wrangle_act_cn(1)

August 27, 2019

1 WeRateDogs

1.1

```
In [1]: #
        import numpy as np
        import pandas as pd
        import requests
        import tweepy
        import json
        from io import StringIO

        import matplotlib.pyplot as plt
        % matplotlib inline

In [2]: # csvtweet
        dog_archive = pd.read_csv('twitter-archive-enhanced.csv')

In [3]: #
        dog_archive.head()

Out[3]:           tweet_id  in_reply_to_status_id  in_reply_to_user_id  \
        0  892420643555336193                    NaN                  NaN
        1  892177421306343426                    NaN                  NaN
        2  891815181378084864                    NaN                  NaN
        3  891689557279858688                    NaN                  NaN
        4  891327558926688256                    NaN                  NaN

                          timestamp  \
        0  2017-08-01 16:23:56 +0000
        1  2017-08-01 00:17:27 +0000
        2  2017-07-31 00:18:03 +0000
        3  2017-07-30 15:58:51 +0000
        4  2017-07-29 16:00:24 +0000

                                                     source  \
        0  <a href="http://twitter.com/download/iphone" r...
        1  <a href="http://twitter.com/download/iphone" r...
```

```
2  <a href="http://twitter.com/download/iphone" r...
3  <a href="http://twitter.com/download/iphone" r...
4  <a href="http://twitter.com/download/iphone" r...

                                              text  retweeted_status_id  \
0  This is Phineas. He's a mystical boy. Only eve...                  NaN
1  This is Tilly. She's just checking pup on you...                   NaN
2  This is Archie. He is a rare Norwegian Pouncin...                  NaN
3  This is Darla. She commenced a snooze mid meal...                  NaN
4  This is Franklin. He would like you to stop ca...                  NaN

   retweeted_status_user_id retweeted_status_timestamp  \
0                       NaN                        NaN
1                       NaN                        NaN
2                       NaN                        NaN
3                       NaN                        NaN
4                       NaN                        NaN

                                     expanded_urls  rating_numerator  \
0  https://twitter.com/dog_rates/status/892420643...                13
1  https://twitter.com/dog_rates/status/892177421...                13
2  https://twitter.com/dog_rates/status/891815181...                12
3  https://twitter.com/dog_rates/status/891689557...                13
4  https://twitter.com/dog_rates/status/891327558...                12

   rating_denominator      name doggo floofer pupper puppo
0                  10   Phineas  None    None   None  None
1                  10     Tilly  None    None   None  None
2                  10    Archie  None    None   None  None
3                  10     Darla  None    None   None  None
4                  10  Franklin  None    None   None  None
```

In [4]: # tweet
        url = 'https://raw.githubusercontent.com/udacity/new-dand-advanced-china/master/%E6%95%B
        response = requests.get(url)
        text = response.content
        # tsv
        text_str = str(text, 'utf-8')
        with open('image-predictions.tsv', 'w') as outfile:
            outfile.write(text_str)
        # tsvDataFrame
        image_pred = pd.read_csv('image-predictions.tsv', sep='\t')

In [5]: #
        image_pred.head()

Out[5]:   tweet_id   jpg_url \
        0 666020888022790149 https://pbs.twimg.com/media/CT4udnOWwAAOaMy.jpg

```
     1  666029285002620928  https://pbs.twimg.com/media/CT42GRgUYAA5iDo.jpg
     2  666033412701032449  https://pbs.twimg.com/media/CT4521TWwAEvMyu.jpg
     3  666044226329800704  https://pbs.twimg.com/media/CT5Dr8HUEAA-lEu.jpg
     4  666049248165822465  https://pbs.twimg.com/media/CT5IQmsXIAAKY4A.jpg

        img_num                    p1    p1_conf  p1_dog                 p2  \
     0        1  Welsh_springer_spaniel  0.465074    True             collie
     1        1                 redbone  0.506826    True  miniature_pinscher
     2        1         German_shepherd  0.596461    True           malinois
     3        1      Rhodesian_ridgeback  0.408143    True            redbone
     4        1      miniature_pinscher  0.560311    True         Rottweiler

        p2_conf  p2_dog                   p3   p3_conf  p3_dog
     0  0.156665    True    Shetland_sheepdog  0.061428    True
     1  0.074192    True  Rhodesian_ridgeback  0.072010    True
     2  0.138584    True            bloodhound  0.116197    True
     3  0.360687    True   miniature_pinscher  0.222752    True
     4  0.243682    True              Doberman  0.154629    True
```

In [6]: # tweet

        # json
        # #
        # addition_columns = ['id_str',
        #   'retweet_count',
        #   'favorite_count']

        # # DataFrame
        # addition_data = pd.DataFrame(data=None, columns=addition_columns)
        # # jsonDataFrame
        # with open('tweet_json.txt', 'r') as infile:
        #   text = infile.readline()
        #   index = 0
        #   while text:
        #   # jsonpython dict
        #   data_dict = json.loads(text)
        #   for column in addition_columns:
        #   addition_data.loc[index, column] = data_dict[column]
        #   index += 1
        #   text = infile.readline()

        # json
        # pd.read_json
        addition_data = pd.read_json('tweet_json.txt', lines=True)[['id_str', 'retweet_count', '
        addition_data.columns = ['tweet_id', 'retweet_count', 'favorite_count']

In [7]: addition_data.head()

Out[7]:   tweet_id retweet_count favorite_count

                                   3

```
0    892420643555336192             8842              39492
1    892177421306343424             6480              33786
2    891815181378084864             4301              25445
3    891689557279858688             8925              42863
4    891327558926688256             9721              41016
```

1.2

1.2.1

In [8]: *# tweet*
        dog_archive

Out[8]:   tweet_id in_reply_to_status_id in_reply_to_user_id \
        0   892420643555336193   NaN   NaN
        1   892177421306343426   NaN   NaN
        2   891815181378084864   NaN   NaN
        3   891689557279858688   NaN   NaN
        4   891327558926688256   NaN   NaN
        5   891087950875897856   NaN   NaN
        6   890971913173991426   NaN   NaN
        7   890729181411237888   NaN   NaN
        8   890609185150312448   NaN   NaN
        9   890240255349198849   NaN   NaN
        10   890006608113172480   NaN   NaN
        11   889880896479866881   NaN   NaN
        12   889665388333682689   NaN   NaN
        13   889638837579907072   NaN   NaN
        14   889531135344209921   NaN   NaN
        15   889278841981685760   NaN   NaN
        16   888917238123831296   NaN   NaN
        17   888804989199671297   NaN   NaN
        18   888554962724278272   NaN   NaN
        19   888202515573088257   NaN   NaN
        20   888078434458587136   NaN   NaN
        21   887705289381826560   NaN   NaN
        22   887517139158093824   NaN   NaN
        23   887473957103951883   NaN   NaN
        24   887343217045368832   NaN   NaN
        25   887101392804085760   NaN   NaN
        26   886983233522544640   NaN   NaN
        27   886736880519319552   NaN   NaN
        28   886680336477933568   NaN   NaN
        29   886366144734445568   NaN   NaN
        ...   .
        2326 666411507551481857   NaN   NaN
        2327 666407126856765440   NaN   NaN
        2328 666396247373291520   NaN   NaN
        2329 666373753744588802   NaN   NaN
```

|      |                    |     |     |
|------|--------------------|-----|-----|
| 2330 | 666362758909284353 | NaN | NaN |
| 2331 | 666353288456101888 | NaN | NaN |
| 2332 | 666345417576210432 | NaN | NaN |
| 2333 | 666337882303524864 | NaN | NaN |
| 2334 | 666293911632134144 | NaN | NaN |
| 2335 | 666287406224695296 | NaN | NaN |
| 2336 | 666273097616637952 | NaN | NaN |
| 2337 | 666268910803644416 | NaN | NaN |
| 2338 | 666104133288665088 | NaN | NaN |
| 2339 | 666102155909144576 | NaN | NaN |
| 2340 | 666099513787052032 | NaN | NaN |
| 2341 | 666094000022159362 | NaN | NaN |
| 2342 | 666082916733198337 | NaN | NaN |
| 2343 | 666073100786774016 | NaN | NaN |
| 2344 | 666071193221509120 | NaN | NaN |
| 2345 | 666063827256086533 | NaN | NaN |
| 2346 | 666058600524156928 | NaN | NaN |
| 2347 | 666057090499244032 | NaN | NaN |
| 2348 | 666055525042405380 | NaN | NaN |
| 2349 | 666051853826850816 | NaN | NaN |
| 2350 | 666050758794694657 | NaN | NaN |
| 2351 | 666049248165822465 | NaN | NaN |
| 2352 | 666044226329800704 | NaN | NaN |
| 2353 | 666033412701032449 | NaN | NaN |
| 2354 | 666029285002620928 | NaN | NaN |
| 2355 | 666020888022790149 | NaN | NaN |

```
                     timestamp  \
0      2017-08-01 16:23:56 +0000
1      2017-08-01 00:17:27 +0000
2      2017-07-31 00:18:03 +0000
3      2017-07-30 15:58:51 +0000
4      2017-07-29 16:00:24 +0000
5      2017-07-29 00:08:17 +0000
6      2017-07-28 16:27:12 +0000
7      2017-07-28 00:22:40 +0000
8      2017-07-27 16:25:51 +0000
9      2017-07-26 15:59:51 +0000
10     2017-07-26 00:31:25 +0000
11     2017-07-25 16:11:53 +0000
12     2017-07-25 01:55:32 +0000
13     2017-07-25 00:10:02 +0000
14     2017-07-24 17:02:04 +0000
15     2017-07-24 00:19:32 +0000
16     2017-07-23 00:22:39 +0000
17     2017-07-22 16:56:37 +0000
18     2017-07-22 00:23:06 +0000
19     2017-07-21 01:02:36 +0000
```

```
20      2017-07-20 16:49:33 +0000
21      2017-07-19 16:06:48 +0000
22      2017-07-19 03:39:09 +0000
23      2017-07-19 00:47:34 +0000
24      2017-07-18 16:08:03 +0000
25      2017-07-18 00:07:08 +0000
26      2017-07-17 16:17:36 +0000
27      2017-07-16 23:58:41 +0000
28      2017-07-16 20:14:00 +0000
29      2017-07-15 23:25:31 +0000
...                          ...
2326    2015-11-17 00:24:19 +0000
2327    2015-11-17 00:06:54 +0000
2328    2015-11-16 23:23:41 +0000
2329    2015-11-16 21:54:18 +0000
2330    2015-11-16 21:10:36 +0000
2331    2015-11-16 20:32:58 +0000
2332    2015-11-16 20:01:42 +0000
2333    2015-11-16 19:31:45 +0000
2334    2015-11-16 16:37:02 +0000
2335    2015-11-16 16:11:11 +0000
2336    2015-11-16 15:14:19 +0000
2337    2015-11-16 14:57:41 +0000
2338    2015-11-16 04:02:55 +0000
2339    2015-11-16 03:55:04 +0000
2340    2015-11-16 03:44:34 +0000
2341    2015-11-16 03:22:39 +0000
2342    2015-11-16 02:38:37 +0000
2343    2015-11-16 01:59:36 +0000
2344    2015-11-16 01:52:02 +0000
2345    2015-11-16 01:22:45 +0000
2346    2015-11-16 01:01:59 +0000
2347    2015-11-16 00:55:59 +0000
2348    2015-11-16 00:49:46 +0000
2349    2015-11-16 00:35:11 +0000
2350    2015-11-16 00:30:50 +0000
2351    2015-11-16 00:24:50 +0000
2352    2015-11-16 00:04:52 +0000
2353    2015-11-15 23:21:54 +0000
2354    2015-11-15 23:05:30 +0000
2355    2015-11-15 22:32:08 +0000

                                                 source  \
0      <a href="http://twitter.com/download/iphone" r...
1      <a href="http://twitter.com/download/iphone" r...
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5      <a href="http://twitter.com/download/iphone" r...
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29     <a href="http://twitter.com/download/iphone" r...
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2326   <a href="http://twitter.com/download/iphone" r...
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2329   <a href="http://twitter.com/download/iphone" r...
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2332   <a href="http://twitter.com/download/iphone" r...
2333   <a href="http://twitter.com/download/iphone" r...
2334   <a href="http://twitter.com/download/iphone" r...
2335   <a href="http://twitter.com/download/iphone" r...
2336   <a href="http://twitter.com/download/iphone" r...
2337   <a href="http://twitter.com/download/iphone" r...
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2345   <a href="http://twitter.com/download/iphone" r...
2346   <a href="http://twitter.com/download/iphone" r...
2347   <a href="http://twitter.com/download/iphone" r...
```

```
2348  <a href="http://twitter.com/download/iphone" r...
2349  <a href="http://twitter.com/download/iphone" r...
2350  <a href="http://twitter.com/download/iphone" r...
2351  <a href="http://twitter.com/download/iphone" r...
2352  <a href="http://twitter.com/download/iphone" r...
2353  <a href="http://twitter.com/download/iphone" r...
2354  <a href="http://twitter.com/download/iphone" r...
2355  <a href="http://twitter.com/download/iphone" r...

                                                   text  retweeted_status_id  \
0      This is Phineas. He's a mystical boy. Only eve...                  NaN
1      This is Tilly. She's just checking pup on you...                   NaN
2      This is Archie. He is a rare Norwegian Pouncin...                  NaN
3      This is Darla. She commenced a snooze mid meal...                  NaN
4      This is Franklin. He would like you to stop ca...                  NaN
5      Here we have a majestic great white breaching ...                  NaN
6      Meet Jax. He enjoys ice cream so much he gets ...                  NaN
7      When you watch your owner call another dog a g...                  NaN
8      This is Zoey. She doesn't want to be one of th...                  NaN
9      This is Cassie. She is a college pup. Studying...                  NaN
10     This is Koda. He is a South Australian decksha...                  NaN
11     This is Bruno. He is a service shark. Only get...                  NaN
12     Here's a puppo that seems to be on the fence a...                  NaN
13     This is Ted. He does his best. Sometimes that'...                  NaN
14     This is Stuart. He's sporting his favorite fan...                  NaN
15     This is Oliver. You're witnessing one of his m...                  NaN
16     This is Jim. He found a fren. Taught him how t...                  NaN
17     This is Zeke. He has a new stick. Very proud o...                  NaN
18     This is Ralphus. He's powering up. Attempting ...                  NaN
19     RT @dog_rates: This is Canela. She attempted s...         8.874740e+17
20     This is Gerald. He was just told he didn't get...                  NaN
21     This is Jeffrey. He has a monopoly on the pool...                  NaN
22     I've yet to rate a Venezuelan Hover Wiener. Th...                  NaN
23     This is Canela. She attempted some fancy porch...                  NaN
24     You may not have known you needed to see this ...                  NaN
25     This... is a Jubilant Antarctic House Bear. We...                  NaN
26     This is Maya. She's very shy. Rarely leaves he...                  NaN
27     This is Mingus. He's a wonderful father to his...                  NaN
28     This is Derek. He's late for a dog meeting. 13...                  NaN
29     This is Roscoe. Another pupper fallen victim t...                  NaN
...                                                 ...                   ...
2326   This is quite the dog. Gets really excited whe...                  NaN
2327   This is a southern Vesuvius bumblegruff. Can d...                  NaN
2328   Oh goodness. A super rare northeast Qdoba kang...                  NaN
2329   Those are sunglasses and a jean jacket. 11/10 ...                  NaN
2330   Unique dog here. Very small. Lives in containe...                  NaN
2331   Here we have a mixed Asiago from the Galápagos...                  NaN
2332   Look at this jokester thinking seat belt laws ...                  NaN
```

