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Консоль

Задание 1
Команда или последовательность команд, которой удалось получить нужные логи:
 grep -R "^233.201.*" ~/logs/2019/12

Логи:
**/home/morty/logs/2019/12/apache_2019-12-18.txt:233.201.188.154 - -
[18/12/2019:21:46:01 +0000] "DELETE /events HTTP/1.1" 403 3971**

**/home/morty/logs/2019/12/apache_2019-12-21.txt:233.201.182.9 - - [21/12/2019:21:56:20
+0000] "PATCH /users HTTP/1.1" 400 4118**

Задание 2
Команды, которые создают директории bug1 и events:
mkdir bug1
mkdir bug1/events

Команда, которой выбираешь запросы за указанный период. Это те запросы, которыми
ты отбираешь логи в файл main.txt:
grep -R "3./12/2019 21:3.:.." logs/2019/12/apache_2019-12-3*.txt > ~/bug1/main.txt

Команды, которыми ты кладёшь логи в файлы 400.txt и 500.txt из main.txt:

grep " 400 " bug1/main.txt > ~/bug1/events/400.txt

grep " 500 " bug1/main.txt > ~/bug1/events/500.txt

400.txt
cat ~/bug1/events/400.txt

logs/2019/12/apache_2019-12-30.txt:80.57.170.51 - - [30/12/2019:21:35:12 +0000]
"DELETE /users HTTP/1.1" 400 3623
logs/2019/12/apache_2019-12-30.txt:204.235.176.118 - - [30/12/2019:21:35:13 +0000]
"POST /users HTTP/1.1" 400 4704
logs/2019/12/apache_2019-12-30.txt:82.95.203.67 - - [30/12/2019:21:35:19 +0000]
"DELETE /lists HTTP/1.1" 400 3737

logs/2019/12/apache_2019-12-30.txt:155.242.215.46 - - [30/12/2019:21:35:38 +0000] "POST /playbooks HTTP/1.1" 400 4450
logs/2019/12/apache_2019-12-30.txt:189.176.85.0 - - [30/12/2019:21:35:39 +0000] "PATCH /alerts HTTP/1.1" 400 2732
logs/2019/12/apache_2019-12-30.txt:13.108.71.71 - - [30/12/2019:21:35:43 +0000] "PATCH /events HTTP/1.1" 400 3410
logs/2019/12/apache_2019-12-30.txt:195.213.133.182 - - [30/12/2019:21:35:46 +0000] "PUT /customers HTTP/1.1" 400 3085
logs/2019/12/apache_2019-12-30.txt:235.243.133.78 - - [30/12/2019:21:35:47 +0000] "PATCH /customers HTTP/1.1" 400 3264
logs/2019/12/apache_2019-12-30.txt:192.57.115.49 - - [30/12/2019:21:35:55 +0000] "POST /parsers HTTP/1.1" 400 2457
logs/2019/12/apache_2019-12-30.txt:71.0.49.244 - - [30/12/2019:21:35:55 +0000] "PUT /collectors HTTP/1.1" 400 2785
logs/2019/12/apache_2019-12-30.txt:224.159.206.126 - - [30/12/2019:21:36:02 +0000] "DELETE /customers HTTP/1.1" 400 4569
logs/2019/12/apache_2019-12-30.txt:131.35.106.246 - - [30/12/2019:21:36:04 +0000] "DELETE /lists HTTP/1.1" 400 2578
logs/2019/12/apache_2019-12-30.txt:216.24.42.208 - - [30/12/2019:21:36:06 +0000] "GET /parsers HTTP/1.1" 400 4597
logs/2019/12/apache_2019-12-30.txt:123.53.150.160 - - [30/12/2019:21:37:19 +0000] "PATCH /events HTTP/1.1" 400 4379
logs/2019/12/apache_2019-12-30.txt:61.129.127.103 - - [30/12/2019:21:37:32 +0000] "GET /lists HTTP/1.1" 400 2575
logs/2019/12/apache_2019-12-30.txt:90.216.4.78 - - [30/12/2019:21:37:34 +0000] "PATCH /lists HTTP/1.1" 400 3899
logs/2019/12/apache_2019-12-30.txt:204.250.214.208 - - [30/12/2019:21:37:36 +0000] "PATCH /parsers HTTP/1.1" 400 4742
logs/2019/12/apache_2019-12-30.txt:79.214.240.98 - - [30/12/2019:21:37:37 +0000] "POST /fieldsets HTTP/1.1" 400 4441
logs/2019/12/apache_2019-12-30.txt:65.47.42.12 - - [30/12/2019:21:37:39 +0000] "PATCH /customers HTTP/1.1" 400 2500
logs/2019/12/apache_2019-12-30.txt:251.118.141.34 - - [30/12/2019:21:37:41 +0000] "POST /customers HTTP/1.1" 400 3519
logs/2019/12/apache_2019-12-30.txt:205.20.166.196 - - [30/12/2019:21:37:51 +0000] "POST /users HTTP/1.1" 400 4032
logs/2019/12/apache_2019-12-30.txt:156.217.3.46 - - [30/12/2019:21:37:52 +0000] "PATCH /parsers HTTP/1.1" 400 2020
logs/2019/12/apache_2019-12-30.txt:48.240.198.167 - - [30/12/2019:21:37:57 +0000] "PATCH /playbooks HTTP/1.1" 400 4100
logs/2019/12/apache_2019-12-30.txt:101.255.159.211 - - [30/12/2019:21:37:59 +0000] "GET /auth HTTP/1.1" 400 2324
logs/2019/12/apache_2019-12-30.txt:80.76.98.203 - - [30/12/2019:21:38:00 +0000] "POST /playbooks HTTP/1.1" 400 3045
logs/2019/12/apache_2019-12-30.txt:85.64.63.255 - - [30/12/2019:21:38:13 +0000] "PATCH /collectors HTTP/1.1" 400 2291
logs/2019/12/apache_2019-12-30.txt:184.79.247.161 - - [30/12/2019:21:38:13 +0000] "PUT /alerts HTTP/1.1" 400 3557
logs/2019/12/apache_2019-12-30.txt:93.2.134.22 - - [30/12/2019:21:39:39 +0000] "DELETE /alerts HTTP/1.1" 400 3701

