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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].' > 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

```
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
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
500.txt

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
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
```

База данных

Задание 1

Число автомобилей:

5500

Запрос, которым тебе удалось решить задачу.

```
select count(distinct vehicle_id) 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

Запрос, которым тебе удалось решить задачу.

```
select company_name, count(vehicle_id) as cnt from cabs group by company_name having
count(vehicle_id)<100 order by count(vehicle_id) desc;
```

Задание 3

Таблица с данными за указанный период.

morty@7302f5b01625: ~

ts		weather_conditions
2017-11-05	00:00:00	Good
2017-11-05	01:00:00	Bad
2017-11-05	02:00:00	Good
2017-11-05	03:00:00	Good
2017-11-05	04:00:00	Bad
2017-11-05	05:00:00	Bad
2017-11-05	06:00:00	Good
2017-11-05	07:00:00	Good
2017-11-05	08:00:00	Good
2017-11-05	09:00:00	Good
2017-11-05	10:00:00	Good
2017-11-05	11:00:00	Good
2017-11-05	12:00:00	Good
2017-11-05	13:00:00	Good
2017-11-05	14:00:00	Bad
2017-11-05	15:00:00	Good
2017-11-05	16:00:00	Bad
2017-11-05	17:00:00	Good
2017-11-05	18:00:00	Bad
2017-11-05	19:00:00	Bad
2017-11-05	20:00:00	Bad
2017-11-05	21:00:00	Good
2017-11-05	22:00:00	Good
2017-11-05	23:00:00	Good
2017-11-06	00:00:00	Good

(25 rows)

~
~
~
~
~

Запрос, которым удалось решить задачу.

```
select ts, case when description like '%rain%' then 'Bad' when description like '%storm%'
then 'Bad' else 'Good' end as weather_conditions from weather_records where ts between
'2017-11-05' and '2017-11-06';
```

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.

```
select cabs.company_name, count(trips.trip_id) as trips_amount from cabs inner join trips on  
trip.cab_id where trips.start_ts between '2017-11-15 00:00:00' and '2017-11-16 23:59:59'  
group by cabs.company_name order by trips_amount desc;
```