n\_of\_non\_aggr\_func\_\_ABS$	
0	966~(97%)
1	34 (3.4%)
$WHERE\_n\_of\_non\_aggr\_func\_\_SQRT$	
$\theta$	923~(92%)
1	72 (7.2%)
2	5~(0.5%)
WHERE_n_of_non_aggr_funcROUND	
0	968~(97%)
1	32 (3.2%)
WHERE_n_of_non_aggr_funcYEAR	
0	969~(97%)
1	30 (3.0%)
2	1~(0.1%)
WHERE_n_of_non_aggr_funcTRUNC	
0	$968 \; (97\%)$
1	32 (3.2%)
WHERE_n_of_non_aggr_funcDAY	
0	$982 \; (98\%)$
1	18 (1.8%)
WHERE_n_of_non_aggr_funcFLOOR	
0	980 (98%)
1	20~(2.0%)

Query parameter or value	Descriptive statistics
WHERE_n_of_non_aggr_funcMONTH	
0	979 (98%)
1	$20\ (2.0\%)$
2	1 (0.1%)
WHERE_n_of_all_non_aggr_func	
0	723~(72%)
1	215~(22%)
2	55 (5.5%)
3	6 (0.6%)
4	1 (0.1%)
GROUP_BY_n_of_columns	[0.00, 2.00, 9.00] $[0.42]$ $[0.13]$
HAVING_n_of_main_predicates	[0.00, 4.00, 9.00] 3.37 / 2.60
HAVING_n_of_main_predicatesscalar_subquery	
$\theta$	453~(45%)
1	182 (18%)
2	172 (17%)
3	193~(19%)
HAVING_n_of_main_predicatesnon_scalar_subc	uery
$\theta$	428 (43%)
1	192~(19%)
2	188 (19%)
3	192~(19%)
HAVING_n_of_subqueriesscalar_subquery	[0.0,  1.0,  20.0]   2.3  /   3.5
HAVING_n_of_subqueriesnon_scalar_subquery	
0	428 (43%)
1	192~(19%)
2	188 (19%)
3	192~(19%)
HAVING_n_of_processed_rows_by_subque;732,50	00,158, 176,886,440,767] 10,359,571,817 /
	18,752,738,873
ORDER_BY_n_of_columns	
$\theta$	314 (31%)
1	361 (36%)
2	240 (24%)
3	65~(6.5%)
4	12~(1.2%)
5	5~(0.5%)
6	$3\ (0.3\%)$
limit	[2, 508, 1,000] 498 / 290
offset	[0,  0,  996]  240  /  316