```
2333  This is an extremely rare horned Parthenon. No...          NaN
2334  This is a funny dog. Weird toes. Won't come do...          NaN
2335  This is an Albanian 3 1/2 legged  Episcopalian...          NaN
2336     Can take selfies 11/10 https://t.co/ws2AMaNwPW          NaN
2337  Very concerned about fellow dog trapped in com...          NaN
2338  Not familiar with this breed. No tail (weird)...           NaN
2339  Oh my. Here you are seeing an Adobe Setter giv...          NaN
2340  Can stand on stump for what seems like a while...          NaN
2341  This appears to be a Mongolian Presbyterian mi...          NaN
2342  Here we have a well-established sunblockerspan...          NaN
2343  Let's hope this flight isn't Malaysian (lol). ...          NaN
2344  Here we have a northern speckled Rhododendron...           NaN
2345  This is the happiest dog you will ever see. Ve...          NaN
2346  Here is the Rand Paul of retrievers folks! He'...          NaN
2347  My oh my. This is a rare blond Canadian terrie...          NaN
2348  Here is a Siberian heavily armored polar bear ...          NaN
2349  This is an odd dog. Hard on the outside but lo...          NaN
2350  This is a truly beautiful English Wilson Staff...          NaN
2351  Here we have a 1949 1st generation vulpix. Enj...          NaN
2352  This is a purebred Piers Morgan. Loves to Netf...          NaN
2353  Here is a very happy pup. Big fan of well-main...          NaN
2354  This is a western brown Mitsubishi terrier. Up...          NaN
2355  Here we have a Japanese Irish Setter. Lost eye...          NaN


      retweeted_status_user_id retweeted_status_timestamp  \
0                          NaN                        NaN
1                          NaN                        NaN
2                          NaN                        NaN
3                          NaN                        NaN
4                          NaN                        NaN
5                          NaN                        NaN
6                          NaN                        NaN
7                          NaN                        NaN
8                          NaN                        NaN
9                          NaN                        NaN
10                         NaN                        NaN
11                         NaN                        NaN
12                         NaN                        NaN
13                         NaN                        NaN
14                         NaN                        NaN
15                         NaN                        NaN
16                         NaN                        NaN
17                         NaN                        NaN
18                         NaN                        NaN
19               4.196984e+09  2017-07-19 00:47:34 +0000
20                         NaN                        NaN
21                         NaN                        NaN
22                         NaN                        NaN
```

```
23                           NaN                    NaN
24                           NaN                    NaN
25                           NaN                    NaN
26                           NaN                    NaN
27                           NaN                    NaN
28                           NaN                    NaN
29                           NaN                    NaN
...                          ...                    ...
2326                         NaN                    NaN
2327                         NaN                    NaN
2328                         NaN                    NaN
2329                         NaN                    NaN
2330                         NaN                    NaN
2331                         NaN                    NaN
2332                         NaN                    NaN
2333                         NaN                    NaN
2334                         NaN                    NaN
2335                         NaN                    NaN
2336                         NaN                    NaN
2337                         NaN                    NaN
2338                         NaN                    NaN
2339                         NaN                    NaN
2340                         NaN                    NaN
2341                         NaN                    NaN
2342                         NaN                    NaN
2343                         NaN                    NaN
2344                         NaN                    NaN
2345                         NaN                    NaN
2346                         NaN                    NaN
2347                         NaN                    NaN
2348                         NaN                    NaN
2349                         NaN                    NaN
2350                         NaN                    NaN
2351                         NaN                    NaN
2352                         NaN                    NaN
2353                         NaN                    NaN
2354                         NaN                    NaN
2355                         NaN                    NaN

                                      expanded_urls  rating_numerator  \
0      https://twitter.com/dog_rates/status/892420643...                13
1      https://twitter.com/dog_rates/status/892177421...                13
2      https://twitter.com/dog_rates/status/891815181...                12
3      https://twitter.com/dog_rates/status/891689557...                13
4      https://twitter.com/dog_rates/status/891327558...                12
5      https://twitter.com/dog_rates/status/891087950...                13
6      https://gofundme.com/ydvmve-surgery-for-jax,ht...                13
7      https://twitter.com/dog_rates/status/890729181...                13
```

```
8      https://twitter.com/dog_rates/status/890609185...      13
9      https://twitter.com/dog_rates/status/890240255...      14
10     https://twitter.com/dog_rates/status/890006608...      13
11     https://twitter.com/dog_rates/status/889880896...      13
12     https://twitter.com/dog_rates/status/889665388...      13
13     https://twitter.com/dog_rates/status/889638837...      12
14     https://twitter.com/dog_rates/status/889531135...      13
15     https://twitter.com/dog_rates/status/889278841...      13
16     https://twitter.com/dog_rates/status/888917238...      12
17     https://twitter.com/dog_rates/status/888804989...      13
18     https://twitter.com/dog_rates/status/888554962...      13
19     https://twitter.com/dog_rates/status/887473957...      13
20     https://twitter.com/dog_rates/status/888078434...      12
21     https://twitter.com/dog_rates/status/887705289...      13
22     https://twitter.com/dog_rates/status/887517139...      14
23     https://twitter.com/dog_rates/status/887473957...      13
24     https://twitter.com/dog_rates/status/887343217...      13
25     https://twitter.com/dog_rates/status/887101392...      12
26     https://twitter.com/dog_rates/status/886983233...      13
27     https://www.gofundme.com/mingusneedsus,https:/...      13
28     https://twitter.com/dog_rates/status/886680336...      13
29     https://twitter.com/dog_rates/status/886366144...      12
...                                                    ...    ...
2326   https://twitter.com/dog_rates/status/666411507...       2
2327   https://twitter.com/dog_rates/status/666407126...       7
2328   https://twitter.com/dog_rates/status/666396247...       9
2329   https://twitter.com/dog_rates/status/666373753...      11
2330   https://twitter.com/dog_rates/status/666362758...       6
2331   https://twitter.com/dog_rates/status/666353288...       8
2332   https://twitter.com/dog_rates/status/666345417...      10
2333   https://twitter.com/dog_rates/status/666337882...       9
2334   https://twitter.com/dog_rates/status/666293911...       3
2335   https://twitter.com/dog_rates/status/666287406...       1
2336   https://twitter.com/dog_rates/status/666273097...      11
2337   https://twitter.com/dog_rates/status/666268910...      10
2338   https://twitter.com/dog_rates/status/666104133...       1
2339   https://twitter.com/dog_rates/status/666102155...      11
2340   https://twitter.com/dog_rates/status/666099513...       8
2341   https://twitter.com/dog_rates/status/666094000...       9
2342   https://twitter.com/dog_rates/status/666082916...       6
2343   https://twitter.com/dog_rates/status/666073100...      10
2344   https://twitter.com/dog_rates/status/666071193...       9
2345   https://twitter.com/dog_rates/status/666063827...      10
2346   https://twitter.com/dog_rates/status/666058600...       8
2347   https://twitter.com/dog_rates/status/666057090...       9
2348   https://twitter.com/dog_rates/status/666055525...      10
2349   https://twitter.com/dog_rates/status/666051853...       2
2350   https://twitter.com/dog_rates/status/666050758...      10
```

```
2351  https://twitter.com/dog_rates/status/666049248...                    5
2352  https://twitter.com/dog_rates/status/666044226...                    6
2353  https://twitter.com/dog_rates/status/666033412...                    9
2354  https://twitter.com/dog_rates/status/666029285...                    7
2355  https://twitter.com/dog_rates/status/666020888...                    8

      rating_denominator      name  doggo floofer  pupper  puppo
0                     10   Phineas   None    None    None   None
1                     10     Tilly   None    None    None   None
2                     10    Archie   None    None    None   None
3                     10     Darla   None    None    None   None
4                     10  Franklin   None    None    None   None
5                     10      None   None    None    None   None
6                     10       Jax   None    None    None   None
7                     10      None   None    None    None   None
8                     10      Zoey   None    None    None   None
9                     10    Cassie  doggo    None    None   None
10                    10      Koda   None    None    None   None
11                    10     Bruno   None    None    None   None
12                    10      None   None    None    None  puppo
13                    10       Ted   None    None    None   None
14                    10    Stuart   None    None    None  puppo
15                    10    Oliver   None    None    None   None
16                    10       Jim   None    None    None   None
17                    10      Zeke   None    None    None   None
18                    10   Ralphus   None    None    None   None
19                    10    Canela   None    None    None   None
20                    10    Gerald   None    None    None   None
21                    10   Jeffrey   None    None    None   None
22                    10      such   None    None    None   None
23                    10    Canela   None    None    None   None
24                    10      None   None    None    None   None
25                    10      None   None    None    None   None
26                    10      Maya   None    None    None   None
27                    10    Mingus   None    None    None   None
28                    10     Derek   None    None    None   None
29                    10    Roscoe   None    None  pupper   None
...                  ...       ...    ...     ...     ...    ...
2326                  10     quite   None    None    None   None
2327                  10         a   None    None    None   None
2328                  10      None   None    None    None   None
2329                  10      None   None    None    None   None
2330                  10      None   None    None    None   None
2331                  10      None   None    None    None   None
2332                  10      None   None    None    None   None
2333                  10        an   None    None    None   None
2334                  10         a   None    None    None   None
2335                   2        an   None    None    None   None
```

```
2336                    10    None  None  None  None  None
2337                    10    None  None  None  None  None
2338                    10    None  None  None  None  None
2339                    10    None  None  None  None  None
2340                    10    None  None  None  None  None
2341                    10    None  None  None  None  None
2342                    10    None  None  None  None  None
2343                    10    None  None  None  None  None
2344                    10    None  None  None  None  None
2345                    10     the  None  None  None  None
2346                    10     the  None  None  None  None
2347                    10       a  None  None  None  None
2348                    10       a  None  None  None  None
2349                    10      an  None  None  None  None
2350                    10       a  None  None  None  None
2351                    10    None  None  None  None  None
2352                    10       a  None  None  None  None
2353                    10       a  None  None  None  None
2354                    10       a  None  None  None  None
2355                    10    None  None  None  None  None

[2356 rows x 17 columns]
```

dog_archive2356*17
tweet_idid
in_reply_to_status_idid
in_reply_to_user_id: id
timestamp
source
text
retweeted_status_idid
retweeted_status_user_idid
retweeted_status_timestamp
expanded_urls
rating_numerator
rating_denomenator
name
doggo, floofer, pupper, puppo

```
In [9]: image_pred

Out[9]:                 tweet_id                                        jpg_url  \
        0    666020888022790149    https://pbs.twimg.com/media/CT4udn0WwAAOaMy.jpg
        1    666029285002620928    https://pbs.twimg.com/media/CT42GRgUYAA5iDo.jpg
        2    666033412701032449    https://pbs.twimg.com/media/CT4521TWwAEvMyu.jpg
        3    666044226329800704    https://pbs.twimg.com/media/CT5Dr8HUEAA-lEu.jpg
        4    666049248165822465    https://pbs.twimg.com/media/CT5IQmsXIAAKY4A.jpg
        5    666050758794694657    https://pbs.twimg.com/media/CT5Jof1WUAEuVxN.jpg
```

```
6       666051853826850816      https://pbs.twimg.com/media/CT5KoJ1WoAAJash.jpg
7       666055525042405380      https://pbs.twimg.com/media/CT5N9tpXIAAifs1.jpg
8       666057090499244032      https://pbs.twimg.com/media/CT5PY90WoAAQGLo.jpg
9       666058600524156928      https://pbs.twimg.com/media/CT5Qw94XAAA_2dP.jpg
10      666063827256086533      https://pbs.twimg.com/media/CT5Vg_wXIAAXfnj.jpg
11      666071193221509120      https://pbs.twimg.com/media/CT5cN_3WEAAlOoZ.jpg
12      666073100786774016      https://pbs.twimg.com/media/CT5d9DZXAAALcwe.jpg
13      666082916733198337      https://pbs.twimg.com/media/CT5m4VGWEAAtKc8.jpg
14      666094000022159362      https://pbs.twimg.com/media/CT5w9gUW4AAsBNN.jpg
15      666099513787052032      https://pbs.twimg.com/media/CT51-JJUEAA6hV8.jpg
16      666102155909144576      https://pbs.twimg.com/media/CT54YGiWUAEZnoK.jpg
17      666104133288665088      https://pbs.twimg.com/media/CT56LSZWoAAlJj2.jpg
18      666268910803644416      https://pbs.twimg.com/media/CT8QCd1WEAADXws.jpg
19      666273097616637952      https://pbs.twimg.com/media/CT8T1mtUwAA3aqm.jpg
20      666287406224695296      https://pbs.twimg.com/media/CT8g3BpUEAAuFjg.jpg
21      666293911632134144      https://pbs.twimg.com/media/CT8mx7KW4AEQu8N.jpg
22      666337882303524864      https://pbs.twimg.com/media/CT9OwFIWEAMuRje.jpg
23      666345417576210432      https://pbs.twimg.com/media/CT9Vn7PWoAA_ZCM.jpg
24      666353288456101888      https://pbs.twimg.com/media/CT9cxOtUEAAhNN_.jpg
25      666362758909284353      https://pbs.twimg.com/media/CT9lXGsUcAAyUFt.jpg
26      666373753744588802      https://pbs.twimg.com/media/CT9vZEYWUAAlZO5.jpg
27      666396247373291520      https://pbs.twimg.com/media/CT-D2ZHWIAA3gK1.jpg
28      666407126856765440      https://pbs.twimg.com/media/CT-NvwmW4AAugGZ.jpg
29      666411507551481857      https://pbs.twimg.com/media/CT-RugiWIAELEaq.jpg
...                     ...                                                 ...
2045    886366144734445568      https://pbs.twimg.com/media/DEOBTnQUwAApKEH.jpg
2046    886680336477933568      https://pbs.twimg.com/media/DE4fEDzWAAAyHMM.jpg
2047    886736880519319552      https://pbs.twimg.com/media/DE5Se8FXcAAJFx4.jpg
2048    886983233522544640      https://pbs.twimg.com/media/DE8yicJWOAAAvBJ.jpg
2049    887101392804085760      https://pbs.twimg.com/media/DE-eAq6UwAA-jaE.jpg
2050    887343217045368832      https://pbs.twimg.com/ext_tw_video_thumb/88734...
2051    887473957103951883      https://pbs.twimg.com/media/DFDw2tyUQAAAFke.jpg
2052    887517139158093824      https://pbs.twimg.com/ext_tw_video_thumb/88751...
2053    887705289381826560      https://pbs.twimg.com/media/DFHDQBbXgAEqY7t.jpg
2054    888078434458587136      https://pbs.twimg.com/media/DFMWn56WsAAkA7B.jpg
2055    888202515573088257      https://pbs.twimg.com/media/DFDw2tyUQAAAFke.jpg
2056    888554962724278272      https://pbs.twimg.com/media/DFTH_O-UQAACu2O.jpg
2057    888804989199671297      https://pbs.twimg.com/media/DFWra-3VYAA2piG.jpg
2058    888917238123831296      https://pbs.twimg.com/media/DFYRgsOUQAARGhO.jpg
2059    889278841981685760      https://pbs.twimg.com/ext_tw_video_thumb/88927...
2060    889531135344209921      https://pbs.twimg.com/media/DFg_2PVWOAEHN3p.jpg
2061    889638837579907072      https://pbs.twimg.com/media/DFihzFfXsAYGDPR.jpg
2062    889665388333682689      https://pbs.twimg.com/media/DFi579UWsAAatzw.jpg
2063    889880896479866881      https://pbs.twimg.com/media/DFl99B1WsAITKsg.jpg
2064    890006608113172480      https://pbs.twimg.com/media/DFnwSY4WAAAMliS.jpg
2065    890240255349198849      https://pbs.twimg.com/media/DFrEyVuWOAAO3t9.jpg
2066    890609185150312448      https://pbs.twimg.com/media/DFwUU__XcAEpyXI.jpg
2067    890729181411237888      https://pbs.twimg.com/media/DFyBahAVwAAhUTd.jpg
```

14

```
2068  890971913173991426     https://pbs.twimg.com/media/DF1eOmZXUAALUcq.jpg
2069  891087950875897856     https://pbs.twimg.com/media/DF3HwyEWsAABqE6.jpg
2070  891327558926688256     https://pbs.twimg.com/media/DF6hr6BUMAAzZgT.jpg
2071  891689557279858688     https://pbs.twimg.com/media/DF_q7IAWsAEuuN8.jpg
2072  891815181378084864     https://pbs.twimg.com/media/DGBdLU1WsAANxJ9.jpg
2073  892177421306343426     https://pbs.twimg.com/media/DGGmoV4XsAAUL6n.jpg
2074  892420643555336193     https://pbs.twimg.com/media/DGKD1-bXoAAIAUK.jpg

      img_num                           p1      p1_conf   p1_dog  \
0           1     Welsh_springer_spaniel    0.465074    True
1           1                    redbone    0.506826    True
2           1            German_shepherd    0.596461    True
3           1         Rhodesian_ridgeback    0.408143    True
4           1          miniature_pinscher   0.560311    True
5           1         Bernese_mountain_dog  0.651137    True
6           1                 box_turtle    0.933012   False
7           1                       chow    0.692517    True
8           1              shopping_cart    0.962465   False
9           1            miniature_poodle   0.201493    True
10          1            golden_retriever   0.775930    True
11          1               Gordon_setter    0.503672    True
12          1                Walker_hound   0.260857    True
13          1                        pug    0.489814    True
14          1                  bloodhound   0.195217    True
15          1                      Lhasa    0.582330    True
16          1              English_setter   0.298617    True
17          1                        hen    0.965932   False
18          1             desktop_computer  0.086502   False
19          1            Italian_greyhound   0.176053    True
20          1                 Maltese_dog   0.857531    True
21          1             three-toed_sloth  0.914671   False
22          1                         ox    0.416669   False
23          1            golden_retriever   0.858744    True
24          1                    malamute   0.336874    True
25          1                  guinea_pig   0.996496   False
26          1    soft-coated_wheaten_terrier  0.326467    True
27          1                   Chihuahua   0.978108    True
28          1        black-and-tan_coonhound  0.529139    True
29          1                       coho    0.404640   False
...       ...                         ...         ...     ...
2045        1              French_bulldog   0.999201    True
2046        1                 convertible   0.738995   False
2047        1                     kuvasz    0.309706    True
2048        2                   Chihuahua   0.793469    True
2049        1                    Samoyed    0.733942    True
2050        1            Mexican_hairless   0.330741    True
2051        2                   Pembroke    0.809197    True
2052        1                   limousine   0.130432   False
```

