Slovenská technická univerzita v Bratislave Fakulta informatiky a informačných technológií Ilkovičova 2, 842 16 Bratislava 4

Analytický report Ondrej Harnúšek

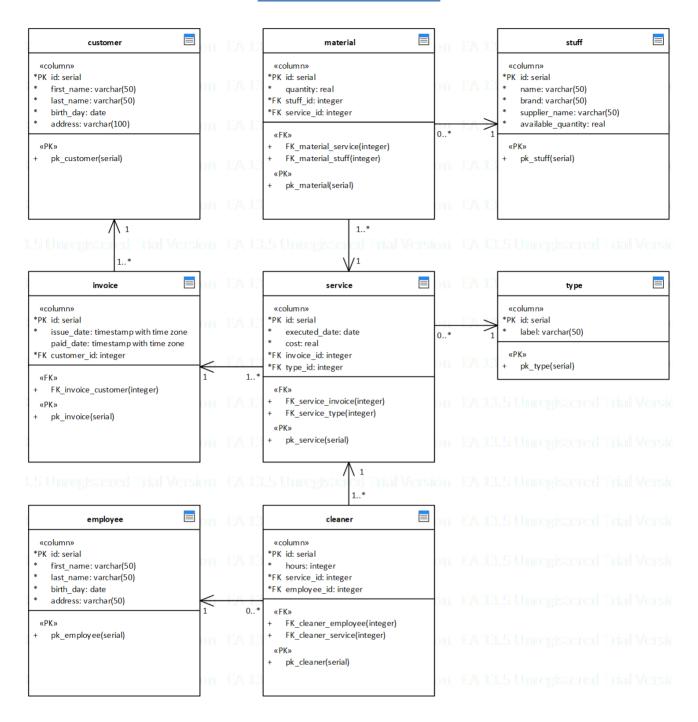
Krúžok: Ut 10:00, LIS

Predmet: Databázové systémy

Vedúci projektu: Ing. Tomáš Kramár, PhD.

Ak. rok: 2017/2018

Physical model



Spôsob generovania dát

Dáta boli generované prostredníctvom programu Datanamic. Nominálne atribúty boli generované náhodne z preddefinovaných zoznamov, s dôrazom na čo najväčšiu podobnosť danej doméne. Numerické atribúty boli generované náhodne až na atribúty cudzích kľúčov. Tie boli generované sekvenčne z dôvodu potreby prepojiť všetky záznamy.

invoice

count: 1 000 000

SELECT count(*) FROM invoice

| COLUMN NAME | DATATYPE | COMMENTS |
|-------------|--------------------------|---|
| id | serial | min:1 SELECT min(id) FROM invoice max:1000000 SELECT max(id) FROM invoice |
| issue_date | timestamp with time zone | min:1990 SELECT min(EXTRACT(YEAR FROM issue_date)) FROM invoice max:2017 SELECT max(EXTRACT(YEAR FROM issue_date)) FROM invoice avg:2003.30886 SELECT avg(EXTRACT(YEAR FROM issue_date)) FROM invoice dolný kvartil:1996 SELECT percentile_cont(0.25) within group (order by EXTRACT(YEAR FROM issue_date)) FROM invoice medián:2003 SELECT percentile_cont(0.5) within group (order by EXTRACT(YEAR FROM issue_date)) FROM invoice horný kvartil:2010 SELECT percentile_cont(0.75) within group (order by EXTRACT(YEAR FROM issue_date)) FROM invoice |
| | | |

| COLUMN NAME | DATATYPE | COMMENTS |
|-------------|--------------------------|---|
| paid_date | timestamp with time zone | min:1990 SELECT min(EXTRACT(YEAR FROM paid_date)) FROM invoice |
| | | <pre>max:2017 SELECT max(EXTRACT(YEAR FROM paid_date)) FROM invoice</pre> |
| | | <pre>avg: 2003.2962930824 SELECT avg(EXTRACT(YEAR FROM paid_date)) FROM invoice</pre> |
| | | <pre>dolný kvartil:1996 SELECT percentile_cont(0.25) within group (order by EXTRACT(YEAR FROM paid_date)) FROM invoice</pre> |
| | | <pre>medián:2003 SELECT percentile_cont(0.5) within group (order by EXTRACT(YEAR FROM paid_date)) FROM invoice</pre> |
| | | <pre>horný kvartil: 2010 SELECT percentile_cont(0.75) within group (order by EXTRACT(YEAR FROM paid_date)) FROM invoice</pre> |
| customer_id | integer | min:1 SELECT min(customer_id) FROM invoice |
| | | max:100000 SELECT max(customer_id) FROM invoice |
| | | avg:50002.796205 SELECT avg(customer_id) FROM invoice |
| | | <pre>dolný kvartil:25022 SELECT percentile_cont(0.25) within group (order by customer_id) FROM invoice</pre> |
| | | <pre>medián: 49997 SELECT percentile_cont(0.5) within group (order by customer_id) FROM invoice</pre> |
| | | <pre>horný kvartil:74995 SELECT percentile_cont(0.75) within group (order by customer_id) FROM invoice</pre> |
| | | |