logs/2019/12/apache_2019-12-31.txt:86.34.86.182 - - [31/12/2019:21:35:10 +0000] "POST /auth HTTP/1.1" 400 3626
logs/2019/12/apache_2019-12-31.txt:167.37.16.117 - - [31/12/2019:21:35:17 +0000] "PATCH /customers HTTP/1.1" 400 3294
logs/2019/12/apache_2019-12-31.txt:199.128.92.19 - - [31/12/2019:21:35:43 +0000] "PUT /users HTTP/1.1" 400 4180
logs/2019/12/apache_2019-12-31.txt:162.152.99.143 - - [31/12/2019:21:35:59 +0000] "PUT /users HTTP/1.1" 400 4606
logs/2019/12/apache_2019-12-31.txt:83.115.59.224 - - [31/12/2019:21:37:26 +0000] "GET /alerts HTTP/1.1" 400 3489
logs/2019/12/apache_2019-12-31.txt:194.10.97.226 - - [31/12/2019:21:37:31 +0000] "DELETE /lists HTTP/1.1" 400 2447
logs/2019/12/apache_2019-12-31.txt:180.99.214.40 - - [31/12/2019:21:37:44 +0000] "DELETE /alerts HTTP/1.1" 400 2077
logs/2019/12/apache_2019-12-31.txt:154.152.205.4 - - [31/12/2019:21:37:50 +0000] "GET /playbooks HTTP/1.1" 400 3324
logs/2019/12/apache_2019-12-31.txt:197.82.125.54 - - [31/12/2019:21:37:52 +0000] "PUT /fieldsets HTTP/1.1" 400 4365
logs/2019/12/apache_2019-12-31.txt:115.89.87.219 - - [31/12/2019:21:38:06 +0000] "PUT /playbooks HTTP/1.1" 400 2589
logs/2019/12/apache_2019-12-31.txt:100.77.15.14 - - [31/12/2019:21:38:07 +0000] "GET /fieldsets HTTP/1.1" 400 4911
logs/2019/12/apache_2019-12-31.txt:22.33.159.242 - - [31/12/2019:21:38:07 +0000] "GET /playbooks HTTP/1.1" 400 3955
logs/2019/12/apache_2019-12-31.txt:149.148.229.11 - - [31/12/2019:21:39:16 +0000] "GET /users HTTP/1.1" 400 2071
logs/2019/12/apache_2019-12-31.txt:236.107.64.192 - - [31/12/2019:21:39:17 +0000] "PATCH /users HTTP/1.1" 400 2791
logs/2019/12/apache_2019-12-31.txt:24.156.105.39 - - [31/12/2019:21:39:23 +0000] "GET /lists HTTP/1.1" 400 2902
logs/2019/12/apache_2019-12-31.txt:193.50.164.254 - - [31/12/2019:21:39:23 +0000] "PUT /playbooks HTTP/1.1" 400 3296
logs/2019/12/apache_2019-12-31.txt:18.123.104.91 - - [31/12/2019:21:39:52 +0000] "GET /collectors HTTP/1.1" 400 4372
logs/2019/12/apache_2019-12-31.txt:234.218.148.4 - - [31/12/2019:21:39:54 +0000] "PUT /users HTTP/1.1" 400 2509