```
2053        1                           basset  0.821664    True
2054        1                   French_bulldog  0.995026    True
2055        2                         Pembroke  0.809197    True
2056        3                    Siberian_husky  0.700377    True
2057        1                 golden_retriever  0.469760    True
2058        1                 golden_retriever  0.714719    True
2059        1                          whippet  0.626152    True
2060        1                 golden_retriever  0.953442    True
2061        1                   French_bulldog  0.991650    True
2062        1                         Pembroke  0.966327    True
2063        1                   French_bulldog  0.377417    True
2064        1                          Samoyed  0.957979    True
2065        1                         Pembroke  0.511319    True
2066        1                    Irish_terrier  0.487574    True
2067        2                       Pomeranian  0.566142    True
2068        1                       Appenzeller  0.341703    True
2069        1          Chesapeake_Bay_retriever  0.425595    True
2070        2                           basset  0.555712    True
2071        1                      paper_towel  0.170278    False
2072        1                         Chihuahua  0.716012    True
2073        1                         Chihuahua  0.323581    True
2074        1                           orange  0.097049    False

                              p2   p2_conf  p2_dog                            p3  \
0                          collie  0.156665    True              Shetland_sheepdog
1             miniature_pinscher  0.074192    True             Rhodesian_ridgeback
2                        malinois  0.138584    True                      bloodhound
3                         redbone  0.360687    True              miniature_pinscher
4                      Rottweiler  0.243682    True                        Doberman
5               English_springer  0.263788    True     Greater_Swiss_Mountain_dog
6                      mud_turtle  0.045885   False                        terrapin
7                 Tibetan_mastiff  0.058279    True                        fur_coat
8                 shopping_basket  0.014594   False               golden_retriever
9                        komondor  0.192305    True     soft-coated_wheaten_terrier
10                Tibetan_mastiff  0.093718    True              Labrador_retriever
11              Yorkshire_terrier  0.174201    True                        Pekinese
12               English_foxhound  0.175382    True                     Ibizan_hound
13                    bull_mastiff  0.404722    True                  French_bulldog
14                German_shepherd  0.078260    True                        malinois
15                        Shih-Tzu  0.166192    True                  Dandie_Dinmont
16                    Newfoundland  0.149842    True                          borzoi
17                            cock  0.033919   False                       partridge
18                            desk  0.085547   False                        bookcase
19                     toy_terrier  0.111884    True                         basenji
20                     toy_poodle  0.063064    True                 miniature_poodle
21                           otter  0.015250   False                  great_grey_owl
22                    Newfoundland  0.278407    True                     groenendael
23       Chesapeake_Bay_retriever  0.054787    True              Labrador_retriever
```

24	Siberian_husky	0.147655	True	Eskimo_dog
25	skunk	0.002402	False	hamster
26	Afghan_hound	0.259551	True	briard
27	toy_terrier	0.009397	True	papillon
28	bloodhound	0.244220	True	flat-coated_retriever
29	barracouta	0.271485	False	gar
...	...	...	...	...
2045	Chihuahua	0.000361	True	Boston_bull
2046	sports_car	0.139952	False	car_wheel
2047	Great_Pyrenees	0.186136	True	Dandie_Dinmont
2048	toy_terrier	0.143528	True	can_opener
2049	Eskimo_dog	0.035029	True	Staffordshire_bullterrier
2050	sea_lion	0.275645	False	Weimaraner
2051	Rhodesian_ridgeback	0.054950	True	beagle
2052	tow_truck	0.029175	False	shopping_cart
2053	redbone	0.087582	True	Weimaraner
2054	pug	0.000932	True	bull_mastiff
2055	Rhodesian_ridgeback	0.054950	True	beagle
2056	Eskimo_dog	0.166511	True	malamute
2057	Labrador_retriever	0.184172	True	English_setter
2058	Tibetan_mastiff	0.120184	True	Labrador_retriever
2059	borzoi	0.194742	True	Saluki
2060	Labrador_retriever	0.013834	True	redbone
2061	boxer	0.002129	True	Staffordshire_bullterrier
2062	Cardigan	0.027356	True	basenji
2063	Labrador_retriever	0.151317	True	muzzle
2064	Pomeranian	0.013884	True	chow
2065	Cardigan	0.451038	True	Chihuahua
2066	Irish_setter	0.193054	True	Chesapeake_Bay_retriever
2067	Eskimo_dog	0.178406	True	Pembroke
2068	Border_collie	0.199287	True	ice_lolly
2069	Irish_terrier	0.116317	True	Indian_elephant
2070	English_springer	0.225770	True	German_short-haired_pointer
2071	Labrador_retriever	0.168086	True	spatula
2072	malamute	0.078253	True	kelpie
2073	Pekinese	0.090647	True	papillon
2074	bagel	0.085851	False	banana

	p3_conf	p3_dog
0	0.061428	True
1	0.072010	True
2	0.116197	True
3	0.222752	True
4	0.154629	True
5	0.016199	True
6	0.017885	False
7	0.054449	False
8	0.007959	True

```
9      0.082086    True
10     0.072427    True
11     0.109454    True
12     0.097471    True
13     0.048960    True
14     0.075628    True
15     0.089688    True
16     0.133649    True
17     0.000052    False
18     0.079480    False
19     0.111152    True
20     0.025581    True
21     0.013207    False
22     0.102643    True
23     0.014241    True
24     0.093412    True
25     0.000461    False
26     0.206803    True
27     0.004577    True
28     0.173810    True
29     0.189945    False
...       ...        ...
2045   0.000076    True
2046   0.044173    False
2047   0.086346    True
2048   0.032253    False
2049   0.029705    True
2050   0.134203    True
2051   0.038915    True
2052   0.026321    False
2053   0.026236    True
2054   0.000903    True
2055   0.038915    True
2056   0.111411    True
2057   0.073482    True
2058   0.105506    True
2059   0.027351    True
2060   0.007958    True
2061   0.001498    True
2062   0.004633    True
2063   0.082981    False
2064   0.008167    True
2065   0.029248    True
2066   0.118184    True
2067   0.076507    True
2068   0.193548    False
2069   0.076902    False
2070   0.175219    True
```

```
2071  0.040836    False
2072  0.031379     True
2073  0.068957     True
2074  0.076110    False

[2075 rows x 12 columns]
```

dog_archive2075*12dog_archivetweet

tweet_idid
jpg_url
img_num:
p1
p1_conf
p1_dog""
p2
p2_conf
p2_dog""
p3
p3_conf
p3_dog""

In [10]: addition_data

```
Out[10]:              tweet_id  retweet_count  favorite_count
        0   892420643555336192           8842           39492
        1   892177421306343424           6480           33786
        2   891815181378084864           4301           25445
        3   891689557279858688           8925           42863
        4   891327558926688256           9721           41016
        5   891087950875897856           3240           20548
        6   890971913173991424           2142           12053
        7   890729181411237888          19548           66596
        8   890609185150312448           4403           28187
        9   890240255349198848           7684           32467
        10  890006608113172480           7584           31127
        11  889880896479866880           5116           28208
        12  889665388333682688           8502           38745
        13  889638837579907072           4705           27633
        14  889531135344209920           2309           15329
        15  889278841981685760           5635           25712
        16  888917238123831296           4681           29555
        17  888804989199671296           4535           26021
        18  888554962724278272           3722           20267
        19  888078434458587136           3637           22144
        20  887705289381826560           5584           30690
        21  887517139158093824          12053           46940
        22  887473957103951872          18813           70007
```

23	887343217045368832	10713	34223
24	887101392804085760	6147	31045
25	886983233522544640	8045	35786
26	886736880519319552	3420	12286
27	886680336477933568	4597	22802
28	886366144734445568	3297	21488
29	886267009285017600	4	117
...	...	...	...
2322	666411507551481856	337	457
2323	666407126856765440	43	113
2324	666396247373291520	91	171
2325	666373753744588800	99	194
2326	666362758909284352	590	801
2327	666353288456101888	76	228
2328	666345417576210432	146	308
2329	666337882303524864	96	203
2330	666293911632134144	365	519
2331	666287406224695296	71	152
2332	666273097616637952	81	183
2333	666268910803644416	37	108
2334	666104133288665088	6835	14703
2335	666102155909144576	15	81
2336	666099513787052032	73	160
2337	666094000022159360	78	168
2338	666082916733198336	47	121
2339	666073100786774016	173	334
2340	666071193221509120	67	154
2341	666063827256086528	230	494
2342	666058600524156928	61	117
2343	666057090499244032	146	304
2344	666055525042405376	261	449
2345	666051853826850816	877	1250
2346	666050758794694656	60	136
2347	666049248165822464	41	111
2348	666044226329800704	147	309
2349	666033412701032448	47	128
2350	666029285002620928	48	132
2351	666020888022790144	530	2528

[2352 rows x 3 columns]

addition_data2352*3dog_archivetweet

tweet_idid
retweeted_count
favorite_count:

.dataframe thead tr:only-child th {

20

```
    text-align: right;
}
```

1.2.2

dog_archive

```
In [11]: # dog_archive
         dog_archive.head()

Out[11]:               tweet_id  in_reply_to_status_id  in_reply_to_user_id  \
         0  892420643555336193                    NaN                  NaN
         1  892177421306343426                    NaN                  NaN
         2  891815181378084864                    NaN                  NaN
         3  891689557279858688                    NaN                  NaN
         4  891327558926688256                    NaN                  NaN


                           timestamp  \
         0  2017-08-01 16:23:56 +0000
         1  2017-08-01 00:17:27 +0000
         2  2017-07-31 00:18:03 +0000
         3  2017-07-30 15:58:51 +0000
         4  2017-07-29 16:00:24 +0000


                                                       source  \
         0  <a href="http://twitter.com/download/iphone" r...
         1  <a href="http://twitter.com/download/iphone" r...
         2  <a href="http://twitter.com/download/iphone" r...
         3  <a href="http://twitter.com/download/iphone" r...
         4  <a href="http://twitter.com/download/iphone" r...


                                                         text  retweeted_status_id  \
         0  This is Phineas. He's a mystical boy. Only eve...                  NaN
         1  This is Tilly. She's just checking pup on you...                   NaN
         2  This is Archie. He is a rare Norwegian Pouncin...                  NaN
         3  This is Darla. She commenced a snooze mid meal...                  NaN
         4  This is Franklin. He would like you to stop ca...                  NaN


            retweeted_status_user_id retweeted_status_timestamp  \
         0                       NaN                        NaN
         1                       NaN                        NaN
         2                       NaN                        NaN
         3                       NaN                        NaN
         4                       NaN                        NaN


                                          expanded_urls  rating_numerator  \
         0  https://twitter.com/dog_rates/status/892420643...                13
         1  https://twitter.com/dog_rates/status/892177421...                13
         2  https://twitter.com/dog_rates/status/891815181...                12
```

```
     3  https://twitter.com/dog_rates/status/891689557...                    13
     4  https://twitter.com/dog_rates/status/891327558...                    12

        rating_denominator      name doggo floofer pupper puppo
     0                  10   Phineas  None    None   None  None
     1                  10     Tilly  None    None   None  None
     2                  10    Archie  None    None   None  None
     3                  10     Darla  None    None   None  None
     4                  10  Franklin  None    None   None  None
```

In [12]: dog_archive.tail()

Out[12]:   tweet_id in_reply_to_status_id in_reply_to_user_id \
```
     2351  666049248165822465                    NaN                  NaN
     2352  666044226329800704                    NaN                  NaN
     2353  666033412701032449                    NaN                  NaN
     2354  666029285002620928                    NaN                  NaN
     2355  666020888022790149                    NaN                  NaN


                           timestamp  \
     2351  2015-11-16 00:24:50 +0000
     2352  2015-11-16 00:04:52 +0000
     2353  2015-11-15 23:21:54 +0000
     2354  2015-11-15 23:05:30 +0000
     2355  2015-11-15 22:32:08 +0000


                                                source  \
     2351  <a href="http://twitter.com/download/iphone" r...
     2352  <a href="http://twitter.com/download/iphone" r...
     2353  <a href="http://twitter.com/download/iphone" r...
     2354  <a href="http://twitter.com/download/iphone" r...
     2355  <a href="http://twitter.com/download/iphone" r...


                                                text  retweeted_status_id  \
     2351  Here we have a 1949 1st generation vulpix. Enj...                  NaN
     2352  This is a purebred Piers Morgan. Loves to Netf...                  NaN
     2353  Here is a very happy pup. Big fan of well-main...                  NaN
     2354  This is a western brown Mitsubishi terrier. Up...                  NaN
     2355  Here we have a Japanese Irish Setter. Lost eye...                  NaN


           retweeted_status_user_id retweeted_status_timestamp  \
     2351                       NaN                        NaN
     2352                       NaN                        NaN
     2353                       NaN                        NaN
     2354                       NaN                        NaN
     2355                       NaN                        NaN


                                         expanded_urls  rating_numerator  \
```

```
2351  https://twitter.com/dog_rates/status/666049248...                    5
2352  https://twitter.com/dog_rates/status/666044226...                    6
2353  https://twitter.com/dog_rates/status/666033412...                    9
2354  https://twitter.com/dog_rates/status/666029285...                    7
2355  https://twitter.com/dog_rates/status/666020888...                    8


      rating_denominator  name doggo floofer pupper puppo
2351                  10  None  None    None   None  None
2352                  10     a  None    None   None  None
2353                  10     a  None    None   None  None
2354                  10     a  None    None   None  None
2355                  10  None  None    None   None  None
```

In [13]: # dog_archive info
         dog_archive.info()

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 2356 entries, 0 to 2355
Data columns (total 17 columns):
tweet_id                     2356 non-null int64
in_reply_to_status_id        78 non-null float64
in_reply_to_user_id          78 non-null float64
timestamp                    2356 non-null object
source                       2356 non-null object
text                         2356 non-null object
retweeted_status_id          181 non-null float64
retweeted_status_user_id     181 non-null float64
retweeted_status_timestamp   181 non-null object
expanded_urls                2297 non-null object
rating_numerator             2356 non-null int64
rating_denominator           2356 non-null int64
name                         2356 non-null object
doggo                        2356 non-null object
floofer                      2356 non-null object
pupper                       2356 non-null object
puppo                        2356 non-null object
dtypes: float64(4), int64(3), object(10)
memory usage: 313.0+ KB
```

In [14]: #
         dog_archive.describe()

```
Out[14]:          tweet_id  in_reply_to_status_id  in_reply_to_user_id  \
         count  2.356000e+03           7.800000e+01         7.800000e+01
         mean   7.427716e+17           7.455079e+17         2.014171e+16
         std    6.856705e+16           7.582492e+16         1.252797e+17
         min    6.660209e+17           6.658147e+17         1.185634e+07
         25%    6.783989e+17           6.757419e+17         3.086374e+08
```

```
50%      7.196279e+17              7.038708e+17          4.196984e+09
75%      7.993373e+17              8.257804e+17          4.196984e+09
max      8.924206e+17              8.862664e+17          8.405479e+17

         retweeted_status_id  retweeted_status_user_id  rating_numerator  \
count           1.810000e+02              1.810000e+02       2356.000000
mean            7.720400e+17              1.241698e+16         13.126486
std             6.236928e+16              9.599254e+16         45.876648
min             6.661041e+17              7.832140e+05          0.000000
25%             7.186315e+17              4.196984e+09         10.000000
50%             7.804657e+17              4.196984e+09         11.000000
75%             8.203146e+17              4.196984e+09         12.000000
max             8.874740e+17              7.874618e+17       1776.000000

         rating_denominator
count           2356.000000
mean              10.455433
std                6.745237
min                0.000000
25%               10.000000
50%               10.000000
75%               10.000000
max              170.000000
```

In [15]: # tweet_id
         dog_archive.tweet_id.value_counts()

