## **Question 1. Knowing docker tags**

Run the command to get information on Docker

```
docker --help
```

Now run the command to get help on the "docker build" command:

```
docker build --help
```

Do the same for "docker run".

Which tag has the following text? - Automatically remove the container when it exits

- --delete
- --rc
- --rmc
- --rm

```
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$ docker run --help

--rm

Automatically remove the container
when it exits
```

# Question 2. Understanding docker first run

Run docker with the python:3.9 image in an interactive mode and the entrypoint of bash. Now check the python modules that are installed ( use pip list ).

What is version of the package *wheel*?

- 0.42.0
- 1.0.0
- 23.0.1
- 58.1.0

```
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$ winpty docker run -it python:3.9 pip list

Package Version
-----
pip 23.0.1
setuptools 58.1.0
wheel 0.42.0
```

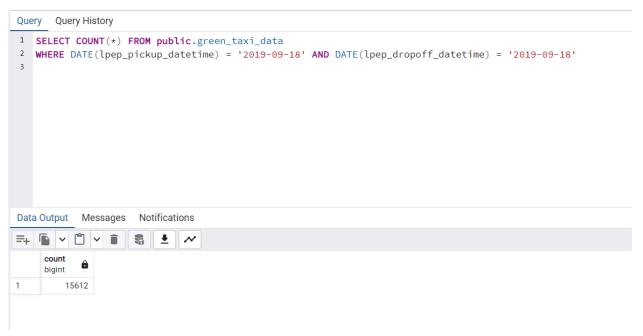
## **Question 3. Count records**

How many taxi trips were totally made on September 18th 2019?

Tip: started and finished on 2019-09-18.

Remember that <code>lpep\_pickup\_datetime</code> and <code>lpep\_dropoff\_datetime</code> columns are in the format timestamp (date and hour+min+sec) and not in date.

- 15767
- 15612
- 15859
- 89009

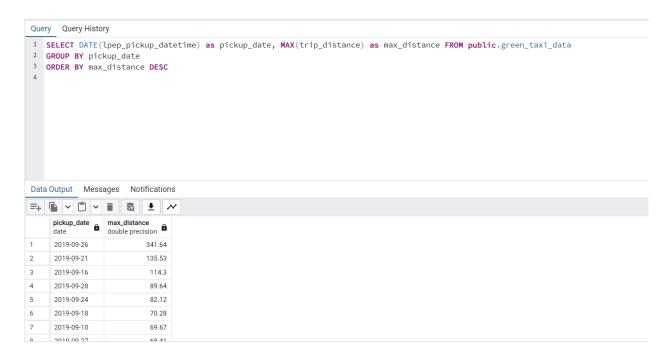


SELECT COUNT(\*) FROM public.green\_taxi\_data
WHERE DATE(lpep\_pickup\_datetime) = '2019-09-18' AND DATE(lpep\_dropoff\_datetime) = '2019-09-18'

## Question 4. Largest trip for each day

Which was the pick up day with the largest trip distance Use the pick up time for your calculations.

- 2019-09-18
- 2019-09-16
- 2019-09-26
- 2019-09-21

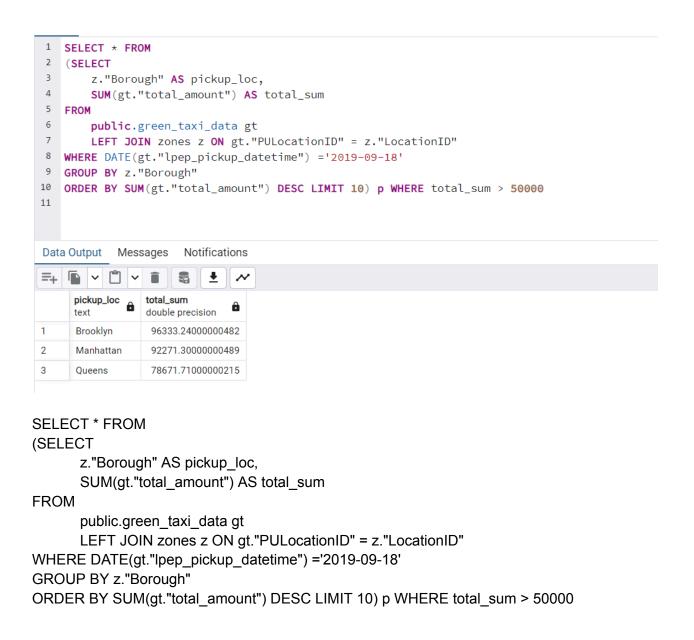


# Question 5. Three biggest pick up Boroughs

Consider Ipep\_pickup\_datetime in '2019-09-18' and ignoring Borough has Unknown

Which were the 3 pick up Boroughs that had a sum of total\_amount superior to 50000?

- "Brooklyn" "Manhattan" "Queens"
- "Bronx" "Brooklyn" "Manhattan"
- "Bronx" "Manhattan" "Queens"
- "Brooklyn" "Queens" "Staten Island"



## **Question 6. Largest tip**

For the passengers picked up in September 2019 in the zone name Astoria which was the drop off zone that had the largest tip? We want the name of the zone, not the id.