500.txt.
cat ~/bug1/events/500.txt

logs/2019/12/apache_2019-12-30.txt:64.250.112.189 - - [30/12/2019:21:35:13 +0000] "PUT /parsers HTTP/1.1" 500 4639
logs/2019/12/apache_2019-12-30.txt:193.253.101.180 - - [30/12/2019:21:35:31 +0000] "PATCH /alerts HTTP/1.1" 500 2944
logs/2019/12/apache_2019-12-30.txt:197.106.117.194 - - [30/12/2019:21:35:31 +0000] "PATCH /parsers HTTP/1.1" 500 3519
logs/2019/12/apache_2019-12-30.txt:247.124.71.67 - - [30/12/2019:21:35:45 +0000] "PUT /alerts HTTP/1.1" 500 2746
logs/2019/12/apache_2019-12-30.txt:62.88.204.119 - - [30/12/2019:21:35:51 +0000] "PUT /auth HTTP/1.1" 500 2666
logs/2019/12/apache_2019-12-30.txt:125.156.142.26 - - [30/12/2019:21:36:01 +0000] "PATCH /events HTTP/1.1" 500 3460
logs/2019/12/apache_2019-12-30.txt:144.170.212.70 - - [30/12/2019:21:36:04 +0000] "DELETE /parsers HTTP/1.1" 500 2599
logs/2019/12/apache_2019-12-30.txt:59.39.200.252 - - [30/12/2019:21:36:05 +0000] "GET /alerts HTTP/1.1" 500 2650
logs/2019/12/apache_2019-12-30.txt:150.136.200.100 - - [30/12/2019:21:37:24 +0000] "POST /lists HTTP/1.1" 500 2684
logs/2019/12/apache_2019-12-30.txt:84.81.25.45 - - [30/12/2019:21:37:25 +0000] "POST /auth HTTP/1.1" 500 2052
logs/2019/12/apache_2019-12-30.txt:30.222.160.141 - - [30/12/2019:21:37:30 +0000] "PATCH /parsers HTTP/1.1" 500 2017
logs/2019/12/apache_2019-12-30.txt:117.87.158.36 - - [30/12/2019:21:37:34 +0000] "POST /fieldsets HTTP/1.1" 500 4056
logs/2019/12/apache_2019-12-30.txt:212.153.128.212 - - [30/12/2019:21:37:42 +0000] "PUT /fieldsets HTTP/1.1" 500 3259
logs/2019/12/apache_2019-12-30.txt:58.188.83.217 - - [30/12/2019:21:37:46 +0000] "POST /playbooks HTTP/1.1" 500 3947
logs/2019/12/apache_2019-12-30.txt:193.123.131.146 - - [30/12/2019:21:37:47 +0000] "PUT /lists HTTP/1.1" 500 3902
logs/2019/12/apache_2019-12-30.txt:182.7.179.91 - - [30/12/2019:21:37:48 +0000] "GET /users HTTP/1.1" 500 2950
logs/2019/12/apache_2019-12-30.txt:10.25.168.164 - - [30/12/2019:21:38:05 +0000] "PATCH /playbooks HTTP/1.1" 500 3858
logs/2019/12/apache_2019-12-30.txt:215.201.210.173 - - [30/12/2019:21:38:11 +0000] "PATCH /customers HTTP/1.1" 500 3277
logs/2019/12/apache_2019-12-30.txt:179.241.103.167 - - [30/12/2019:21:39:23 +0000] "POST /lists HTTP/1.1" 500 3669
logs/2019/12/apache_2019-12-30.txt:147.188.170.252 - - [30/12/2019:21:39:33 +0000] "POST /fieldsets HTTP/1.1" 500 3313
logs/2019/12/apache_2019-12-30.txt:1.249.123.189 - - [30/12/2019:21:39:36 +0000] "PATCH /alerts HTTP/1.1" 500 4734
logs/2019/12/apache_2019-12-30.txt:124.114.135.105 - - [30/12/2019:21:39:41 +0000] "PATCH /customers HTTP/1.1" 500 3348
logs/2019/12/apache_2019-12-30.txt:35.215.100.202 - - [30/12/2019:21:39:43 +0000] "PUT /alerts HTTP/1.1" 500 4345