Out[15]: 749075273010798592   1
         741099773336379392   1
         798644042770751489   1
         825120256414846976   1
         769212283578875904   1
         700462010979500032   1
         780858289093574656   1
         699775878809702401   1
         880095782870896641   1
         760521673607086080   1
         776477788987613185   1
         691820333922455552   1
         715696743237730304   1
         714606013974974464   1
         760539183865880579   1
         813157409116065792   1
         676430933382295552   1
         743510151680958465   1
         837012587749474308   1
         833722901757046785   1
         818259473185828864   1

```
670704688707301377    1
667160273090932737    1
674394782723014656    1
672082170312290304    1
670093938074779648    1
759923798737051648    1
809920764300447744    1
805487436403003392    1
838085839343206401    1
                      ..
763956972077010945    1
870308999962521604    1
720775346191278080    1
785927819176054784    1
783347506784731136    1
775733305207554048    1
834209720923721728    1
825026590719483904    1
758405701903519748    1
668986018524233728    1
690938899477221376    1
667911425562669056    1
754482103782404096    1
713175907180089344    1
669015743032369152    1
672068090318987265    1
816829038950027264    1
683773439333797890    1
674291837063053312    1
837482249356513284    1
767500508068192258    1
773922284943896577    1
673342308415348736    1
886054160059072513    1
748307329658011649    1
715360349751484417    1
666817836334096384    1
794926597468000259    1
673705679337693185    1
700151421916807169    1
Name: tweet_id, Length: 2356, dtype: int64
```

In [16]: `#`
`dog_archive.rating_numerator.value_counts()`

Out[16]: 12   558
         11   464
         10   461

25

```
13        351
9         158
8         102
7          55
14         54
5          37
6          32
3          19
4          17
1           9
2           9
420         2
0           2
15          2
75          2
80          1
20          1
24          1
26          1
44          1
50          1
60          1
165         1
84          1
88          1
144         1
182         1
143         1
666         1
960         1
1776        1
17          1
27          1
45          1
99          1
121         1
204         1
Name: rating_numerator, dtype: int64
```

In [17]: #
dog_archive.rating_numerator.sort_values()

Out[17]: 315   0
1016   0
2335   1
2261   1
2338   1
605   1

1446	1
1869	1
2091	1
2038	1
1940	1
1764	2
2310	2
1761	2
1920	2
2246	2
2237	2
2349	2
2326	2
2079	2
2305	3
1249	3
1898	3
1478	3
1692	3
2202	3
765	3
1928	3
1314	3
2183	3
...	
866	14
83	14
291	15
285	15
55	17
1663	20
516	24
1712	26
763	27
1433	44
1274	45
1202	50
1351	60
340	75
695	75
1254	80
433	84
1843	88
1228	99
1635	121
1634	143
1779	144
902	165

```
290      182
1120      204
2074      420
188      420
189      666
313      960
979     1776
Name: rating_numerator, Length: 2356, dtype: int64
```

    15

In [18]: dog_archive[dog_archive.rating_numerator>17]

Out[18]:   tweet_id in_reply_to_status_id in_reply_to_user_id \
         188   855862651834028034   8.558616e+17   1.943518e+08
         189   855860136149123072   8.558585e+17   1.361572e+07
         290   838150277551247360   8.381455e+17   2.195506e+07
         313   835246439529840640   8.352460e+17   2.625958e+07
         340   832215909146226688   NaN   NaN
         433   820690176645140481   NaN   NaN
         516   810984652412424192   NaN   NaN
         695   786709082849828864   NaN   NaN
         763   778027034220126208   NaN   NaN
         902   758467244762497024   NaN   NaN
         979   749981277374128128   NaN   NaN
         1120 731156023742988288   NaN   NaN
         1202 716439118184652801   NaN   NaN
         1228 713900603437621249   NaN   NaN
         1254 710658690886586372   NaN   NaN
         1274 709198395643068416   NaN   NaN
         1351 704054845121142784   NaN   NaN
         1433 697463031882764288   NaN   NaN
         1634 684225744407494656   6.842229e+17   4.196984e+09
         1635 684222868335505415   NaN   NaN
         1663 682808988178739200   6.827884e+17   4.196984e+09
         1712 680494726643068929   NaN   NaN
         1779 677716515794329600   NaN   NaN
         1843 675853064436391936   NaN   NaN
         2074 670842764863651840   NaN   NaN

                           timestamp \
         188   2017-04-22 19:15:32 +0000
         189   2017-04-22 19:05:32 +0000
         290   2017-03-04 22:12:52 +0000
         313   2017-02-24 21:54:03 +0000
         340   2017-02-16 13:11:49 +0000
         433   2017-01-15 17:52:40 +0000
         516   2016-12-19 23:06:23 +0000
```

```
695    2016-10-13 23:23:56 +0000
763    2016-09-20 00:24:34 +0000
902    2016-07-28 01:00:57 +0000
979    2016-07-04 15:00:45 +0000
1120   2016-05-13 16:15:54 +0000
1202   2016-04-03 01:36:11 +0000
1228   2016-03-27 01:29:02 +0000
1254   2016-03-18 02:46:49 +0000
1274   2016-03-14 02:04:08 +0000
1351   2016-02-28 21:25:30 +0000
1433   2016-02-10 16:51:59 +0000
1634   2016-01-05 04:11:44 +0000
1635   2016-01-05 04:00:18 +0000
1663   2016-01-01 06:22:03 +0000
1712   2015-12-25 21:06:00 +0000
1779   2015-12-18 05:06:23 +0000
1843   2015-12-13 01:41:41 +0000
2074   2015-11-29 05:52:33 +0000

                                                   source  \
188    <a href="http://twitter.com/download/iphone" r...
189    <a href="http://twitter.com/download/iphone" r...
290    <a href="http://twitter.com/download/iphone" r...
313    <a href="http://twitter.com/download/iphone" r...
340    <a href="http://twitter.com/download/iphone" r...
433    <a href="http://twitter.com/download/iphone" r...
516    <a href="http://twitter.com/download/iphone" r...
695    <a href="http://twitter.com/download/iphone" r...
763    <a href="http://twitter.com/download/iphone" r...
902    <a href="http://twitter.com/download/iphone" r...
979    <a href="https://about.twitter.com/products/tw...
1120   <a href="http://twitter.com/download/iphone" r...
1202   <a href="http://twitter.com/download/iphone" r...
1228   <a href="http://twitter.com/download/iphone" r...
1254   <a href="http://twitter.com/download/iphone" r...
1274   <a href="http://twitter.com/download/iphone" r...
1351   <a href="http://twitter.com/download/iphone" r...
1433   <a href="http://twitter.com/download/iphone" r...
1634   <a href="http://twitter.com/download/iphone" r...
1635   <a href="http://twitter.com/download/iphone" r...
1663   <a href="http://twitter.com/download/iphone" r...
1712   <a href="http://twitter.com/download/iphone" r...
1779   <a href="http://twitter.com/download/iphone" r...
1843   <a href="http://twitter.com/download/iphone" r...
2074   <a href="http://twitter.com/download/iphone" r...

                                                   text  retweeted_status_id  \
188    @dhmontgomery We also gave snoop dogg a 420/10...                  NaN
```

```
189   @s8n You tried very hard to portray this good ...        NaN
290                           @markhoppus 182/10               NaN
313   @jonnysun @Lin_Manuel ok jomny I know you're e...        NaN
340   RT @dog_rates: This is Logan, the Chow who liv...  7.867091e+17
433   The floofs have been released I repeat the flo...        NaN
516   Meet Sam. She smiles 24/7 &amp; secretly aspir...        NaN
695   This is Logan, the Chow who lived. He solemnly...        NaN
763   This is Sophie. She's a Jubilant Bush Pupper. ...        NaN
902   Why does this never happen at my front door...          NaN
979   This is Atticus. He's quite simply America af...          NaN
1120  Say hello to this unbelievably well behaved sq...        NaN
1202  This is Bluebert. He just saw that both #Final...        NaN
1228  Happy Saturday here's 9 puppers on a bench. 99...        NaN
1254  Here's a brigade of puppers. All look very pre...        NaN
1274  From left to right:\nCletus, Jerome, Alejandro...        NaN
1351  Here is a whole flock of puppers.  60/50 I'll ...        NaN
1433  Happy Wednesday here's a bucket of pups. 44/40...        NaN
1634  Two sneaky puppers were not initially seen, mo...        NaN
1635  Someone help the girl is being mugged. Several...        NaN
1663  I'm aware that I could've said 20/16, but here...        NaN
1712  Here we have uncovered an entire battalion of ...        NaN
1779  IT'S PUPPERGEDDON. Total of 144/120 ...I think...        NaN
1843  Here we have an entire platoon of puppers. Tot...        NaN
2074  After so many requests... here you go.\n\nGood...        NaN


      retweeted_status_user_id retweeted_status_timestamp  \
188                        NaN                        NaN
189                        NaN                        NaN
290                        NaN                        NaN
313                        NaN                        NaN
340               4.196984e+09   2016-10-13 23:23:56 +0000
433                        NaN                        NaN
516                        NaN                        NaN
695                        NaN                        NaN
763                        NaN                        NaN
902                        NaN                        NaN
979                        NaN                        NaN
1120                       NaN                        NaN
1202                       NaN                        NaN
1228                       NaN                        NaN
1254                       NaN                        NaN
1274                       NaN                        NaN
1351                       NaN                        NaN
1433                       NaN                        NaN
1634                       NaN                        NaN
1635                       NaN                        NaN
1663                       NaN                        NaN
1712                       NaN                        NaN
```

```
                   NaN                      NaN
1779               NaN                      NaN
1843               NaN                      NaN
2074               NaN                      NaN

                                          expanded_urls  rating_numerator  \
188                                                 NaN               420
189                                                 NaN               666
290                                                 NaN               182
313                                                 NaN               960
340   https://twitter.com/dog_rates/status/786709082...                75
433   https://twitter.com/dog_rates/status/820690176...                84
516   https://www.gofundme.com/sams-smile,https://tw...                24
695   https://twitter.com/dog_rates/status/786709082...                75
763   https://twitter.com/dog_rates/status/778027034...                27
902   https://twitter.com/dog_rates/status/758467244...               165
979   https://twitter.com/dog_rates/status/749981277...              1776
1120  https://twitter.com/dog_rates/status/731156023...               204
1202  https://twitter.com/dog_rates/status/716439118...                50
1228  https://twitter.com/dog_rates/status/713900603...                99
1254  https://twitter.com/dog_rates/status/710658690...                80
1274  https://twitter.com/dog_rates/status/709198395...                45
1351  https://twitter.com/dog_rates/status/704054845...                60
1433  https://twitter.com/dog_rates/status/697463031...                44
1634  https://twitter.com/dog_rates/status/684225744...               143
1635  https://twitter.com/dog_rates/status/684222868...               121
1663                                                NaN                20
1712  https://twitter.com/dog_rates/status/680494726...                26
1779  https://twitter.com/dog_rates/status/677716515...               144
1843  https://twitter.com/dog_rates/status/675853064...                88
2074  https://twitter.com/dog_rates/status/670842764...               420

      rating_denominator      name doggo floofer  pupper puppo
188                   10      None  None    None    None  None
189                   10      None  None    None    None  None
290                   10      None  None    None    None  None
313                    0      None  None    None    None  None
340                   10     Logan  None    None    None  None
433                   70      None  None    None    None  None
516                    7       Sam  None    None    None  None
695                   10     Logan  None    None    None  None
763                   10    Sophie  None    None  pupper  None
902                  150      None  None    None    None  None
979                   10   Atticus  None    None    None  None
1120                 170      this  None    None    None  None
1202                  50  Bluebert  None    None    None  None
1228                  90      None  None    None    None  None
1254                  80      None  None    None    None  None
1274                  50      None  None    None    None  None
```

```
     1351                  50        a  None    None    None  None
     1433                  40     None  None    None    None  None
     1634                 130     None  None    None    None  None
     1635                 110     None  None    None    None  None
     1663                  16     None  None    None    None  None
     1712                  10     None  None    None    None  None
     1779                 120     None  None    None    None  None
     1843                  80     None  None    None    None  None
     2074                  10     None  None    None    None  None
```

     text

In [19]: *# printtextrating*
         dog_archive_part = dog_archive[dog_archive.rating_numerator>15]
         part_len = len(dog_archive_part)
         for i in dog_archive_part.index.values:
             print('{:<5}{:<4}{:<4}{}\n'.format(i,dog_archive_part.loc[i]['rating_numerator'],
                                     dog_archive_part.loc[i]['rating_denominator'],
                                     dog_archive_part.loc[i]['text']))

55   17 10 @roushfenway These are good dogs but 17/10 is an emotional impulse rating. More lik

188 420 10 @dhmontgomery We also gave snoop dogg a 420/10 but I think that predated your resea

189 666 10 @s8n You tried very hard to portray this good boy as not so good, but you have ulti

290 182 10 @markhoppus 182/10

313 960 0   @jonnysun @Lin_Manuel ok jomny I know you're excited but 960/00 isn't a valid ratin

340 75 10 RT @dog_rates: This is Logan, the Chow who lived. He solemnly swears he's up to lot

433 84 70 The floofs have been released I repeat the floofs have been released. 84/70 https:/

516 24 7   Meet Sam. She smiles 24/7 & secretly aspires to be a reindeer.
Keep Sam smiling by clicking and sharing this link:
https://t.co/98tB8y7y7t https://t.co/LouL5vdvxx

695 75 10 This is Logan, the Chow who lived. He solemnly swears he's up to lots of good. H*ck

763 27 10 This is Sophie. She's a Jubilant Bush Pupper. Super h*ckin rare. Appears at random

902 165 150 Why does this never happen at my front door... 165/150 https://t.co/HmwrdfEfUE

979 177610 This is Atticus. He's quite simply America af. 1776/10 https://t.co/GRXwMxLBkh

1120 204 170 Say hello to this unbelievably well behaved squad of doggos. 204/170 would try to p

```
1202 50  50   This is Bluebert. He just saw that both #FinalFur match ups are split 50/50. Amazed

1228 99  90   Happy Saturday here's 9 puppers on a bench. 99/90 good work everybody https://t.co/

1254 80  80   Here's a brigade of puppers. All look very prepared for whatever happens next. 80/8

1274 45  50   From left to right:
Cletus, Jerome, Alejandro, Burp, &amp; Titson
None know where camera is. 45/50 would hug all at once https://t.co/sedre1ivTK

1351 60  50   Here is a whole flock of puppers.  60/50 I'll take the lot https://t.co/9dpcw6MdWa

1433 44  40   Happy Wednesday here's a bucket of pups. 44/40 would pet all at once https://t.co/H

1634 143 130 Two sneaky puppers were not initially seen, moving the rating to 143/130. Please fo

1635 121 110 Someone help the girl is being mugged. Several are distracting her while two steal

1663 20  16   I'm aware that I could've said 20/16, but here at WeRateDogs we are very profession

1712 26  10   Here we have uncovered an entire battalion of holiday puppers. Average of 11.26/10

1779 144 120 IT'S PUPPERGEDDON. Total of 144/120 ...I think https://t.co/ZanVtAtvIq

1843 88  80   Here we have an entire platoon of puppers. Total score: 88/80 would pet all at once

2074 420 10   After so many requests... here you go.