Note: it's not a typo, it's tip, not trip

- Central Park
- Jamaica
- JFK Airport

## Long Island City/Queens Plaza

```
1 SELECT
 2
         zpu."Zone" AS "pickup_loc",
 3
         zdo."Zone" AS "dropoff_loc",
 4
        MAX(tip_amount)
 5 FROM
 6
         green_taxi_data t
  7
         JOIN zones zpu ON t."PULocationID" |= zpu."LocationID"
 8
         JOIN zones zdo ON t."DOLocationID" = zdo."LocationID"
 9 WHERE
 10
        zpu."Zone" = 'Astoria'
 11
         AND to_char(lpep_pickup_datetime, 'YYYY-MM') = '2019-09'
 12 GROUP BY 1, 2
13 ORDER BY 3 DESC LIMIT 10;
 Data Output Messages Notifications
 =+ | • | • | • |
      pickup_loc
                  dropoff_loc
                                     max
                                  ۵
                                     double precision
                  JFK Airport
                                               62.31
      Astoria
 2
                  Woodside
                                                 30
      Astoria
 3
      Astoria
                  Kips Bay
                                                 28
                  N۷
 4
      Astoria
                                                 25
      Astoria
                  Astoria
                                                 20
      Astoria
                  Upper West Side South
                                                 20
       Astoria
                                               19.28
Total rows: 10 of 10 | Query complete 00:00:00.894
SELECT
        zpu."Zone" AS "pickup loc",
  zdo."Zone" AS "dropoff_loc",
        MAX(tip_amount)
```

### **FROM**

```
green_taxi_data t
JOIN zones zpu ON t."PULocationID" = zpu."LocationID"
JOIN zones zdo ON t."DOLocationID" = zdo."LocationID"
```

#### WHERE

```
zpu."Zone" = 'Astoria'
      AND to_char(lpep_pickup_datetime, 'YYYY-MM') = '2019-09'
GROUP BY 1, 2
ORDER BY 3 DESC LIMIT 10;
```

## **Question 7. Creating Resources**

After updating the main.tf and variable.tf files run:

```
terraform apply
```

Paste the output of this command into the homework submission form.

```
\underline{\text{C:} \text{$\tt Vars} \underline{\text{$\tt Vars} \underline{\text{$\tt OrdPrive} \tt Desktop $\tt Zoomcamp2024$ $\tt Week 1$$ Homework}$ terraform apply $\tt -var="project=mindful-future-412612" app
google_bigquery_dataset.demo_dataset: Refreshing state... [id=projects/mindful-future-412612/datasets/demo_dataset]
 Terraform used the selected providers to generate the following execution plan. Resource actions are indicated with the following symbols:
 Terraform will perform the following actions:
      # google_storage_bucket.demo-bucket will be created
                   + lifecycle_rule {
                                           + type = "AbortIncompleteMultipartUpload"
                                 + condition {
                                           + matches_prefix = []
+ matches_storage_class = []
+ matches_suffix = []
+ with_state = (known after apply)
                                             + with_state
Plan: 1 to add, 0 to change, 0 to destroy.
Do you want to perform these actions?

Terraform will perform the actions described above.
Only 'yes' will be accepted to approve.
    Enter a value: yes
 google_storage_bucket.demo-bucket: Creating...
google_storage_bucket.demo-bucket: Creation complete after 2s [id=mindful-future-412612-terra-bucket]
 Apply complete! Resources: 1 added, 0 changed, 0 destroyed.
 C:\Users\wongs\OneDrive\Desktop\zoomcamp2024\Week 1 Homework>
```

C:\Users\wongs\OneDrive\Desktop\zoomcamp2024\Week 1 Homework>terraform apply

```
-var="project=mindful-future-412612"
google bigguery dataset.demo dataset: Refreshing state...
[id=projects/mindful-future-412612/datasets/demo_dataset]
Terraform used the selected providers to generate the following execution plan. Resource
actions are indicated with the following symbols:
 + create
Terraform will perform the following actions:
 # google storage bucket.demo-bucket will be created
 + resource "google storage bucket" "demo-bucket" {
   + effective labels
                             = (known after apply)
   + force destroy
                             = true
   + id
                       = (known after apply)
                          = "US"
   + location
                          = "mindful-future-412612-terra-bucket"
   + name
   + project = (known after apply)
   + public_access_prevention = (known after apply)
   + self_link = (known after apply)
+ storage_class = "STANDARD"
+ terraform_labels = (known after apply)
                             = (known after apply)
   + uniform_bucket_level_access = (known after apply)
   + url
                        = (known after apply)
   + lifecycle rule {
      + action {
         + type = "AbortIncompleteMultipartUpload"
      + condition {
                          = 1
        + age
         + matches prefix
                               = []
        + matches storage class = []
        + matches_suffix = []
         + with state
                            = (known after apply)
    }
  }
Plan: 1 to add, 0 to change, 0 to destroy.
Do you want to perform these actions?
 Terraform will perform the actions described above.
 Only 'yes' will be accepted to approve.
 Enter a value: yes
google storage bucket.demo-bucket: Creating...
google storage bucket.demo-bucket: Creation complete after 2s
[id=mindful-future-412612-terra-bucket]
```

Apply complete! Resources: 1 added, 0 changed, 0 destroyed.	

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