logs/2019/12/apache_2019-12-30.txt:86.222.23.128 - - [30/12/2019:21:39:44 +0000] "PATCH /alerts HTTP/1.1" 500 2230

logs/2019/12/apache_2019-12-30.txt:20.161.75.95 - - [30/12/2019:21:39:48 +0000] "DELETE /users HTTP/1.1" 500 2412

logs/2019/12/apache_2019-12-30.txt:196.18.151.117 - - [30/12/2019:21:39:55 +0000] "PUT /events HTTP/1.1" 500 4439

logs/2019/12/apache_2019-12-30.txt:77.101.138.151 - - [30/12/2019:21:39:57 +0000] "PUT /lists HTTP/1.1" 500 2194

logs/2019/12/apache_2019-12-31.txt:208.205.133.127 - - [31/12/2019:21:35:17 +0000] "DELETE /alerts HTTP/1.1" 500 4561

logs/2019/12/apache_2019-12-31.txt:20.145.255.91 - - [31/12/2019:21:35:30 +0000] "GET /parsers HTTP/1.1" 500 3051

logs/2019/12/apache_2019-12-31.txt:91.66.134.13 - - [31/12/2019:21:35:53 +0000] "POST /lists HTTP/1.1" 500 3319

logs/2019/12/apache_2019-12-31.txt:31.88.211.206 - - [31/12/2019:21:35:57 +0000] "DELETE /events HTTP/1.1" 500 2325

logs/2019/12/apache_2019-12-31.txt:171.37.114.114 - - [31/12/2019:21:37:39 +0000] "DELETE /fieldsets HTTP/1.1" 500 3253

logs/2019/12/apache_2019-12-31.txt:223.157.242.167 - - [31/12/2019:21:37:59 +0000] "POST /users HTTP/1.1" 500 2283

logs/2019/12/apache_2019-12-31.txt:98.181.102.34 - - [31/12/2019:21:38:06 +0000] "PATCH /fieldsets HTTP/1.1" 500 4672

logs/2019/12/apache_2019-12-31.txt:254.74.22.79 - - [31/12/2019:21:38:06 +0000] "PUT /lists HTTP/1.1" 500 2259

logs/2019/12/apache_2019-12-31.txt:103.46.238.3 - - [31/12/2019:21:38:09 +0000] "PUT /lists HTTP/1.1" 500 3992

logs/2019/12/apache_2019-12-31.txt:41.62.205.107 - - [31/12/2019:21:39:20 +0000] "PATCH /alerts HTTP/1.1" 500 3631

logs/2019/12/apache_2019-12-31.txt:22.53.105.197 - - [31/12/2019:21:39:31 +0000] "DELETE /collectors HTTP/1.1" 500 4202

logs/2019/12/apache_2019-12-31.txt:178.22.133.42 - - [31/12/2019:21:39:43 +0000] "PUT /alerts HTTP/1.1" 500 4648

logs/2019/12/apache_2019-12-31.txt:102.247.13.50 - - [31/12/2019:21:39:55 +0000] "PATCH /auth HTTP/1.1" 500 3736

База данных

Задание 1

Число автомобилей:

5529

Запрос, которым тебе удалось решить задачу.