Good dogg. 420/10 https://t.co/yfAAo1gdeY


    960/0
```

In [20]: #
        dog_archive.rating_denominator.value_counts()

Out[20]: 10   2333
         11   3
         50   3
         80   2
         20   2
         2   1
         16   1
         40   1
         70   1
         15   1
         90   1

```
          110           1
          120           1
          130           1
          150           1
          170           1
          7             1
          0             1
          Name: rating_denominator, dtype: int64
```

In [21]: # 10
         dog_archive[dog_archive.rating_denominator!=10]

Out[21]:   tweet_id in_reply_to_status_id in_reply_to_user_id \
         313   835246439529840640   8.352460e+17   2.625958e+07
         342   832088576586297345   8.320875e+17   3.058208e+07
         433   820690176645140481   NaN   NaN
         516   810984652412424192   NaN   NaN
         784   775096608509886464   NaN   NaN
         902   758467244762497024   NaN   NaN
         1068   740373189193256964   NaN   NaN
         1120   731156023742988288   NaN   NaN
         1165   722974582966214656   NaN   NaN
         1202   716439118184652801   NaN   NaN
         1228   713900603437621249   NaN   NaN
         1254   710658690886586372   NaN   NaN
         1274   709198395643068416   NaN   NaN
         1351   704054845121142784   NaN   NaN
         1433   697463031882764288   NaN   NaN
         1598   686035780142297088   6.860340e+17   4.196984e+09
         1634   684225744407494656   6.842229e+17   4.196984e+09
         1635   684222868335505415   NaN   NaN
         1662   682962037429899265   NaN   NaN
         1663   682808988178739200   6.827884e+17   4.196984e+09
         1779   677716515794329600   NaN   NaN
         1843   675853064436391936   NaN   NaN
         2335   666287406224695296   NaN   NaN

                              timestamp \
         313   2017-02-24 21:54:03 +0000
         342   2017-02-16 04:45:50 +0000
         433   2017-01-15 17:52:40 +0000
         516   2016-12-19 23:06:23 +0000
         784   2016-09-11 22:20:06 +0000
         902   2016-07-28 01:00:57 +0000
         1068   2016-06-08 02:41:38 +0000
         1120   2016-05-13 16:15:54 +0000
         1165   2016-04-21 02:25:47 +0000
         1202   2016-04-03 01:36:11 +0000
```

```
1228   2016-03-27 01:29:02 +0000
1254   2016-03-18 02:46:49 +0000
1274   2016-03-14 02:04:08 +0000
1351   2016-02-28 21:25:30 +0000
1433   2016-02-10 16:51:59 +0000
1598   2016-01-10 04:04:10 +0000
1634   2016-01-05 04:11:44 +0000
1635   2016-01-05 04:00:18 +0000
1662   2016-01-01 16:30:13 +0000
1663   2016-01-01 06:22:03 +0000
1779   2015-12-18 05:06:23 +0000
1843   2015-12-13 01:41:41 +0000
2335   2015-11-16 16:11:11 +0000

                                                    source  \
313    <a href="http://twitter.com/download/iphone" r...
342    <a href="http://twitter.com/download/iphone" r...
433    <a href="http://twitter.com/download/iphone" r...
516    <a href="http://twitter.com/download/iphone" r...
784    <a href="http://twitter.com/download/iphone" r...
902    <a href="http://twitter.com/download/iphone" r...
1068   <a href="http://twitter.com/download/iphone" r...
1120   <a href="http://twitter.com/download/iphone" r...
1165   <a href="http://twitter.com/download/iphone" r...
1202   <a href="http://twitter.com/download/iphone" r...
1228   <a href="http://twitter.com/download/iphone" r...
1254   <a href="http://twitter.com/download/iphone" r...
1274   <a href="http://twitter.com/download/iphone" r...
1351   <a href="http://twitter.com/download/iphone" r...
1433   <a href="http://twitter.com/download/iphone" r...
1598   <a href="http://twitter.com/download/iphone" r...
1634   <a href="http://twitter.com/download/iphone" r...
1635   <a href="http://twitter.com/download/iphone" r...
1662   <a href="http://twitter.com/download/iphone" r...
1663   <a href="http://twitter.com/download/iphone" r...
1779   <a href="http://twitter.com/download/iphone" r...
1843   <a href="http://twitter.com/download/iphone" r...
2335   <a href="http://twitter.com/download/iphone" r...

                                                      text  retweeted_status_id  \
313    @jonnysun @Lin_Manuel ok jomny I know you're e...                  NaN
342              @docmisterio account started on 11/15/15                  NaN
433    The floofs have been released I repeat the flo...                  NaN
516    Meet Sam. She smiles 24/7 &amp; secretly aspir...                  NaN
784    RT @dog_rates: After so many requests, this is...        7.403732e+17
902    Why does this never happen at my front door...                   NaN
1068   After so many requests, this is Bretagne. She ...                  NaN
1120   Say hello to this unbelievably well behaved sq...                  NaN
```

35

```
1165  Happy 4/20 from the squad! 13/10 for all https...                       NaN
1202  This is Bluebert. He just saw that both #Final...                       NaN
1228  Happy Saturday here's 9 puppers on a bench. 99...                       NaN
1254  Here's a brigade of puppers. All look very pre...                       NaN
1274  From left to right:\nCletus, Jerome, Alejandro...                       NaN
1351  Here is a whole flock of puppers.  60/50 I'll ...                       NaN
1433  Happy Wednesday here's a bucket of pups. 44/40...                       NaN
1598  Yes I do realize a rating of 4/20 would've bee...                       NaN
1634  Two sneaky puppers were not initially seen, mo...                       NaN
1635  Someone help the girl is being mugged. Several...                       NaN
1662  This is Darrel. He just robbed a 7/11 and is i...                       NaN
1663  I'm aware that I could've said 20/16, but here...                       NaN
1779  IT'S PUPPERGEDDON. Total of 144/120 ...I think...                       NaN
1843  Here we have an entire platoon of puppers. Tot...                       NaN
2335  This is an Albanian 3 1/2 legged  Episcopalian...                       NaN

      retweeted_status_user_id retweeted_status_timestamp  \
313                        NaN                        NaN
342                        NaN                        NaN
433                        NaN                        NaN
516                        NaN                        NaN
784               4.196984e+09  2016-06-08 02:41:38 +0000
902                        NaN                        NaN
1068                       NaN                        NaN
1120                       NaN                        NaN
1165                       NaN                        NaN
1202                       NaN                        NaN
1228                       NaN                        NaN
1254                       NaN                        NaN
1274                       NaN                        NaN
1351                       NaN                        NaN
1433                       NaN                        NaN
1598                       NaN                        NaN
1634                       NaN                        NaN
1635                       NaN                        NaN
1662                       NaN                        NaN
1663                       NaN                        NaN
1779                       NaN                        NaN
1843                       NaN                        NaN
2335                       NaN                        NaN

                                           expanded_urls  rating_numerator  \
313                                                  NaN               960
342                                                  NaN                11
433   https://twitter.com/dog_rates/status/820690176...                84
516   https://www.gofundme.com/sams-smile,https://tw...                24
784   https://twitter.com/dog_rates/status/740373189...                 9
902   https://twitter.com/dog_rates/status/758467244...               165
```

```
1068  https://twitter.com/dog_rates/status/740373189...          9
1120  https://twitter.com/dog_rates/status/731156023...        204
1165  https://twitter.com/dog_rates/status/722974582...          4
1202  https://twitter.com/dog_rates/status/716439118...         50
1228  https://twitter.com/dog_rates/status/713900603...         99
1254  https://twitter.com/dog_rates/status/710658690...         80
1274  https://twitter.com/dog_rates/status/709198395...         45
1351  https://twitter.com/dog_rates/status/704054845...         60
1433  https://twitter.com/dog_rates/status/697463031...         44
1598                                             NaN          4
1634  https://twitter.com/dog_rates/status/684225744...        143
1635  https://twitter.com/dog_rates/status/684222868...        121
1662  https://twitter.com/dog_rates/status/682962037...          7
1663                                             NaN         20
1779  https://twitter.com/dog_rates/status/677716515...        144
1843  https://twitter.com/dog_rates/status/675853064...         88
2335  https://twitter.com/dog_rates/status/666287406...          1
```
```
      rating_denominator      name doggo floofer pupper puppo
313                    0      None  None    None   None  None
342                   15      None  None    None   None  None
433                   70      None  None    None   None  None
516                    7       Sam  None    None   None  None
784                   11      None  None    None   None  None
902                  150      None  None    None   None  None
1068                  11      None  None    None   None  None
1120                 170      this  None    None   None  None
1165                  20      None  None    None   None  None
1202                  50  Bluebert  None    None   None  None
1228                  90      None  None    None   None  None
1254                  80      None  None    None   None  None
1274                  50      None  None    None   None  None
1351                  50         a  None    None   None  None
1433                  40      None  None    None   None  None
1598                  20      None  None    None   None  None
1634                 130      None  None    None   None  None
1635                 110      None  None    None   None  None
1662                  11    Darrel  None    None   None  None
1663                  16      None  None    None   None  None
1779                 120      None  None    None   None  None
1843                  80      None  None    None   None  None
2335                   2        an  None    None   None  None
```

In [22]: # 10
```python
dog_archive_part = dog_archive[dog_archive.rating_denominator!=10]
index_arr = dog_archive_part.index.values
for index in index_arr:
    print('{:<5}{:<4}{:<4}{}\n'.format(index,dog_archive_part.loc[index]['rating_numera
```

```
                                dog_archive_part.loc[index]['rating_denominator'],
                                dog_archive_part.loc[index]['text']))

313  960 0   @jonnysun @Lin_Manuel ok jomny I know you're excited but 960/00 isn't a valid ratin

342  11  15  @docmisterio account started on 11/15/15

433  84  70  The floofs have been released I repeat the floofs have been released. 84/70 https:/

516  24  7   Meet Sam. She smiles 24/7 &amp; secretly aspires to be a reindeer.
Keep Sam smiling by clicking and sharing this link:
https://t.co/98tB8y7y7t https://t.co/LouL5vdvxx

784  9   11  RT @dog_rates: After so many requests, this is Bretagne. She was the last surviving

902  165 150 Why does this never happen at my front door... 165/150 https://t.co/HmwrdfEfUE

1068 9   11  After so many requests, this is Bretagne. She was the last surviving 9/11 search do

1120 204 170 Say hello to this unbelievably well behaved squad of doggos. 204/170 would try to p

1165 4   20  Happy 4/20 from the squad! 13/10 for all https://t.co/eV1diwds8a

1202 50  50  This is Bluebert. He just saw that both #FinalFur match ups are split 50/50. Amazed

1228 99  90  Happy Saturday here's 9 puppers on a bench. 99/90 good work everybody https://t.co/

1254 80  80  Here's a brigade of puppers. All look very prepared for whatever happens next. 80/8

1274 45  50  From left to right:
Cletus, Jerome, Alejandro, Burp, &amp; Titson
None know where camera is. 45/50 would hug all at once https://t.co/sedre1ivTK

1351 60  50  Here is a whole flock of puppers.  60/50 I'll take the lot https://t.co/9dpcw6MdWa

1433 44  40  Happy Wednesday here's a bucket of pups. 44/40 would pet all at once https://t.co/H

1598 4   20  Yes I do realize a rating of 4/20 would've been fitting. However, it would be unjus

1634 143 130 Two sneaky puppers were not initially seen, moving the rating to 143/130. Please fo

1635 121 110 Someone help the girl is being mugged. Several are distracting her while two steal

1662 7   11  This is Darrel. He just robbed a 7/11 and is in a high speed police chase. Was just

1663 20  16  I'm aware that I could've said 20/16, but here at WeRateDogs we are very profession

1779 144 120 IT'S PUPPERGEDDON. Total of 144/120 ...I think https://t.co/ZanVtAtvIq
```

```
1843 88  80  Here we have an entire platoon of puppers. Total score: 88/80 would pet all at once
```

```
2335 1   2   This is an Albanian 3 1/2 legged  Episcopalian. Loves well-polished hardwood floori
```

text

```
In [23]:  # pandas optiontext
          pd.set_option('max_colwidth', 200)
          # text
          dog_archive.query('rating_numerator > 20 | rating_denominator != 10')[['text', 'rating_
```

Out[23]:

```
          188
          189                                      @s8n You tried very hard to portray this good
          290
          313                                                                          @jonnysun
          340                      RT @dog_rates: This is Logan, the Chow who lived. He
          342
          433                                                                       The floofs
          516  Meet Sam. She smiles 24/7 &amp; secretly aspires to be a reindeer. \nKeep Sam smi
          695                                      This is Logan, the Chow who lived. He so
          763       This is Sophie. She's a Jubilant Bush Pupper. Super h*ckin rare. Appears
          784                      RT @dog_rates: After so many requests, this is Breta
          902
          979
         1068              After so many requests, this is Bretagne. She was th
         1120                                  Say hello to this unbelievably we
         1165
         1202                                      This is Bluebert. He just saw
         1228                                                              Happy
         1254                                          Here's a brigade of
         1274              From left to right:\nCletus, Jerome, Alejandro, Burp, &amp
         1351
         1433                                                                Happ
         1598                  Yes I do realize a rating of 4/20 would've been
         1634                      Two sneaky puppers were not initially
         1635              Someone help the girl is being mugged. Several are d
         1662              This is Darrel. He just robbed a 7/11 and is in a h
         1663              I'm aware that I could've said 20/16, but here at W
         1712                                      Here we have uncov
         1779
         1843                                      Here we have an ent
         2074
         2335              This is an Albanian 3 1/2 legged  Episcopalian.
```

```
        rating_numerator  rating_denominator
188                  420                  10
189                  666                  10
290                  182                  10
313                  960                   0
340                   75                  10
342                   11                  15
433                   84                  70
516                   24                   7
695                   75                  10
763                   27                  10
784                    9                  11
902                  165                 150
979                 1776                  10
1068                   9                  11
1120                 204                 170
1165                   4                  20
1202                  50                  50
1228                  99                  90
1254                  80                  80
1274                  45                  50
1351                  60                  50
1433                  44                  40
1598                   4                  20
1634                 143                 130
1635                 121                 110
1662                   7                  11
1663                  20                  16
1712                  26                  10
1779                 144                 120
1843                  88                  80
2074                 420                  10
2335                   1                   2
```

In [24]: dog_archive[dog_archive.retweeted_status_id.notnull()]

Out[24]:   tweet_id in_reply_to_status_id in_reply_to_user_id \
      19   888202515573088257   NaN   NaN
      32   886054160059072513   NaN   NaN
      36   885311592912609280   NaN   NaN
      68   879130579576475649   NaN   NaN
      73   878404777348136964   NaN   NaN
      74   878316110768087041   NaN   NaN
      78   877611172832227328   NaN   NaN
      91   874434818259525634   NaN   NaN
      95   873697596434513921   NaN   NaN

97	873337748698140672	NaN	NaN
101	872668790621863937	NaN	NaN
109	871166179821445120	NaN	NaN
118	869988702071779329	NaN	NaN
124	868639477480148993	NaN	NaN
130	867072653475098625	NaN	NaN
132	866816280283807744	NaN	NaN
137	866094527597207552	NaN	NaN
146	863471782782697472	NaN	NaN
155	861769973181624320	NaN	NaN
159	860981674716409858	NaN	NaN
160	860924035999428608	NaN	NaN
165	860177593139703809	NaN	NaN
171	858860390427611136	NaN	NaN
180	857062103051644929	NaN	NaN
182	856602993587888130	NaN	NaN
185	856330835276025856	NaN	NaN
194	855245323840757760	NaN	NaN
195	855138241867124737	NaN	NaN
204	852936405516943360	NaN	NaN
211	851953902622658560	NaN	NaN
...	...	...	...
784	775096608509886464	NaN	NaN
794	773336787167145985	NaN	NaN
800	772615324260794368	NaN	NaN
811	771171053431250945	NaN	NaN
815	771004394259247104	NaN	NaN
818	770743923962707968	NaN	NaN
822	770093767776997377	NaN	NaN
826	769335591808995329	NaN	NaN
829	768909767477751808	NaN	NaN
833	768554158521745409	NaN	NaN
841	766864461642756096	NaN	NaN
847	766078092750233600	NaN	NaN
860	763167063695355904	NaN	NaN
868	761750502866649088	NaN	NaN
872	761371037149827077	NaN	NaN
885	760153949710192640	NaN	NaN
890	759566828574212096	NaN	NaN
895	759159934323924993	NaN	NaN
908	757729163776290825	NaN	NaN
911	757597904299253760	NaN	NaN
926	754874841593970688	NaN	NaN
937	753298634498793472	NaN	NaN
943	752701944171524096	NaN	NaN
949	752309394570878976	NaN	NaN
1012	747242308580548608	NaN	NaN
1023	746521445350707200	NaN	NaN