cleaner

count: 2 000 000

| COLUMN NAME | DATATYPE | COMMENTS |
|-------------|----------|-----------------------------------|
| id | serial | min: 1 |
| | | max : 2 000 000 |
| la hours | integer | min: 2 |
| | | max:3600 |
| | | avg: 1800.835713000000000 |
| | | dolný kvartil : 901 |
| | | medián : 1801 |
| | | horný kvartil : 2700 |
| service_id | integer | min : 1 |
| | | max: 2000000 |
| | | avg: 1000000.5 |
| | | dolný kvartil : 500000.75 |
| | | medián : 1000000.5 |
| | | horný kvartil : 1500000.25 |
| employee_id | integer | min : 1 |
| | | max:100000 |
| | | avg: 50006.4812835 |
| | | dolný kvartil : 24976.75 |
| | | medián : 50026 |
| | | horný kvartil : 75013 |

customer

count: 100 000

| COLUMN NAME | DATATYPE | COMMENTS |
|----------------|-------------|--|
| □ id | serial | min: 1 max: 100000 |
| first_name | varchar(50) | the number of repeating values - how many times: 1-3165 1-524 1-525 1-526 1-530 1-536 1-539 1-548 1-551 1-552 1- 554 1-555 1-559 1-562 1-565 1-566 1-567 1-571 1-573 1-599 1-792 1-799 1-800 1-808 1-813 1-817 1-823 1-829 1-835 1-839 1-844 1-869 1-1014 1-1050 1-1052 1-1062 1-1094 1-1115 1-1339 1-1599 1-1605 1-1612 1-1816 1-1842 1-1918 1-1971 1-2166 1-2334 1-226 1-238 1- 246 1-247 1-250 1-274 1-281 1-288 1-289 1-292 1-293 1-294 1-295 1-300 1-301 1-482 1-486 1-520 2-538 2-556 2-243 2-245 2-296 2-298 2-248 2-249 2-546 2-269 2-270 2-273 2-820 2-275 2-305 2-285 2-532 2-549 2-290 2-291 2-537 2-523 2-236 3-267 3-272 3-287 3-276 3-255 3-256 3-268 4-280 4-259 4-277 4-278 4-251 4-264 4-263 4-257 5-282 5-265 5-260 5-261 5-279 5-262 5-283 6-258 7-266 7-271 SELECT count(count) the_number_of_repeating_values, count how_many_times FROM (SELECT count(first_name) FROM customer GROUP BY first_name) subtable GROUP BY first_name) subtable GROUP BY first_name) subtable GROUP BY first_name subtable GROUP BY first_name flow for the first for for first fo |
| 8 | varchar(50) | the number of repeating values - how many times : |

| COLUMN NAME | DATATYPE | COMMENTS |
|----------------|--------------|--|
| last_name | | 1-217 1-221 1-230 1-234 1-235 1-240 1-241 1-243 1-247 1-251 1-293 1-307 1-316 1-502 1-505 1-509 1-517 1-526 1-538 1-541 1-542 1-546 1-547 1-556 1-568 1-574 1-579 1-778 1-823 1-837 1-848 2-511 2-296 2-232 2-297 2-298 2-552 2-245 2-242 2-304 2-281 2-238 2-236 2-295 3-282 3-305 3-550 3-284 3-248 3-291 3-290 3-244 4-249 4-246 4-287 4-267 4-258 4-264 4-283 4-300 4-254 4-253 5-262 5-266 5-279 5-289 5-292 5-250 5-260 6-274 6-288 6-255 7-286 7-271 7-270 7-252 7-257 8-272 8-278 8-256 8-285 8-265 8-276 8-275 9-269 9-273 9-259 9-261 9-277 10-263 11-280 11-268 |
| | | Vanderoever Hedgecock Daniel Hoyt DeBerg Barnett Ahlgren van Doorn Visentini Sakurai Stewart Donatelli Poole Prior Lannigham Zapetis Stevenson Linhart Bryant Bryan |
| ight birth_day | date | min: 1950 max: 2000 avg: 1974.80065 |
| | | dolný kvartil : 1962 |
| | | medián : 1975 |
| | | horný kvartil : 1987 |
| address | varchar(100) | the number of repeating values - how many times : 1-292 1-293 1-294 1-296 1-297 1-298 1-299 1-302 1-304 1-306 1-308 1-317 1-318 1-320 1-326 1-341 1-363 1-367 1-370 1-372 1-374 1-376 1-379 1-380 1-382 1-383 1-644 2-314 2-328 2-384 2-371 2-388 2-368 2-369 2-325 2-355 2-323 2-313 2-346 2-364 2-366 3-375 3-365 3-321 3-378 3-377 3-315 3-348 3-349 3-312 3-373 3-354 3-356 3-358 3-360 3-309 4-319 4-327 4-322 4-362 4-333 4-329 4-351 4-311 4-331 5-324 5-330 5-336 5-340 5-350 5-353 5-357 5-310 6-316 6-334 6-338 7-335 |

