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

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## Scenario: 1-3jp_rjjp__g__h0-3ss_h0nss

## Scale factor: 0.01 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)

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

| Query parameter or value | Descriptive statistics |
|---------------------------------|------------------------|
| SELECT_n_of_columns | [1, 6, 97] 10 / 12 |
| SELECT_n_of_non_aggr_funcSUBSTR | |
| 0 | 705 (71%) |
| 1 | 232~(23%) |
| 2 | 47~(4.7%) |
| 3 | 8 (0.8%) |
| 4 | 4~(0.4%) |
| 5 | 2~(0.2%) |
| 6 | 1~(0.1%) |
| γ | 1 (0.1%) |
| SELECT_n_of_non_aggr_funcABS | |
| 0 | 945 (95%) |
| 1 | $47 \ (4.7\%)$ |
| 2 | 8 (0.8%) |
| SELECT_n_of_non_aggr_funcROUND | |

| Query parameter or value | Descriptive statistics |
|---|------------------------|
| 0 | 949 (95%) |
| 1 | 45 (4.5%) |
| 2 | 4 (0.4%) |
| 3 | 1 (0.1%) |
| 4 | 1 (0.1%) |
| $SELECT_n_of_non_aggr_func__LTRIM$ | |
| 0 | 683~(68%) |
| 1 | 239~(24%) |
| 2 | 61~(6.1%) |
| 3 | 13~(1.3%) |
| 4 | 1 (0.1%) |
| 5 | $2\;(0.2\%)$ |
| 6 | 1 (0.1%) |
| SELECT_n_of_non_aggr_funcUPPER | |
| 0 | 692 (69%) |
| 1 | 237 (24%) |
| 2 | 51 (5.1%) |
| 3 | 13 (1.3%) |
| 4 | 6 (0.6%) |
| | 1 (0.1%) |
| SELECT_n_of_non_aggr_funcLOWER | 704 (70%) |
| 0 | 704 (70%) |
| $\frac{1}{2}$ | 220 (22%) |
| <i>z</i> <i>3</i> | 57 (5.7%) $12 (1.2%)$ |
| | 5 (0.5%) |
| <i>4 5</i> | 1 (0.3%) |
| 6 | 1 (0.1%) |
| SELECT_n_of_non_aggr_funcRTRIM | 1 (0.170) |
| 0 | 686 (69%) |
| 1 | 261 (26%) |
| 2 | 40 (4.0%) |
| 3 | 10 (1.0%) |
| 4 | 2~(0.2%) |
| Ÿ | 1 (0.1%) |
| SELECT_n_of_non_aggr_funcDOW | , |
| 0 | 906 (91%) |
| 1 | 75 (7.5%) |
| 2 | 12~(1.2%) |
| 3 | 4~(0.4%) |
| 4 | 3~(0.3%) |
| SELECT_n_of_non_aggr_funcYEAR | |
| 0 | 878 (88%) |
| 1 | 92 (9.2%) |
| 2 | $22\ (2.2\%)$ |
| 3 | 6~(0.6%) |

| Query parameter or value | Descriptive statistics |
|--|--|
| 4 | 2 (0.2%) |
| SELECT_n_of_non_aggr_funcMONTH | , |
| 0 | 862~(86%) |
| 1 | 110 (11%) |
| 2 | $19 \ (1.9\%)$ |
| 3 | 4 (0.4%) |
| 4 | 3~(0.3%) |
| 5 | 2~(0.2%) |
| $SELECT_n_of_non_aggr_func__SQRT$ | |
| 0 | 869 (87%) |
| 1 | $98 \; (9.8\%)$ |
| 2 | 24 (2.4%) |
| 3 | 7~(0.7%) |
| 4 | 1~(0.1%) |
| 5 | 1~(0.1%) |
| SELECT_n_of_non_aggr_funcFLOOR | |
| 0 | 948 (95%) |
| 1 | $49 \ (4.9\%)$ |
| 2 | 3~(0.3%) |
| SELECT_n_of_non_aggr_funcDAY | 4 . 40 |
| 0 | 917 (92%) |
| 1 | 75 (7.5%) |
| 2 | 8 (0.8%) |
| SELECT_n_of_non_aggr_funcLOG | 221 (2224) |
| 0 | 904 (90%) |
| 1 | 79 (7.9%) |
| 2 | 14 (1.4%) |
| 3 | 2 (0.2%) |
| GELECT TDING | 1 (0.1%) |
| SELECT_n_of_non_aggr_funcTRUNC 0 | 040 (05%) |
| | 949 (95%) |
| 1 | 44 (4.4%) |
| 2 3 | $5 (0.5\%) \ 2 (0.2\%)$ |
| SELECT_n_of_all_non_aggr_func | [0.00, 2.00, 38.00] 3.09 / 4.06 |
| SELECT_n_of_aggr_funcCOUNT_DISTINCT | [0.00, 2.00, 38.00] $[0.00, 0.00, 10.00]$ $[0.66 / 1.47]$ |
| SELECT_n_of_aggr_funcMIN | [0.00, 0.00, 10.00] $[0.00, 0.00, 9.00]$ $[0.64 / 1.41]$ |
| SELECT_n_of_aggr_funcMAX | [0.00, 0.00, 9.00] $[0.04 / 1.41]$ $[0.00, 0.00, 10.00]$ $[0.62 / 1.37]$ |
| SELECT_n_of_aggr_funcCOUNT | [0.00, 0.00, 10.00] $[0.02 / 1.50]$ |
| SELECT_n_of_aggr_funcSUM | [0.00, 0.00, 3.00] 0.00 / 1.00 |
| 0 | 946 (95%) |
| 1 | 37 (3.7%) |
| 2 | 16 (1.6%) |
| 3 | 10(1.0%) $1(0.1%)$ |
| SELECT_n_of_aggr_funcAVG | 1 (0.170) |
| 0 | 948 (95%) |
| V | 010 (00/0) |