1043	743835915802583040	NaN	NaN
1242	711998809858043904	NaN	NaN
2259	667550904950915073	NaN	NaN
2260	667550882905632768	NaN	NaN

```
                      timestamp  \
19    2017-07-21 01:02:36 +0000
32    2017-07-15 02:45:48 +0000
36    2017-07-13 01:35:06 +0000
68    2017-06-26 00:13:58 +0000
73    2017-06-24 00:09:53 +0000
74    2017-06-23 18:17:33 +0000
78    2017-06-21 19:36:23 +0000
91    2017-06-13 01:14:41 +0000
95    2017-06-11 00:25:14 +0000
97    2017-06-10 00:35:19 +0000
101   2017-06-08 04:17:07 +0000
109   2017-06-04 00:46:17 +0000
118   2017-05-31 18:47:24 +0000
124   2017-05-28 01:26:04 +0000
130   2017-05-23 17:40:04 +0000
132   2017-05-23 00:41:20 +0000
137   2017-05-21 00:53:21 +0000
146   2017-05-13 19:11:30 +0000
155   2017-05-09 02:29:07 +0000
159   2017-05-06 22:16:42 +0000
160   2017-05-06 18:27:40 +0000
165   2017-05-04 17:01:34 +0000
171   2017-05-01 01:47:28 +0000
180   2017-04-26 02:41:43 +0000
182   2017-04-24 20:17:23 +0000
185   2017-04-24 02:15:55 +0000
194   2017-04-21 02:22:29 +0000
195   2017-04-20 19:16:59 +0000
204   2017-04-14 17:27:40 +0000
211   2017-04-12 00:23:33 +0000
...                         ...
784   2016-09-11 22:20:06 +0000
794   2016-09-07 01:47:12 +0000
800   2016-09-05 02:00:22 +0000
811   2016-09-01 02:21:21 +0000
815   2016-08-31 15:19:06 +0000
818   2016-08-30 22:04:05 +0000
822   2016-08-29 03:00:36 +0000
826   2016-08-27 00:47:53 +0000
829   2016-08-25 20:35:48 +0000
833   2016-08-24 21:02:45 +0000
841   2016-08-20 05:08:29 +0000
```

```
847    2016-08-18 01:03:45 +0000
860    2016-08-10 00:16:21 +0000
868    2016-08-06 02:27:27 +0000
872    2016-08-05 01:19:35 +0000
885    2016-08-01 16:43:19 +0000
890    2016-07-31 01:50:18 +0000
895    2016-07-29 22:53:27 +0000
908    2016-07-26 00:08:05 +0000
911    2016-07-25 15:26:30 +0000
926    2016-07-18 03:06:01 +0000
937    2016-07-13 18:42:44 +0000
943    2016-07-12 03:11:42 +0000
949    2016-07-11 01:11:51 +0000
1012   2016-06-27 01:37:04 +0000
1023   2016-06-25 01:52:36 +0000
1043   2016-06-17 16:01:16 +0000
1242   2016-03-21 19:31:59 +0000
2259   2015-11-20 03:51:52 +0000
2260   2015-11-20 03:51:47 +0000


                                                                           sourc
19     <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
32     <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
36     <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
68     <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
73     <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
74     <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
78     <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
91     <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
95     <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
97     <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
101    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
109    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
118    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
124    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
130    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
132    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
137    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
146    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
155    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
159    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
160    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
165    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
171    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
180    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
182    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
185    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
194    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
```

```
195    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
204    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
211    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
...                                                                                    ..
784    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
794    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
800    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
811    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
815    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
818    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
822    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
826    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
829    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
833    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
841    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
847    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
860    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
868    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
872    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
885    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
890    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
895    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
908    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
911    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
926    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
937    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
943    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
949    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
1012   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
1023   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
1043   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
1242   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
2259              <a href="http://twitter.com" rel="nofollow">Twitter Web Client</a
2260              <a href="http://twitter.com" rel="nofollow">Twitter Web Client</a


19        RT @dog_rates: This is Canela. She attempted some fancy porch pics. They were
32
36             RT @dog_rates: This is Lilly. She just parallel barked. Kindly requests
68       RT @dog_rates: This is Emmy. She was adopted today. Massive round of pupplause
73    RT @dog_rates: Meet Shadow. In an attempt to reach maximum zooming borkdrive, he
74      RT @dog_rates: Meet Terrance. He's being yelled at because he stapled the wrong
78                     RT @rachel2195: @dog_rates the boyfriend and his soaking wet
91      RT @dog_rates: This is Coco. At first I thought she was a cloud but clouds don'
95         RT @dog_rates: This is Walter. He won't start hydrotherapy without his favor
97    RT @dog_rates: This is Sierra. She's one precious pupper. Absolute 12/10. Been in
101     RT @loganamnosis: Penelope here is doing me quite a divertir. Well done, @dog_r
109     RT @dog_rates: This is Dawn. She's just checking pup on you. Making sure you're
```

```
118      RT @dog_rates: We only rate dogs. This is quite clearly a smol broken polar bea
124    RT @dog_rates: Say hello to Cooper. His expression is the same wet or dry. Absolu
130                                              RT @rachaeleasler: these @d
132      RT @dog_rates: This is Jamesy. He gives a kiss to every other pupper he sees on
137      RT @dog_rates: Here's a pupper before and after being asked "who's a good girl?
146    RT @dog_rates: Say hello to Quinn. She's quite the goofball. Not even a year old.
155                      RT @dog_rates: "Good afternoon class today we're going to learn
159    RT @dog_rates: Meet Lorenzo. He's an avid nifty hat wearer and absolute 13/10, bu
160                                              RT @tallylott: h*ckin
165      RT @dog_rates: Ohboyohboyohboyohboyohboyohboyohboyohboyohboyohboyohboyohboyohbo
171      RT @dog_rates: Meet Winston. He knows he's a little too big for the swing, but
180      RT @AaronChewning: First time wearing my @dog_rates hat on a flight and I get D
182       RT @dog_rates: This is Luna. It's her first time outside and a bee stung her n
185                                        RT @Jenna_Marbles: @dog_rates Thanks for ra
194      RT @dog_rates: Meet George. He looks slightly deflated but overall quite powerf
195      RT @frasercampbell_: oh my... what's that... beautiful scarf around your neck..
204    RT @dog_rates: I usually only share these on Friday's, but this is Blue. He's a v
211                            RT @dog_rates: This is Astrid. She's a guide doggo in
...
784      RT @dog_rates: After so many requests, this is Bretagne. She was the last survi
794      RT @dog_rates: Meet Fizz. She thinks love is a social construct consisting sole
800         RT @dog_rates: This is Gromit. He's pupset because there's no need to bewa
811                                  RT @dog_rates: This is Frankie. He's wearing blush.
815              RT @katieornah: @dog_rates learning a lot at college 12/10 for my pr
818      RT @dog_rates: Here's a doggo blowing bubbles. It's downright legendary. 13/10
822                                    RT @dog_rates: This is just downright preciou
826       RT @dog_rates: Ever seen a dog pet another dog? Both 13/10 truly an awe-in
829      RT @dog_rates: When it's Janet from accounting's birthday but you can't eat the
833      RT @dog_rates: This is Nollie. She's waving at you. If you don't wave back you'
841      RT @dog_rates: We only rate dogs... this is a Taiwanese Guide Walrus. Im gettin
847      RT @dog_rates: This is Colby. He's currently regretting all those times he shoo
860      RT @dog_rates: Meet Eve. She's a raging alcoholic 8/10 (would b 11/10 but puppe
868                  RT @dog_rates: "Tristan do not speak to me with that kind of tone
872                                                                RT @dog
885              RT @hownottodraw: The story/person behind @dog_rates is heckin ad
890         RT @dog_rates: This... is a Tyrannosaurus rex. We only rate dogs. Please
895                                                    RT @do
908                                    RT @dog_rates: This is Cho
911                RT @jon_hill987: @dog_rates There is a cunningly disgui
926                                              RT @dog_rates: This
937      RT @dog_rates: This is Carly. She's actually 2 dogs fused together. Very innova
943            RT @dog_rates: HEY PUP WHAT'S THE PART OF THE HUMAN BODY THAT CONNECTS
949                                                    RT @dog_rates
1012   RT @dog_rates: This pupper killed this great white in an epic sea battle. Now w
1023   RT @dog_rates: This is Shaggy. He knows exactly how to solve the puzzle but can
1043   RT @dog_rates: Extremely intelligent dog here. Has learned to walk like human.
1242                                  RT @twitter: @dog_rates Awesome Twee
2259           RT @dogratingrating: Exceptional talent. Original humor. Cutti
```

	retweeted_status_id	retweeted_status_user_id
19	8.874740e+17	4.196984e+09
32	8.860537e+17	1.960740e+07
36	8.305833e+17	4.196984e+09
68	8.780576e+17	4.196984e+09
73	8.782815e+17	4.196984e+09
74	6.690004e+17	4.196984e+09
78	8.768508e+17	5.128045e+08
91	8.663350e+17	4.196984e+09
95	8.688804e+17	4.196984e+09
97	8.732138e+17	4.196984e+09
101	8.726576e+17	1.547674e+08
109	8.410770e+17	4.196984e+09
118	8.591970e+17	4.196984e+09
124	8.685523e+17	4.196984e+09
130	8.650134e+17	7.874618e+17
132	8.664507e+17	4.196984e+09
137	8.378202e+17	4.196984e+09
146	8.630625e+17	4.196984e+09
155	8.066291e+17	4.196984e+09
159	8.605638e+17	4.196984e+09
160	8.609145e+17	3.638908e+08
165	7.616730e+17	4.196984e+09
171	8.395493e+17	4.196984e+09
180	8.570611e+17	5.870972e+07
182	8.447048e+17	4.196984e+09
185	8.563302e+17	6.669901e+07
194	8.421635e+17	4.196984e+09
195	8.551225e+17	7.475543e+17
204	8.316501e+17	4.196984e+09
211	8.293743e+17	4.196984e+09
...	...	...
784	7.403732e+17	4.196984e+09
794	7.713808e+17	4.196984e+09
800	7.652221e+17	4.196984e+09
811	6.733201e+17	4.196984e+09
815	7.710021e+17	1.732729e+09
818	7.392382e+17	4.196984e+09
822	7.410673e+17	4.196984e+09
826	7.069045e+17	4.196984e+09
829	7.001438e+17	4.196984e+09
833	7.399792e+17	4.196984e+09
841	7.599238e+17	4.196984e+09
847	7.258423e+17	4.196984e+09
860	6.732953e+17	4.196984e+09
868	6.853251e+17	4.196984e+09

```
872          7.116948e+17              4.196984e+09
885          7.601538e+17              1.950368e+08
890          7.395441e+17              4.196984e+09
895          6.703191e+17              4.196984e+09
908          6.790626e+17              4.196984e+09
911          7.575971e+17              2.804798e+08
926          6.791584e+17              4.196984e+09
937          6.815232e+17              4.196984e+09
943          6.835159e+17              4.196984e+09
949          6.753544e+17              4.196984e+09
1012         7.047611e+17              4.196984e+09
1023         6.678667e+17              4.196984e+09
1043         6.671383e+17              4.196984e+09
1242         7.119983e+17              7.832140e+05
2259         6.675487e+17              4.296832e+09
2260         6.675484e+17              4.296832e+09

     retweeted_status_timestamp   \
19     2017-07-19 00:47:34 +0000
32     2017-07-15 02:44:07 +0000
36     2017-02-12 01:04:29 +0000
68     2017-06-23 01:10:23 +0000
73     2017-06-23 16:00:04 +0000
74     2015-11-24 03:51:38 +0000
78     2017-06-19 17:14:49 +0000
91     2017-05-21 16:48:45 +0000
95     2017-05-28 17:23:24 +0000
97     2017-06-09 16:22:42 +0000
101    2017-06-08 03:32:35 +0000
109    2017-03-13 00:02:39 +0000
118    2017-05-02 00:04:57 +0000
124    2017-05-27 19:39:34 +0000
130    2017-05-18 01:17:25 +0000
132    2017-05-22 00:28:40 +0000
137    2017-03-04 00:21:08 +0000
146    2017-05-12 16:05:02 +0000
155    2016-12-07 22:38:52 +0000
159    2017-05-05 18:36:06 +0000
160    2017-05-06 17:49:42 +0000
165    2016-08-05 21:19:27 +0000
171    2017-03-08 18:52:12 +0000
180    2017-04-26 02:37:47 +0000
182    2017-03-23 00:18:10 +0000
185    2017-04-24 02:13:14 +0000
194    2017-03-16 00:00:07 +0000
195    2017-04-20 18:14:33 +0000
204    2017-02-14 23:43:18 +0000
211    2017-02-08 17:00:26 +0000
```

```
      ...                        ...
784   2016-06-08 02:41:38 +0000
794   2016-09-01 16:14:48 +0000
800   2016-08-15 16:22:20 +0000
811   2015-12-06 01:56:44 +0000
815   2016-08-31 15:10:07 +0000
818   2016-06-04 23:31:25 +0000
822   2016-06-10 00:39:48 +0000
826   2016-03-07 18:09:06 +0000
829   2016-02-18 02:24:13 +0000
833   2016-06-07 00:36:02 +0000
841   2016-08-01 01:28:46 +0000
847   2016-04-29 00:21:01 +0000
860   2015-12-06 00:17:55 +0000
868   2016-01-08 05:00:14 +0000
872   2016-03-20 23:23:54 +0000
885   2016-08-01 16:42:51 +0000
890   2016-06-05 19:47:03 +0000
895   2015-11-27 19:11:49 +0000
908   2015-12-21 22:15:18 +0000
911   2016-07-25 15:23:28 +0000
926   2015-12-22 04:35:49 +0000
937   2015-12-28 17:12:42 +0000
943   2016-01-03 05:11:12 +0000
949   2015-12-11 16:40:19 +0000
1012  2016-03-01 20:11:59 +0000
1023  2015-11-21 00:46:50 +0000
1043  2015-11-19 00:32:12 +0000
1242  2016-03-21 19:29:52 +0000
2259  2015-11-20 03:43:06 +0000
2260  2015-11-20 03:41:59 +0000


19     https://twitter.com/dog_rates/status/887473957103951883/photo/1,https://twitter.c
32
36     https://twitter.com/dog_rates/status/830583320585068544/photo/1,https://twitter.c
68                                                                           https://t
73
74
78     https://twitter.com/rachel2195/status/876850772322988033/photo/1,https://twitter.
91                                                                           https://t
95                                                                           https://t
97                  https://www.gofundme.com/help-my-baby-sierra-get-better,https://t
101
109
118
124                                             https://www.gofundme.com/3ti3nps,https://t
130    https://twitter.com/rachaeleasler/status/865013420445368320/photo/1,https://twitt
```

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132                                                             https://t
137                                                             https://t
146   https://www.gofundme.com/helpquinny,https://twitter.com/dog_rates/status/86306247
155   https://twitter.com/dog_rates/status/806629075125202948/photo/1,https://twitter.c
159               https://www.gofundme.com/help-lorenzo-beat-cancer,https://t
160   https://twitter.com/tallylott/status/860914485250469888/photo/1,https://twitter.c
165
171
180
182
185
194                                                             https://t
195
204   http://www.gofundme.com/bluethewhitehusky,https://twitter.com/dog_rates/status/83
211   https://twitter.com/dog_rates/status/829374341691346946/photo/1,https://twitter.c
...
784   https://twitter.com/dog_rates/status/740373189193256964/photo/1,https://twitter.c
794   https://twitter.com/dog_rates/status/771380798096281600/photo/1,https://twitter.c
800                                                             https://t
811   https://twitter.com/dog_rates/status/673320132811366400/photo/1,https://twitter.c
815                                                             https://twi
818
822                                                             https://t
826
829
833
841
847                                                             https://t
860
868                                                             https://t
872                                                             https://t
885
890                                                             https://t
895                                                             https://t
908   https://twitter.com/dog_rates/status/679062614270468097/photo/1,https://twitter.c
911                                                             https://twitt
926                                                             https://t
937
943
949                                                             https://t
1012                                                            https://t
1023
1043
1242                                                               https
2259                                           https://twitter.com/d
2260                                           https://twitter.com/d

      rating_numerator  rating_denominator     name  doggo floofer  pupper  \
```
49

19	13	10	Canela	None	None	None
32	12	10	None	None	None	None
36	13	10	Lilly	None	None	None
68	14	10	Emmy	None	None	None
73	13	10	Shadow	None	None	None
74	11	10	Terrance	None	None	None
78	14	10	None	None	None	pupper
91	12	10	Coco	None	None	None
95	14	10	Walter	None	None	None
97	12	10	Sierra	None	None	pupper
101	14	10	None	None	None	None
109	12	10	Dawn	None	None	None
118	12	10	quite	None	None	None
124	12	10	Cooper	None	None	None
130	13	10	None	None	None	None
132	13	10	Jamesy	None	None	pupper
137	12	10	None	None	None	pupper
146	13	10	Quinn	None	None	None
155	13	10	None	None	None	None
159	13	10	Lorenzo	None	None	None
160	13	10	None	None	None	None
165	10	10	None	None	None	None
171	12	10	Winston	None	None	None
180	13	10	None	None	None	None
182	13	10	Luna	None	None	None
185	14	10	None	None	None	None
194	12	10	George	None	None	None
195	14	10	None	None	None	None
204	13	10	None	None	None	None
211	13	10	Astrid	doggo	None	None
...	...	...	...	...	...	...
784	9	11	None	None	None	None
794	11	10	Fizz	None	None	None
800	10	10	Gromit	None	None	None
811	11	10	Frankie	None	None	None
815	12	10	None	None	None	pupper
818	13	10	None	doggo	None	None
822	12	10	just	doggo	None	pupper
826	13	10	None	None	None	None
829	10	10	None	None	None	pupper
833	12	10	Nollie	None	None	None
841	10	10	None	None	None	None
847	12	10	Colby	None	None	None
860	8	10	Eve	None	None	pupper
868	10	10	None	None	None	None
872	13	10	None	None	None	None
885	11	10	None	None	None	None
890	10	10	None	None	None	None

895	11	10	None	None	None	None
908	11	10	Chompsky	None	None	None
911	11	10	None	None	None	pupper
926	11	10	Rubio	None	None	None
937	12	10	Carly	None	None	None
943	11	10	None	None	None	None
949	13	10	None	None	None	None
1012	13	10	None	None	None	pupper
1023	10	10	Shaggy	None	None	None
1043	10	10	None	None	None	None
1242	12	10	None	None	None	None
2259	12	10	None	None	None	None
2260	5	10	None	None	None	None

	puppo
19	None
32	None
36	None
68	None
73	None
74	None
78	None
91	None
95	None
97	None
101	None
109	None
118	None
124	None
130	None
132	None
137	None
146	None
155	None
159	None
160	None
165	None
171	None
180	None
182	None
185	None
194	None
195	None
204	None
211	None
...	...
784	None
794	None