| COLUMN NAME | DATATYPE | COMMENTS |
|----------------|----------|--|
| | | 7-344 7-337 7-342 7-359 7-361 8-332 9-343 9-345 9-347 9-352 12- 339 |

employee

count: 100 000

employee

| | | empioyee |
|-------------|-------------|---|
| COLUMN NAME | DATATYPE | COMMENTS |
| id | serial | min: 1 max: 100000 |
| inst_name | varchar(50) | the number of repeating values - how many times : 1-3239 1-230 1-233 1-520 1-522 1-523 1-528 1-532 1-536 1-537 1-538 1-542 1-548 1-550 1-552 1-554 1-556 1-565 1-570 1-572 1-579 1-602 1-779 1-783 1-799 1-804 1-806 1-811 1-822 1-856 1-872 1-904 1-1019 1-1038 1-1051 1-1064 1-1084 1-1125 1-1304 1-1561 1-1563 1-1625 1-1850 1-1881 1-1889 1-1898 1-2114 1-2527 1-223 1-243 1-244 1-249 1-250 1-252 1-265 1-277 1-278 1-281 1-285 1-293 1-296 1-303 1-305 1-309 1-310 1-311 1-314 1-318 1-497 1-500 1-506 1-509 1-512 1-513 1-517 1-518 1-519 2-246 2-262 2-812 2-264 2-290 2-824 2-272 2-553 2-511 2-288 2-297 2-286 2-540 2-255 2-256 2-245 2-563 2-235 2-260 3-279 3-237 3-291 3-247 3-257 3-261 3-301 3-270 3-283 3-284 4-271 4-259 4-280 4-258 4-251 4-289 4-253 4-268 4-276 4-267 5-273 5-274 5-254 5-282 5-263 5-287 5-269 1-3239 1-230 1-233 1-520 1-522 1-523 1-528 1-532 1-536 1-537 1-538 1-542 1-548 1-550 1-552 1-554 1-565 1-565 1-570 1-572 1-579 1-602 1-779 1-783 1-799 1-804 1-806 1-811 1-822 1-856 1-872 1-904 1-1019 1-1038 1-1051 1-1064 1-1084 1-1125 1-1304 1-1561 1-1563 1-1625 1-1850 1-1881 1-1889 1-1898 1-2114 1-2527 1-223 1-243 1-244 1-249 1-250 1-252 1-265 1-277 1-278 1-281 1-285 1-293 1-296 1-303 1-305 1-309 1-310 1-311 1-314 1-318 1-497 1-500 1-506 1-509 1-512 1-513 1-517 1-518 1-519 2-246 2-262 2-812 2-264 2-290 2-824 2-272 2-553 2-511 2-288 2-297 2-286 2-540 2-255 2-256 2-245 2-563 2-235 2-260 3-279 3-237 3-291 3-247 3-257 3-261 3-301 3-270 3-283 3-284 4-271 4-259 4-280 4-258 4-251 4-289 4-253 4-268 4-276 4-267 5-273 5-274 5-254 5-282 5-263 5-287 5-269 2-824 2-272 2-553 2-511 2-288 2-297 2-286 2-540 2-255 2-256 2-245 2-563 2-235 2-260 3-279 3-237 3-291 3-247 3-257 3-261 3-301 3-270 3-283 3-284 4-271 4-259 4-280 4-258 4-251 4-289 4-253 4-268 4-276 4-267 5-273 5-274 5-254 5-282 5-263 5-287 5-269 |