SELECT
      COUNT(*) AS cabs_mach
FROM
      cabs;

Задание 2

Список компаний с числом автомобилей меньше 100.

```
                 company_name                  | cnt
-----------------------------------------------+-----
 Nova Taxi Affiliation Llc                      |  97
 Patriot Taxi Dba Peace Taxi Associat          |  89
 Blue Diamond                                   |  85
 Checker Taxi Affiliation                       |  81
 Chicago Medallion Management                   |  80
 Chicago Independents                           |  69
 24 Seven Taxi                                  |  67
 Checker Taxi                                   |  60
 American United                                |  55
 Chicago Medallion Leasing INC                  |  53
 Top Cab Affiliation                            |  49
 KOAM Taxi Association                          |  48
 Chicago Taxicab                                |  38
 Norshore Cab                                   |  34
 Gold Coast Taxi                                |  20
 Metro Group                                    |  20
 Service Taxi Association                       |  18
 5 Star Taxi                                    |  14
 American United Taxi Affiliation               |   8
 Metro Jet Taxi A                               |   8
 Setare Inc                                     |   7
 Leonard Cab Co                                 |   5
 4615 - 83503 Tyrone Henderson                  |   1
 5062 - 34841 Sam Mestas                        |   1
 4623 - 27290 Jay Kim                           |   1
 5997 - 65283 AW Services Inc.                  |   1
 2092 - 61288 Sbeih company                     |   1
 1469 - 64126 Omar Jada                         |   1
 2733 - 74600 Benny Jona                        |   1
 2192 - 73487 Zeymane Corp                      |   1
 5006 - 39261 Salifu Bawa                       |   1
 3556 - 36214 RC Andrews Cab                    |   1
 3721 - Santamaria Express, Alvaro Santamaria   |   1
 2809 - 95474 C & D Cab Co Inc.                 |   1
 2241 - 44667 - Felman Corp, Manuel Alonso      |   1
 3620 - 52292 David K. Cab Corp.                |   1
 2823 - 73307 Lee Express Inc                   |   1
 6057 - 24657 Richard Addo                      |   1
 6742 - 83735 Tasha ride inc                    |   1
 1085 - 72312 N and W Cab Co                    |   1
 3591 - 63480 Chuks Cab                         |   1
 0118 - 42111 Godfrey S.Awir                    |   1
 6574 - Babylon Express Inc.                    |   1
 3094 - 24059 G.L.B. Cab Co                     |   1
 5874 - 73628 Sergey Cab Corp.                  |   1
 6743 - 78771 Luhak Corp                        |   1
 5074 - 54002 Ahzmi Inc                         |   1
 3623 - 72222 Arrington Enterprises             |   1
 4053 - 40193 Adwar H. Nikola                   |   1
 Chicago Star Taxicab                           |   1
 3011 - 66308 JBL Cab Inc.                      |   1
(51 rows)
```

Запрос, которым тебе удалось решить задачу.

SELECT

      company_name AS company_name,

      COUNT(cab_id) AS cnt

FROM

      cabs

GROUP BY

      company_name

HAVING

COUNT (cab_id) < 100

ORDER BY

      cnt DESC;

Задание 3

Таблица с данными за указанный период.

ts	weather_condition	case
2017-11-05 00:00:00	mist	good
2017-11-05 01:00:00	moderate rain	bad
2017-11-05 02:00:00	fog	good
2017-11-05 03:00:00	fog	good
2017-11-05 04:00:00	light rain	bad
2017-11-05 05:00:00	moderate rain	bad
2017-11-05 06:00:00	fog	good
2017-11-05 07:00:00	fog	good
2017-11-05 08:00:00	light intensity drizzle	good
2017-11-05 09:00:00	fog	good
2017-11-05 10:00:00	fog	good
2017-11-05 11:00:00	fog	good
2017-11-05 12:00:00	fog	good
2017-11-05 13:00:00	drizzle	good
2017-11-05 14:00:00	moderate rain	bad
2017-11-05 15:00:00	fog	good
2017-11-05 16:00:00	proximity thunderstorm	bad
2017-11-05 17:00:00	light intensity drizzle	good
2017-11-05 18:00:00	proximity thunderstorm with rain	bad
2017-11-05 19:00:00	proximity thunderstorm	bad
2017-11-05 20:00:00	light rain	bad
2017-11-05 21:00:00	mist	good
2017-11-05 22:00:00	mist	good
2017-11-05 23:00:00	overcast clouds	good
2017-11-06 00:00:00	overcast clouds	good