```
800    None
811    None
815    None
818    None
822    None
826    None
829    None
833    None
841    None
847    None
860    None
868    None
872    None
885    None
890    None
895    None
908    None
911    None
926    None
937    None
943    None
949    None
1012   None
1023   None
1043   None
1242   None
2259   None
2260   None

[181 rows x 17 columns]
```

```
In [25]: #
         retweeted_num = sum(dog_archive.retweeted_status_id.notnull())
         print('{}'.format(retweeted_num))
```

```
181
```

```
In [26]: #
         reply_num = sum(dog_archive.in_reply_to_status_id.notnull())
         print('{}'.format(reply_num))
```

```
78
```

```
In [27]: # id_list
         tweet_id_arr = dog_archive.tweet_id.values
         in_reply_status_id_arr = dog_archive[dog_archive.in_reply_to_status_id.notnull()].in_re
         # id
```

```
        id_list = []
        # index_list = []
        for status_id in in_reply_status_id_arr:
            status_id = int(status_id)
            if status_id in tweet_id_arr:
                id_list.append(status_id)
```

In [28]: #
```
        print(': {}'.format(len(id_list)))
```

: 33

In [29]: #
```
        for tweet_id in id_list:
            original_tweet_time = dog_archive[dog_archive.tweet_id==tweet_id].iloc[0]['timestam
            original_tweet_text = dog_archive[dog_archive.tweet_id==tweet_id].iloc[0]['text']
            reply_tweet_time = dog_archive[dog_archive.in_reply_to_status_id==tweet_id].iloc[0]
            reply_tweet_text = dog_archive[dog_archive.in_reply_to_status_id==tweet_id].iloc[0]
            print('original_tweet_time: {}\noriginal_tweet_text: {}\nreply_tweet_time: {}\nrepl
                  original_tweet_time,original_tweet_text,reply_tweet_time,reply_tweet_text))
```

```
original_tweet_time: 2017-04-22 16:18:34 +0000
original_tweet_text: I HEARD HE TIED HIS OWN BOWTIE MARK AND HE JUST WANTS TO SAY HI AND MAYBE A
reply_tweet_time: 2017-04-24 15:13:52 +0000
reply_tweet_text: THIS IS CHARLIE, MARK. HE DID JUST WANT TO SAY HI AFTER ALL. PUPGRADED TO A 14

original_tweet_time: 2017-04-01 16:35:01 +0000
original_tweet_text: This is Jerry. He's doing a distinguished tongue slip. Slightly patronizing
reply_tweet_time: 2017-04-01 16:41:12 +0000
reply_tweet_text: Jerry just apuppologized to me. He said there was no ill-intent to the slippag

original_tweet_time: 2016-07-29 18:53:24 +0000
original_tweet_text: Meet Toby. He has a drinking problem. Inflatable marijuana plant in the bac
reply_tweet_time: 2017-03-23 18:29:57 +0000
reply_tweet_text: PUPDATE: I'm proud to announce that Toby is 236 days sober. Pupgraded to a 13/

original_tweet_time: 2016-12-25 21:00:18 +0000
original_tweet_text: Here's an anonymous doggo that appears to be very done with Christmas. 11/1
reply_tweet_time: 2016-12-25 21:12:41 +0000
reply_tweet_text: I've been informed by multiple sources that this is actually a dog elf who's t

original_tweet_time: 2016-12-21 17:39:46 +0000
original_tweet_text: This is Augie. He's a savage. Doesn't give a h*ck about your garden. Still
reply_tweet_time: 2016-12-21 19:01:02 +0000
reply_tweet_text: PUPDATE: I've been informed that Augie was actually bringing his family these

original_tweet_time: 2016-05-19 01:38:16 +0000
original_tweet_text: Like father (doggo), like son (pupper). Both 12/10 https://t.co/pG2inLaOda
```

reply_tweet_time: 2016-11-25 21:37:47 +0000
reply_tweet_text: Like doggo, like pupper version 2. Both 11/10 https://t.co/9IxWAXFqze

original_tweet_time: 2016-06-28 04:31:44 +0000
original_tweet_text: This is Keurig. He apparently headbutts other dogs to greet them. Not cool
reply_tweet_time: 2016-06-28 04:42:46 +0000
reply_tweet_text: Other pupper asked not to have his identity shared. Probably just embarrassed

original_tweet_time: 2016-01-25 00:26:41 +0000
original_tweet_text: I present to you... Dog Jesus. 13/10 (he could be sitting on a rock but I d
reply_tweet_time: 2016-06-25 21:34:37 +0000
reply_tweet_text: Guys... Dog Jesus 2.0
13/10 buoyant af https://t.co/CuNA7OwfKQ

original_tweet_time: 2016-05-08 00:59:46 +0000
original_tweet_text: "Challenge accepted"
10/10 https://t.co/vNjvr5Bl9u
reply_tweet_time: 2016-05-10 01:00:58 +0000
reply_tweet_text: "Challenge completed"
(pupgraded to 12/10) https://t.co/85dTK7XCXB

original_tweet_time: 2016-02-26 02:20:37 +0000
original_tweet_text: This is an East African Chalupa Seal. We only rate dogs. Please only send i
reply_tweet_time: 2016-02-27 03:42:44 +0000
reply_tweet_text: Really guys? Again? I know this is a rare Albanian Bingo Seal, but we only rat

original_tweet_time: 2016-02-08 00:20:23 +0000
original_tweet_text: 12/10 revolutionary af https://t.co/zKzq4nIY86
reply_tweet_time: 2016-02-08 00:27:39 +0000
reply_tweet_text: After reading the comments I may have overestimated this pup. Downgraded to a

original_tweet_time: 2015-12-11 16:20:15 +0000
original_tweet_text: Yea I lied. Here's more. All 13/10 https://t.co/ZQZf2U4xCP
reply_tweet_time: 2016-02-06 00:35:13 +0000
reply_tweet_text: If you are aware of who is making these please let me know. 13/10 vroom vroom

original_tweet_time: 2016-01-31 03:49:30 +0000
original_tweet_text: Meet Freddery. He's a Westminster Toblerone. Seems to enjoy car rides. 9/10
reply_tweet_time: 2016-01-31 03:57:23 +0000
reply_tweet_text: BREAKING PUPDATE: I've just been notified that (if in U.S.) this dog appears t

original_tweet_time: 2016-01-27 18:42:06 +0000
original_tweet_text: Meet Herschel. He's slightly bigger than ur average pupper. Looks lonely. C
reply_tweet_time: 2016-01-27 19:05:49 +0000
reply_tweet_text: PUPDATE: just noticed this dog has some extra legs. Very advanced. Revolutiona

original_tweet_time: 2016-01-26 17:50:29 +0000
original_tweet_text: This is Teddy. His head is too heavy. 13/10 (vid by @jooanrim) https://t.co

reply_tweet_time: 2016-01-27 00:31:15 +0000
reply_tweet_text: These are some pictures of Teddy that further justify his 13/10 rating. Please

original_tweet_time: 2016-01-10 03:57:12 +0000
original_tweet_text: Your fav crew is back and this time they're embracing cannabis culture. 12/
reply_tweet_time: 2016-01-10 04:04:10 +0000
reply_tweet_text: Yes I do realize a rating of 4/20 would've been fitting. However, it would be

original_tweet_time: 2016-01-08 19:45:39 +0000
original_tweet_text: Everybody needs to read this. Jack is our first 14/10. Truly heroic pupper
reply_tweet_time: 2016-01-09 04:34:45 +0000
reply_tweet_text: Jack deserves another round of applause. If you missed this earlier today I st

original_tweet_time: 2016-01-05 21:06:19 +0000
original_tweet_text: Meet Pippa. She's an Elfin High Feta. Compact af. Easy to transport. Great
reply_tweet_time: 2016-01-06 00:54:18 +0000
reply_tweet_text: After watching this video, we've determined that Pippa will be upgraded to a 1

original_tweet_time: 2016-01-01 05:00:24 +0000
original_tweet_text: Happy New Year from your fav holiday squad! 12/10 for all

Here's to a pupper-filled year https://t.co/ZSdEj59FGf
reply_tweet_time: 2016-01-01 06:22:03 +0000
reply_tweet_text: I'm aware that I could've said 20/16, but here at WeRateDogs we are very profe

original_tweet_time: 2015-12-28 05:02:37 +0000
original_tweet_text: This is Asher. He's not wearing a seatbelt or keeping both paws on the whee
reply_tweet_time: 2015-12-28 05:07:27 +0000
reply_tweet_text: I've been told there's a slight possibility he's checking his mirror. We'll bu

original_tweet_time: 2015-12-12 16:02:36 +0000
original_tweet_text: We've got ourselves a battle here. Watch out Reggie. 11/10 https://t.co/ALJ
reply_tweet_time: 2015-12-13 02:51:51 +0000
reply_tweet_text: & this is Yoshi. Another world record contender 11/10 (what the hell is ha

original_tweet_time: 2015-12-13 01:12:15 +0000
original_tweet_text: This is Pepper. She's not fully comfortable riding her imaginary bike yet.
reply_tweet_time: 2015-12-13 01:25:37 +0000
reply_tweet_text: This dog is being demoted to a 9/10 for not wearing a helmet while riding. Got

original_tweet_time: 2015-12-12 02:07:14 +0000
original_tweet_text: Meet Reggie. He's going for the world record. Must concentrate. Focus up pu
reply_tweet_time: 2015-12-12 16:02:36 +0000
reply_tweet_text: We've got ourselves a battle here. Watch out Reggie. 11/10 https://t.co/ALJvbt

original_tweet_time: 2015-12-10 17:11:09 +0000
original_tweet_text: Ok last one of these. I may try to make some myself. Anyway here ya go. 13/
reply_tweet_time: 2015-12-11 16:20:15 +0000

reply_tweet_text: Yea I lied. Here's more. All 13/10 https://t.co/ZQZf2U4xCP

original_tweet_time: 2015-12-10 03:30:58 +0000
original_tweet_text: I have found another. 13/10 https://t.co/HwroPYv8pY
reply_tweet_time: 2015-12-10 17:11:09 +0000
reply_tweet_text: Ok last one of these. I may try to make some myself. Anyway here ya go. 13/10

original_tweet_time: 2015-12-10 00:47:23 +0000
original_tweet_text: Everyone please just appreciate how perfect these two photos are. 12/10 for
reply_tweet_time: 2015-12-10 00:54:28 +0000
reply_tweet_text: Just received another perfect photo of dogs and the sunset. 12/10 https://t.co

original_tweet_time: 2015-12-09 23:58:35 +0000
original_tweet_text: " DO YOU BELIEVE IN LIFE AFTER LOVE "
11/10 https://t.co/URNs5zFskc
reply_tweet_time: 2015-12-10 00:08:50 +0000
reply_tweet_text: Some clarification is required. The dog is singing Cher and that is more than

original_tweet_time: 2015-12-09 06:01:26 +0000
original_tweet_text: This is Louis. He thinks he's flying. 13/10 this is a legendary pup https:/
reply_tweet_time: 2015-12-09 15:09:55 +0000
reply_tweet_text: The 13/10 also takes into account this impeccable yard. Louis is great but the

original_tweet_time: 2015-12-07 04:09:13 +0000
original_tweet_text: This is a heavily opinionated dog. Loves walls. Nobody knows how the hair w
reply_tweet_time: 2015-12-07 04:11:02 +0000
reply_tweet_text: The millennials have spoken and we've decided to immediately demote to a 1/10.

original_tweet_time: 2015-12-01 05:26:34 +0000
original_tweet_text: This is the best thing I've ever seen so spread it like wildfire & mayb
reply_tweet_time: 2015-12-01 16:37:44 +0000
reply_tweet_text: I'm just going to leave this one here as well. 13/10 https://t.co/DaD5SyajWt

original_tweet_time: 2015-11-25 03:18:15 +0000
original_tweet_text: Meet Dug. Dug fucken loves peaches. 8/10 https://t.co/JtA1TG21Xx
reply_tweet_time: 2015-11-26 01:11:28 +0000
reply_tweet_text: After countless hours of research and hundreds of formula alterations we have

original_tweet_time: 2015-11-20 20:47:20 +0000
original_tweet_text: This is Filup. He is overcome with joy after finally meeting his father. 1C
reply_tweet_time: 2015-11-25 03:14:30 +0000
reply_tweet_text: This is Tessa. She is also very pleased after finally meeting her biological f

original_tweet_time: 2015-11-18 19:43:11 +0000
original_tweet_text: Here we have a Hufflepuff. Loves vest. Eyes wide af. Flaccid tail. Matches
reply_tweet_time: 2015-11-18 20:02:51 +0000
reply_tweet_text: After much debate this dog is being upgraded to 10/10. I repeat 10/10

```
In [30]: #
         rating_numerator_null = sum(dog_archive.rating_numerator.isnull())
         print(':{}'.format(rating_numerator_null))
```

:0

```
In [31]: #
         rating_denominator_null = sum(dog_archive.rating_denominator.isnull())
         print(':{}'.format(rating_denominator_null))
```

:0

name

```
In [32]: dog_archive.name.value_counts()
```

```
Out[32]: None        745
         a            55
         Charlie      12
         Oliver       11
         Cooper       11
         Lucy         11
         Lola         10
         Penny        10
         Tucker       10
         Bo            9
         Winston       9
         Sadie         8
         the           8
         Daisy         7
         Bailey        7
         Buddy         7
         an            7
         Toby          7
         Rusty         6
         Jack          6
         Milo          6
         Oscar         6
         Stanley       6
         Koda          6
         Dave          6
         Leo           6
         Jax           6
```

```
Scout             6
Bella             6
Louis             5
                ...
Halo              1
Shawwn            1
Kulet             1
Petrick           1
Bobby             1
Jeffri            1
Lucky             1
Darby             1
Wesley            1
Pip               1
Anna              1
Emma              1
Dylan             1
by                1
Eevee             1
Josep             1
Mingus            1
Furzey            1
Alexanderson      1
Carter            1
Jessifer          1
Yoda              1
Apollo            1
Laika             1
Ruffles           1
Ulysses           1
Trigger           1
Stu               1
Charl             1
Obie              1
Name: name, Length: 957, dtype: int64
```

a, an, the name

In [33]: # name
         dog_archive[dog_archive.name.str.islower()]

Out[33]:   tweet_id in_reply_to_status_id in_reply_to_user_id \
         22   887517139158093824   NaN   NaN
         56   881536004380872706   NaN   NaN
         118 869988702071779329   NaN   NaN
         169 859196978902773760   NaN   NaN
         193 855459453768019968   NaN   NaN
         335 832645525019123713   NaN   NaN

369	828650029636317184	NaN	NaN
542	806219024703037440	NaN	NaN
649	792913359805018113	NaN	NaN
682	788552643979468800	NaN	NaN
759	778396591732486144	NaN	NaN
773	776249906839351296	NaN	NaN
801	772581559778025472	NaN	NaN
819	770655142660169732	NaN	NaN
822	770093767776997377	NaN	NaN
852	765395769549590528	NaN	NaN
924	755206590534418437	NaN	NaN
988	748977405889503236	NaN	NaN
992	748692773788876800	NaN	NaN
993	748575535303884801	NaN	NaN
1002	747885874273214464	NaN	NaN
1004	747816857231626240	NaN	NaN
1017	746872823977771008	NaN	NaN
1025	746369468511756288	NaN	NaN
1031	745422732645535745	NaN	NaN
1040	744223424764059648	NaN	NaN
1049	743222593470234624	NaN	NaN
1063	741067306818797568	NaN	NaN
1071	740214038584557568	NaN	NaN
1095	736392552031657984	NaN	NaN
...	...	...	...
2191	668955713004314625	NaN	NaN
2198	668815180734689280	NaN	NaN
2204	668636665813057536	NaN	NaN
2211	668614819948453888	NaN	NaN
2212	668587383441514497	NaN	NaN
2218	668507509523615744	NaN	NaN
2222	668466899341221888	NaN	NaN
2235	668171859951755264	NaN	NaN
2249	667861340749471744	NaN	NaN
2255	667773195014021121	NaN	NaN
2264	667538891197542400	NaN	NaN
2273	667470559035432960	NaN	NaN
2287	667177989038297088	NaN	NaN
2304	666983947667116034	NaN	NaN
2311	666781792255496192	NaN	NaN
2314	666701168228331520	NaN	NaN
2326	666411507551481857	NaN	NaN
2327	666407126856765440	NaN	NaN
2333	666337882303524864	NaN	NaN
2334	666293911632134144	NaN	NaN
2335	666287406224695296	NaN	NaN
2345	666063827256086533	NaN	NaN
2346	666058600524156928	NaN	NaN