| COLUMN NAME | DATATYPE | COMMENTS |
|-------------|-------------|--|
| | | Steven Bram 2500 Steve Robert Gary Pat Cory Kevin Ronald Chris Chas Jeff Mantar Robin Nelson William Koen Nico Max Anthony Bonnie Olav Max Anthony Bonnie Olav Maria Robert Maria Robert Maria Robin Nelson William Koen Nico Max Anthony Bonnie Olav Max Anthony Bonnie Olav Maria Robert Maria Robert Maria Robert Maurice Max Anthony Bonnie Olav Max Maria Robert Maurice Maria Robert Maurice Max Maria Robert Maurice Max Maria Robert Maurice Maria Robert Maurice Max Maria Robert Maurice Max Maria Robert Maurice Max Maria Robert Maurice Maria Robert Maurice Maria Robert Maurice Max Maria Robert Maurice Maria Robert Maria Robert Maurice Maria Robert Maria Rob |
| last_name | varchar(50) | the number of repeating values - how many times : 1-322 1-319 1-305 1-301 1-293 1-825 1-218 1-237 1-817 1-816 1-245 1-207 1-247 1-566 1-563 1-557 1-252 1-550 1-548 1-538 1-535 1-533 1-528 1-527 1-847 1-525 1-522 1-511 1-503 1-486 2-246 2-233 2-240 2-241 2-260 2-283 2-285 2-288 2-295 2-296 2-297 2-300 2-544 2-554 2-570 3-244 3-284 3-239 3-290 3-291 3-292 3-294 3-243 3-238 4-256 4-257 4-259 4-287 4-251 4-250 4-255 5-299 5-274 6-280 6-270 6-248 6-262 6-261 6-275 6-277 6-281 7-267 7-254 7-273 7-258 7-266 7-279 7-286 8-253 8-269 8-289 8-272 8-282 9-278 9-263 10-271 10-268 11-276 12-264 19-265 |

| COLUMN NAME | DATATYPE | COMMENTS | |
|-------------|-------------|--|--|
| | | Symbour and Symbou | |
| □ birth_day | date | min: 1950 | |
| | | max: 2000 | |
| | | avg: 1974.84376 | |
| | | dolný kvartil : 1962 | |
| | | medián : 1975 | |
| | | horný kvartil : 1988 | |
| address | varchar(50) | the number of repeating values - how many times : 1-377 1-666 1-373 1-372 1-309 1-396 1-366 1-312 1-314 1-295 1-344 1-296 1-383 1-300 1-320 1-305 2-349 2-342 2-316 2-381 2-323 2-367 2-327 2-365 2-361 2-332 3-315 3-317 3-319 3-369 3-371 4-360 4-357 4-375 4-324 4-318 4-334 4-343 4-333 4-345 4-307 4-311 4-364 4-363 4-362 5-336 5-341 5-353 5-355 5-356 5-326 5-325 5-322 6-328 6-347 6-337 6-321 6-339 6-348 6-335 7-358 7-350 7-346 7-354 7-352 8-330 8-351 9-359 9-340 9-331 11-329 14-338 | |

material

count: 2 000 000

| COLUMN NAME DATATYPE COMMENTS | UMN NAME DATATYPE COMMI |
|-------------------------------|-------------------------|
|-------------------------------|-------------------------|

| COLUMN NAME | DATATYPE | COMMENTS |
|-------------|----------|-----------------------------------|
| □ id | serial | min: 1 |
| | | max: 2000000 |
| quantity | real | min:1 |
| | | max: 60 |
| | | avg: 30.5135215 |
| | | dolný kvartil : 16 |
| | | medián: 30 |
| | | horný kvartil : 46 |
| | | |
| stuff_id | integer | min:1 |
| | | max:100000 |
| | | avg: 49976.5378755 |
| | | dolný kvartil : 24967 |
| | | medián: 49955 |
| | | horný kvartil: 74990.25 |
| service_id | integer | min:1 |
| | | max: 2000000 |
| | | avg: 1000000.5 |
| | | dolný kvartil : 500000.75 |
| | | medián : 1000000.5 |
| | | horný kvartil : 1500000.25 |

service

count: 2 000 000

| COLUMN NAME | DATATYPE | COMMENTS |
|-------------|----------|---------------|
| □ id | serial | min : 1 |
| | | max : 2000000 |