(25 rows)

Запрос, которым удалось решить задачу.

```
SELECT
        ts AS ts,
        description AS weather_condition,
CASE
        WHEN description LIKE '%rain%' OR description LIKE '%storm%' THEN
'bad' ELSE 'good' END
FROM
        weather_records
WHERE
        '2017-11-05 00:00' <= ts AND ts <= '2017-11-06 00:00';
```

Задание 4

Таблица с данными за указанный период.

```
                  company_name                  | trips_amount
------------------------------------------------+--------------
 Flash Cab                                       |        19558
 Taxi Affiliation Services                       |        11422
 Medallion Leasin                                |        10367
 Yellow Cab                                      |         9888
 Taxi Affiliation Service Yellow                 |         9299
 Chicago Carriage Cab Corp                       |         9181
 City Service                                    |         8448
 Sun Taxi                                        |         7701
 Star North Management LLC                       |         7455
 Blue Ribbon Taxi Association Inc.               |         5953
 Choice Taxi Association                         |         5015
 Globe Taxi                                      |         4383
 Dispatch Taxi Affiliation                       |         3355
 Nova Taxi Affiliation Llc                       |         3175
 Patriot Taxi Dba Peace Taxi Associat            |         2235
 Checker Taxi Affiliation                        |         2216
 Blue Diamond                                    |         2070
 Chicago Medallion Management                    |         1955
 24 Seven Taxi                                   |         1775
 Chicago Medallion Leasing INC                   |         1607
 Checker Taxi                                    |         1486
 American United                                 |         1404
 Chicago Independents                            |         1296
 KOAM Taxi Association                           |         1259
 Chicago Taxicab                                 |         1014
 Top Cab Affiliation                             |          978
 Gold Coast Taxi                                 |          428
 Service Taxi Association                        |          402
 5 Star Taxi                                     |          310
 303 Taxi                                        |          250
 Setare Inc                                      |          230
 American United Taxi Affiliation                |          210
 Leonard Cab Co                                  |          147
 Metro Jet Taxi A                                |          146
 Norshore Cab                                    |          127
 6742 - 83735 Tasha ride inc                     |           39
 3591 - 63480 Chuks Cab                          |           37
 1469 - 64126 Omar Jada                          |           36
 6743 - 78771 Luhak Corp                         |           33
 0118 - 42111 Godfrey S.Awir                     |           33
 6574 - Babylon Express Inc.                     |           31
 Chicago Star Taxicab                            |           29
 1085 - 72312 N and W Cab Co                     |           29
 2809 - 95474 C & D Cab Co Inc.                  |           29
 2092 - 61288 Sbeih company                      |           27
 3011 - 66308 JBL Cab Inc.                       |           25
 3620 - 52292 David K. Cab Corp.                 |           21
 4615 - 83503 Tyrone Henderson                   |           21
 3623 - 72222 Arrington Enterprises              |           20
 5074 - 54002 Ahzmi Inc                          |           16
 2823 - 73307 Lee Express Inc                    |           15
 4623 - 27290 Jay Kim                            |           15
 3721 - Santamaria Express, Alvaro Santamaria    |           14
 5006 - 39261 Salifu Bawa                        |           14
 2192 - 73487 Zeymane Corp                       |           14
 6057 - 24657 Richard Addo                       |           13
 5997 - 65283 AW Services Inc.                   |           12
 Metro Group                                     |           11
 5062 - 34841 Sam Mestas                         |            8
 4053 - 40193 Adwar H. Nikola                    |            7
 2733 - 74600 Benny Jona                         |            7
 5874 - 73628 Sergey Cab Corp.                   |            5
 2241 - 44667 - Felman Corp, Manuel Alonso       |            3
 3556 - 36214 RC Andrews Cab                     |            2
(64 rows)
```

Запрос, которым удалось решить задачу.

```sql
SELECT
        company_name AS company_name,
        COUNT(trips.cab_id) AS trips_amount
FROM
        trips
INNER JOIN cabs ON cabs.cab_id = trips.cab_id
WHERE
        start_ts >= '2017-11-15 00:00' AND start_ts <= '2017-11-16 23:59'
GROUP BY
        company_name
ORDER BY
        trips_amount DESC;
```