| Query parameter or value | Descriptive statistics |
|-------------------------------------|--|
| 1 | 41 (4.1%) |
| 2 | 9(0.9%) |
| 3 | 2~(0.2%) |
| SELECT_n_of_all_aggr_func | [0.00, 2.00, 11.00] 2.70 / 2.30 |
| FROM_n_of_join_paths | |
| 1 | 336 (34%) |
| 2 | 301 (30%) |
| 3 | 363~(36%) |
| FROM_n_of_super_joinsRIGHT | |
| 0 | 783~(78%) |
| 1 | 201 (20%) |
| 2 | $16 \ (1.6\%)$ |
| FROM_n_of_super_joinsFULL | |
| 0 | 774 (77%) |
| 1 | 203~(20%) |
| 2 | 23~(2.3%) |
| $FROM_n_of_super_joins__LEFT$ | |
| 0 | 762~(76%) |
| 1 | $212\ (21\%)$ |
| 2 | 26~(2.6%) |
| FROM_n_of_joinsINNER | |
| 0 | 234~(23%) |
| 1 | $251\ (25\%)$ |
| 2 | 228~(23%) |
| 3 | 137 (14%) |
| 4 | 79 (7.9%) |
| 5 | 50 (5.0%) |
| 6 | 15 (1.5%) |
| 7 | 5 (0.5%) |
| 8 | 1 (0.1%) |
| FROM_n_of_joinsRIGHT | 200 (200) |
| 0 | 230 (23%) |
| 1 | 269 (27%) |
| 2 | 207 (21%) |
| 3 | 148 (15%) |
| 4 | 92 (9.2%) |
| 5 | 37 (3.7%) |
| 6 | 11 (1.1%) |
| 7 | 2 (0.2%) |
| 8 EDOM () | 4 (0.4%) |
| FROM_n_of_processed_rows | [5, 68,308, 230,110] 63,963 / 58,606 |
| WHERE_n_of_predicates | [0.00, 2.00, 10.00] 2.72 / 2.25 |
| WHERE_n_of_attribs_of_typeinteger | 469 (4697) |
| 0 | 462 (46%) |
| 1 | 306 (31%) |
| 2 | 157~(16%) |

| Query parameter or value | Descriptive statistics |
|---|---|
| 3 | 54 (5.4%) |
| 4 | 20(2.0%) |
| 5 | 1 (0.1%) |
| WHERE_n_of_attribs_of_typecharacter_varying | , , |
| 0 | 458~(46%) |
| 1 | 295 (30%) |
| 2 | $156 \ (16\%)$ |
| 3 | 60~(6.0%) |
| 4 | 26~(2.6%) |
| 5 | 4~(0.4%) |
| 6 | 1 (0.1%) |
| $WHERE_n_of_attribs_of_type__character$ | |
| 0 | $736 \ (74\%)$ |
| 1 | 216~(22%) |
| 2 | $39 \; (3.9\%)$ |
| 3 | 8~(0.8%) |
| 5 | 1~(0.1%) |
| WHERE_n_of_attribs_of_typenumeric | |
| 0 | 674 (67%) |
| 1 | 237 (24%) |
| 2 | $72 \ (7.2\%)$ |
| 3 | $13\ (1.3\%)$ |
| 4 | 3~(0.3%) |
| 6 | 1 (0.1%) |
| WHERE_n_of_attribs_of_typedate | (2-24) |
| 0 | 854 (85%) |
| 1 | 123 (12%) |
| 2 | 17 (1.7%) |
| 3 | 6~(0.6%) |
| WHERE_n_of_pkey_attribs | CO1 (COT) |
| 0 | 621 (62%) |
| 1 | 280 (28%) |
| 2 3 | 82 (8.2%) |
| | $16 \ (1.6\%) \\ 1 \ (0.1\%)$ |
| WHERE n of connect OP | $[0.00, 1.00, 9.00] \ 1.35 \ / \ 1.73$ |
| WHERE_n_of_connect_OR WHERE_n_of_operatorsbetween | [0.00, 1.00, 9.00] $[0.50, 1.75]$ |
| 0 | 616 (62%) |
| 1 | 262 (26%) |
| 2 | 91 (9.1%) |
| 3 | $\frac{91}{25} \frac{(9.1\%)}{(2.5\%)}$ |
| | 5(0.5%) |
| <i>4 5</i> | 1 (0.1%) |
| WHERE_n_of_operatorsgreater_or_less | 1 (0.1/0) |
| 0 | 431 (43%) |
| 1 | 302 (30%) |
| 1 | 002 (00/0) |