| COLUMN NAME | DATATYPE | COMMENTS |
|------------------|----------|---|
| executed_date | date | min: 1990 max: 2017 avg: 2003.3085575 dolný kvartil: 1996 medián: 2003 |
| | | horný kvartil : 2010 |
| □ cost | real | min: 1 max: 300 avg: 105.2526035 dolný kvartil: 47 medián: 79 horný kvartil: 151 |
| invoice_id | integer | min: 1 max: 1000000 avg: 500000.5 dolný kvartil: 250000.75 medián: 500000.5 horný kvartil: 750000.25 |
| □ type_id | integer | min: 1 max: 80 avg: 18.868081 dolný kvartil: 6 medián: 16 horný kvartil: 24 |

stuff

| COLUMN NAME | DATATYPE | COMMENTS |
|----------------|-------------|--|
| ∄ id | serial | min: 1 max: 100000 |
| □ name | varchar(50) | the number of repeating values - how many times : 1-607 1-605 1-507 1-601 1-519 1-592 1-584 1-524 1-583 1-582 1-560 1-510 1-536 1-573 1-1119 1-1116 1-651 1-622 1-618 1-529 1-544 1-530 1-616 1-608 1-532 2-604 2-525 2-526 2-533 2-534 2-535 2-537 2-543 2-545 2-548 2-553 2-556 2-561 2-562 2-564 2-567 2-569 2-570 2-572 2-578 2-586 2-590 2-591 2-598 2-602 3-577 3-587 3-588 3-554 3-538 3-518 3-565 3-566 3-549 3-563 3-575 3-576 3-580 3-559 3-555 3-585 3-542 4-541 4-552 4-568 4-546 4-547 4-558 4-594 4-551 5-579 6-550 7-540 |
| | | South White Tables Feature 10 Fea |
| □ brand | varchar(50) | the number of repeating values - how many times : 1-692 1-691 1-687 1-685 1-683 1-721 1-681 1-598 1-680 1-609 1-628 1-593 1-679 1-677 1-676 1-673 1-661 1-671 1-630 1-631 1-670 1-709 1-633 1-705 1-701 1-722 1-637 1-639 1-698 1-614 1-694 2-629 2-592 2-605 2-606 2-612 2-615 2-616 2-621 2-623 2-626 2-627 2-590 2-636 2-641 2-648 2-651 2-654 2-655 2-656 2-664 2-666 2-669 2-674 2-675 2-689 2-693 2-697 3-635 3-659 3-640 3-667 3-672 3-660 3-652 3-649 3-647 3-646 3-645 3-632 3-644 3-643 3-624 3-642 3-622 4-658 4-662 5-657 5-634 |

| COLUMN NAME | DATATYPE | COMMENTS |
|-------------------|-------------|--|
| | | Achat Lateria 19 3 700 Bank Labourder 500 Brasser Be De. 400 Notalya Consultancy 300 Sterling Software 100 Trendhopper 100 Van Ooyen Taxi DEX POTT Telecom Michigan 100 Michi |
| supplier_ name | varchar(50) | the number of repeating values - how many times : 1-447 1-444 1-440 1-436 1-434 1-430 1-429 1-420 1-358 1-359 1- 342 1-345 1-365 1-366 1-807 1-370 1-371 1-349 1-352 1-374 1- 455 1-343 1-355 1-357 1-452 2-363 2-354 2-364 2-372 2-373 2- 376 2-377 2-378 2-406 2-407 2-410 2-415 2-417 2-419 2-424 2- 425 2-426 2-433 2-435 3-381 3-412 3-384 3-422 3-382 3-418 3- 395 3-416 4-399 4-405 4-375 4-413 4-369 4-383 4-421 4-388 4- 391 4-392 4-397 5-404 5-403 5-387 5-386 5-400 5-389 5-409 5- 411 5-414 5-398 5-402 5-423 5-401 5-379 6-390 6-385 6-393 7- 380 8-394 8-396 9-408 |

| COLUMN NAME | DATATYPE | COMMENTS |
|---------------------|----------|--|
| | | United States of United |
| available _quantity | real | min: 30 max: 600 |
| | | avg: 314.35076 |
| | | dolný kvartil : 171 |
| | | medián: 314 |
| | | horný kvartil : 457 |

type

count: 23

| DATATYPE | COMMENTS |
|----------|-------------------|
| serial | min:1 |
| | max:80 |
| | avg: 18.868081 |
| | dolný kvartil : 6 |
| | medián: 16 |
| | |

| COLUMN NAME | DATATYPE | COMMENTS |
|-------------|-------------|--|
| | | horný kvartil : 24 |
| label | varchar(50) | the number of repeating values - how many times : 23-1 |
| | | Space 0,9 |