| Query parameter or value | Descriptive statistics |
|--|------------------------|
| 2 | 160 (16%) |
| 3 | 74 (7.4%) |
| 4 | $24\ (2.4\%)$ |
| 5 | 9~(0.9%) |
| WHERE_n_of_operatorsin | |
| 0 | 637~(64%) |
| 1 | 253~(25%) |
| 2 | 81 (8.1%) |
| 3 | 22 (2.2%) |
| 4 | 7 (0.7%) |
| WHERE_n_of_operatorslike | 0.40 (0.404) |
| 0 | 842 (84%) |
| 1 | 137 (14%) |
| 2 | 20 (2.0%) |
| 3 WHERE is of non-agent time. LOC | 1 (0.1%) |
| WHERE_n_of_non_aggr_funcLOG | 027 (0407) |
| 0 | 937 (94%) |
| WHERE_n_of_non_aggr_funcSQRT | 63~(6.3%) |
| 0 | 920 (92%) |
| 1 | 76 (7.6%) |
| 2 | 4 (0.4%) |
| WHERE_n_of_non_aggr_funcDAY | I (0.170) |
| 0 | 978 (98%) |
| 1 | 20 (2.0%) |
| 2 | 2(0.2%) |
| WHERE_n_of_non_aggr_funcFLOOR | (- , ,) |
| 0 | 975 (98%) |
| 1 | $23\ (2.3\%)$ |
| 2 | 2 (0.2%) |
| WHERE_n_of_non_aggr_funcTRUNC | ` , |
| 0 | 970 (97%) |
| 1 | 29~(2.9%) |
| 2 | 1 (0.1%) |
| $WHERE_n_of_non_aggr_func__ROUND$ | |
| 0 | 983~(98%) |
| 1 | 17 (1.7%) |
| WHERE_n_of_non_aggr_funcABS | 4 . 24 |
| 0 | 977 (98%) |
| 1 | 23~(2.3%) |
| WHERE_n_of_non_aggr_funcYEAR | 0=1 (0=~) |
| 0 | 974 (97%) |
| | 26~(2.6%) |
| WHERE_n_of_non_aggr_funcDOW | 077 (0004) |
| 0 | 977 (98%) |
| 1 | 23~(2.3%) |

| Query parameter or value | Descriptive statistics |
|--|---|
| WHERE_n_of_non_aggr_funcMONTH | |
| 0 | 975 (98%) |
| 1 | $24\ (2.4\%)$ |
| 2 | 1 (0.1%) |
| WHERE_n_of_all_non_aggr_func | |
| 0 | 733 (73%) |
| 1 | 204~(20%) |
| 2 | 50 (5.0%) |
| 3 | 12 (1.2%) |
| 4 | 1~(0.1%) |
| GROUP_BY_n_of_columns | [0.00, 2.00, 9.00] 2.39 / 2.10 |
| HAVING_n_of_main_predicates | |
| 0 | 291~(29%) |
| 1 | 103~(10%) |
| 2 | $146 \ (15\%)$ |
| 3 | 180 (18%) |
| 4 | $147 \ (15\%)$ |
| 5 | 80 (8.0%) |
| 6 | $53 \; (5.3\%)$ |
| HAVING_n_of_main_predicatesscalar_subquery | |
| 0 | $422 \ (42\%)$ |
| 1 | $215 \ (22\%)$ |
| 2 | 174 (17%) |
| 3 | 189 (19%) |
| HAVING_n_of_subqueriesscalar_subquery | $[0.0, 1.0, 23.0] \ 2.4 \ / \ 3.6$ |
| HAVING_n_of_processed_rows_by_subqueries | [0, 4,673, 2,823,300] $158,573 / 339,907$ |
| ORDER_BY_n_of_columns | 919 (9104) |
| 0 | 312 (31%) |
| 1 | 372 (37%) |
| 2 | 228 (23%) |
| 3 | 69 (6.9%) |
| 4 | 7 (0.7%) |
| 5 | 7 (0.7%) |
| 6 limit | 5 (0.5%) |
| limit | [1, 487, 1,000] 488 / 286 |
| offset | [0, 0, 999] 237 / 317 |