```
2347  666057090499244032                              NaN               NaN
2348  666055525042405380                             NaN               NaN
2349  666051853826850816                             NaN               NaN
2350  666050758794694657                             NaN               NaN
2352  666044226329800704                             NaN               NaN
2353  666033412701032449                             NaN               NaN
2354  666029285002620928                             NaN               NaN

                          timestamp  \
22     2017-07-19 03:39:09 +0000
56     2017-07-02 15:32:16 +0000
118    2017-05-31 18:47:24 +0000
169    2017-05-02 00:04:57 +0000
193    2017-04-21 16:33:22 +0000
335    2017-02-17 17:38:57 +0000
369    2017-02-06 17:02:17 +0000
542    2016-12-06 19:29:28 +0000
649    2016-10-31 02:17:31 +0000
682    2016-10-19 01:29:35 +0000
759    2016-09-21 00:53:04 +0000
773    2016-09-15 02:42:54 +0000
801    2016-09-04 23:46:12 +0000
819    2016-08-30 16:11:18 +0000
822    2016-08-29 03:00:36 +0000
852    2016-08-16 03:52:26 +0000
924    2016-07-19 01:04:16 +0000
988    2016-07-01 20:31:43 +0000
992    2016-07-01 01:40:41 +0000
993    2016-06-30 17:54:50 +0000
1002   2016-06-28 20:14:22 +0000
1004   2016-06-28 15:40:07 +0000
1017   2016-06-26 01:08:52 +0000
1025   2016-06-24 15:48:42 +0000
1031   2016-06-22 01:06:43 +0000
1040   2016-06-18 17:41:06 +0000
1049   2016-06-15 23:24:09 +0000
1063   2016-06-10 00:39:48 +0000
1071   2016-06-07 16:09:13 +0000
1095   2016-05-28 03:04:00 +0000
...                          ...
2191   2015-11-24 00:54:05 +0000
2198   2015-11-23 15:35:39 +0000
2204   2015-11-23 03:46:18 +0000
2211   2015-11-23 02:19:29 +0000
2212   2015-11-23 00:30:28 +0000
2218   2015-11-22 19:13:05 +0000
2222   2015-11-22 16:31:42 +0000
2235   2015-11-21 20:59:20 +0000
```

```
2249   2015-11-21 00:25:26 +0000
2255   2015-11-20 18:35:10 +0000
2264   2015-11-20 03:04:08 +0000
2273   2015-11-19 22:32:36 +0000
2287   2015-11-19 03:10:02 +0000
2304   2015-11-18 14:18:59 +0000
2311   2015-11-18 00:55:42 +0000
2314   2015-11-17 19:35:19 +0000
2326   2015-11-17 00:24:19 +0000
2327   2015-11-17 00:06:54 +0000
2333   2015-11-16 19:31:45 +0000
2334   2015-11-16 16:37:02 +0000
2335   2015-11-16 16:11:11 +0000
2345   2015-11-16 01:22:45 +0000
2346   2015-11-16 01:01:59 +0000
2347   2015-11-16 00:55:59 +0000
2348   2015-11-16 00:49:46 +0000
2349   2015-11-16 00:35:11 +0000
2350   2015-11-16 00:30:50 +0000
2352   2015-11-16 00:04:52 +0000
2353   2015-11-15 23:21:54 +0000
2354   2015-11-15 23:05:30 +0000


                                                                              sourc
22     <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
56     <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
118    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
169    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
193    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
335                     <a href="http://twitter.com" rel="nofollow">Twitter Web Client</a
369    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
542    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
649    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
682    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
759    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
773    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
801    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
819    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
822    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
852    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
924    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
988    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
992    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
993    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
1002   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
1004   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
1017   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
1025   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
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1031   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
1040   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
1049   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
1063   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
1071   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
1095                      <a href="http://vine.co" rel="nofollow">Vine - Make a Scene</a
...                                                                                    ..
2191   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
2198   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
2204   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
2211   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
2212                      <a href="http://vine.co" rel="nofollow">Vine - Make a Scene</a
2218   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
2222   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
2235   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
2249   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
2255                 <a href="http://twitter.com" rel="nofollow">Twitter Web Client</a
2264                 <a href="http://twitter.com" rel="nofollow">Twitter Web Client</a
2273                 <a href="http://twitter.com" rel="nofollow">Twitter Web Client</a
2287   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
2304   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
2311   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
2314   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
2326   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
2327   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
2333   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
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2335   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
2345   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
2346   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
2347   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
2348   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
2349   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
2350   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
2352   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
2353   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
2354   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a


22                                      I've yet to rate a Venezuelan Hover Wiener. This is
56              Here is a pupper approaching maximum borkdrive. Zooming at never before se
118                             RT @dog_rates: We only rate dogs. This is quite clearly a s
169                 We only rate dogs. This is quite clearly a smol broken polar bear.
193   Guys, we only rate dogs. This is quite clearly a bulbasaur. Please only send dogs
335                                                      There's going to be a d
369                                                      Occasionally, we're sen
542                 We only rate dogs. Please stop sending in non-canines like this Fr
649                                      Here is a perfect example of someone who has th
```

682	RT @dog_rates: Say hello to mad pupper. You know
759	RT @dog_rates: This is an East African Chalupa Seal. We onl
773	RT @dog_rates: We only rate dogs. Pls stop sending in non-c
801	Guys this is getting so out of hand. We only rate dogs. Thi
819	We only rate dogs. Pls stop sending in non-canines like th
822	RT @dog_rates: This is ju
852	This is my dog. Her name is Zoey. She knows I've been
924	This is one of the most inspirational stories I've ever com
988	What jokester sent in a pic without a dog in it? This i
992	That is Quizno. This is his beach. He does not tolerate hu
993	This is one of the most reckless puppers I've ever seen. Ho
1002	This is a mighty rare blue-tailed hammer sherk. Human almos
1004	Viewer discretion is advised. This is a terrible attack i
1017	This is a carrot. We only rate dogs. Please only send
1025	This is an Iraqi Speed Kangaroo. It is not a dog. Please
1031	We only rate dogs. Pls stop sending in non-canines like thi
1040	
1049	This is a very rare Great Alaskan Bush Pupper. Hard to st
1063	This is ju
1071	This is getting incredibly frustrating. This is a Mexican
1095	Say hello to mad pupper. You know
...	
2191	This is a Slovakian Helter Skelter Feta named Leroi. Likes
2198	This is a wild Toblerone from Papua New Guinea. Mouth al
2204	This is an Irish Rigatoni terrier named Berta. Completely
2211	Here is a horned dog. Much grace. Can jump over moons (dam
2212	Never forget this vine. You will not stop watching fo
2218	This is a Birmingham Quagmire named Chuk. Loves to relax
2222	Here is a mother dog caring for her pups. Snazzy red m
2235	This is a Trans Siberian Kellogg named Alfonso.
2249	This is a Shotokon Macadamia mix named Cheryl. Sophisticate
2255	This is a rare Hungarian Pinot named Jessiga. She is ei
2264	This is a southwest Coriander named K
2273	This is a northern Wahoo named Kohl. He runs this town. C
2287	This is a Dasani Kingfisher from Maine. His name is D
2304	This is a curly Ticonderoga named Pepe.
2311	This is a purebred Bacardi
2314	This is a golden Buckminsterfullerene named Johm. Drives t
2326	This is quite the dog. Gets really excited when not in wate
2327	This is a southern Vesuvius bumblegruff. Can drive a truck
2333	This is an extremely rare horned Parthenon. Not amused. We
2334	This is a funny dog. Weird toes. Won't come down. Loves b
2335	This is an Albanian 3 1/2 legged Episcopalian. Loves w
2345	This is the happiest dog y
2346	Here is the Rand Paul of retrievers folks! He's probab
2347	My oh my. This is a rare blond Canadian ter
2348	Here is a Siberian heavily armored polar bear mix. Strong o
2349	This is an odd dog. Hard on the outside but loving on the

```
2350                        This is a truly beautiful English Wilson Staff retriever. H
2352                        This is a purebred Piers Morgan. Loves to Netflix and ch
2353                                  Here is a very happy pup. Big fan of well-maintai
2354                        This is a western brown Mitsubishi terrier. Upset about le


      retweeted_status_id  retweeted_status_user_id  \
22                    NaN                       NaN
56                    NaN                       NaN
118         8.591970e+17              4.196984e+09
169                   NaN                       NaN
193                   NaN                       NaN
335                   NaN                       NaN
369                   NaN                       NaN
542                   NaN                       NaN
649                   NaN                       NaN
682         7.363926e+17              4.196984e+09
759         7.030419e+17              4.196984e+09
773         7.007478e+17              4.196984e+09
801                   NaN                       NaN
819                   NaN                       NaN
822         7.410673e+17              4.196984e+09
852                   NaN                       NaN
924                   NaN                       NaN
988                   NaN                       NaN
992                   NaN                       NaN
993                   NaN                       NaN
1002                  NaN                       NaN
1004                  NaN                       NaN
1017                  NaN                       NaN
1025                  NaN                       NaN
1031                  NaN                       NaN
1040                  NaN                       NaN
1049                  NaN                       NaN
1063                  NaN                       NaN
1071                  NaN                       NaN
1095                  NaN                       NaN
...                   ...                       ...
2191                  NaN                       NaN
2198                  NaN                       NaN
2204                  NaN                       NaN
2211                  NaN                       NaN
2212                  NaN                       NaN
2218                  NaN                       NaN
2222                  NaN                       NaN
2235                  NaN                       NaN
2249                  NaN                       NaN
2255                  NaN                       NaN
2264                  NaN                       NaN
```

```
2273                   NaN                        NaN
2287                   NaN                        NaN
2304                   NaN                        NaN
2311                   NaN                        NaN
2314                   NaN                        NaN
2326                   NaN                        NaN
2327                   NaN                        NaN
2333                   NaN                        NaN
2334                   NaN                        NaN
2335                   NaN                        NaN
2345                   NaN                        NaN
2346                   NaN                        NaN
2347                   NaN                        NaN
2348                   NaN                        NaN
2349                   NaN                        NaN
2350                   NaN                        NaN
2352                   NaN                        NaN
2353                   NaN                        NaN
2354                   NaN                        NaN


     retweeted_status_timestamp   \
22                           NaN
56                           NaN
118    2017-05-02 00:04:57 +0000
169                          NaN
193                          NaN
335                          NaN
369                          NaN
542                          NaN
649                          NaN
682    2016-05-28 03:04:00 +0000
759    2016-02-26 02:20:37 +0000
773    2016-02-19 18:24:26 +0000
801                          NaN
819                          NaN
822    2016-06-10 00:39:48 +0000
852                          NaN
924                          NaN
988                          NaN
992                          NaN
993                          NaN
1002                         NaN
1004                         NaN
1017                         NaN
1025                         NaN
1031                         NaN
1040                         NaN
1049                         NaN
```

1063	NaN
1071	NaN
1095	NaN
...	...
2191	NaN
2198	NaN
2204	NaN
2211	NaN
2212	NaN
2218	NaN
2222	NaN
2235	NaN
2249	NaN
2255	NaN
2264	NaN
2273	NaN
2287	NaN
2304	NaN
2311	NaN
2314	NaN
2326	NaN
2327	NaN
2333	NaN
2334	NaN
2335	NaN
2345	NaN
2346	NaN
2347	NaN
2348	NaN
2349	NaN
2350	NaN
2352	NaN
2353	NaN
2354	NaN

22	
56	
118	
169	
193	https://t
335	http://us.blastingnews.com/news/2017/02/jfk-announces-i
369	https://twitter.com/dog_rates/status/828650029636317184/photo/1,https://t
542	
649	https://twitter.com/dog_rates/status/792913359805018113/photo/1,https://twitter.c
682	
759	https://t
773	

801	https://twitter.com/dog_rates/status/772581559778025472/photo/1,https://t
819	
822	https://t
852	
924	https://twitter.com/dog_rates/status/755206590534418437/photo/1,https://twitter.c
988	
992	
993	
1002	https://t
1004	
1017	https://t
1025	
1031	
1040	
1049	
1063	
1071	
1095	
...	
2191	
2198	
2204	
2211	
2212	
2218	
2222	
2235	
2249	
2255	
2264	
2273	
2287	
2304	
2311	
2314	
2326	
2327	
2333	
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2335	
2345	
2346	
2347	
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2349	
2350	
2352	
2353	

2354

	rating_numerator	rating_denominator	name	doggo	floofer	pupper	\
22	14	10	such	None	None	None	
56	14	10	a	None	None	pupper	
118	12	10	quite	None	None	None	
169	12	10	quite	None	None	None	
193	12	10	quite	None	None	None	
335	10	10	not	None	None	None	
369	14	10	one	None	None	None	
542	11	10	incredibly	None	None	None	
649	13	10	a	None	None	None	
682	13	10	mad	None	None	pupper	
759	10	10	an	None	None	None	
773	11	10	very	None	None	None	
801	10	10	a	None	None	None	
819	11	10	very	None	None	None	
822	12	10	just	doggo	None	pupper	
852	13	10	my	None	None	None	
924	14	10	one	doggo	None	None	
988	10	10	not	None	None	None	
992	10	10	his	doggo	None	None	
993	6	10	one	None	None	None	
1002	8	10	a	None	None	None	
1004	4	10	a	None	None	None	
1017	11	10	a	None	None	None	
1025	9	10	an	None	None	None	
1031	9	10	very	None	None	None	
1040	12	10	actually	None	None	pupper	
1049	12	10	a	None	None	pupper	
1063	12	10	just	doggo	None	pupper	
1071	10	10	getting	None	None	None	
1095	13	10	mad	None	None	pupper	
...	...	...	...	...	...	...	
2191	10	10	a	None	None	None	
2198	7	10	a	None	None	None	
2204	10	10	an	None	None	None	
2211	7	10	a	None	None	None	
2212	13	10	the	None	None	None	
2218	10	10	a	None	None	None	
2222	4	10	a	None	None	None	
2235	7	10	a	None	None	None	
2249	9	10	a	None	None	None	
2255	8	10	a	None	None	None	
2264	9	10	a	None	None	None	
2273	11	10	a	None	None	None	
2287	8	10	a	None	None	None	
2304	11	10	a	None	None	None	

2311	10	10	a	None	None	None
2314	8	10	a	None	None	None
2326	2	10	quite	None	None	None
2327	7	10	a	None	None	None
2333	9	10	an	None	None	None
2334	3	10	a	None	None	None
2335	1	2	an	None	None	None
2345	10	10	the	None	None	None
2346	8	10	the	None	None	None
2347	9	10	a	None	None	None
2348	10	10	a	None	None	None
2349	2	10	an	None	None	None
2350	10	10	a	None	None	None
2352	6	10	a	None	None	None
2353	9	10	a	None	None	None
2354	7	10	a	None	None	None

	puppo
22	None
56	None
118	None
169	None
193	None
335	None
369	None
542	None
649	None
682	None
759	None
773	None
801	None
819	None
822	None
852	None
924	None
988	None
992	None
993	None
1002	None
1004	None
1017	None
1025	None
1031	None
1040	None
1049	None
1063	None
1071	None
1095	None

```
...       ...
2191  None
2198  None
2204  None
2211  None
2212  None
2218  None
2222  None
2235  None
2249  None
2255  None
2264  None
2273  None
2287  None
2304  None
2311  None
2314  None
2326  None
2327  None
2333  None
2334  None
2335  None
2345  None
2346  None
2347  None
2348  None
2349  None
2350  None
2352  None
2353  None
2354  None

[109 rows x 17 columns]
```

namea, an, the name

image_pred

```
In [34]: #
         image_pred.head()

Out[34]:              tweet_id                                      jpg_url  \
         0  666020888022790149  https://pbs.twimg.com/media/CT4udn0WwAA0aMy.jpg
         1  666029285002620928  https://pbs.twimg.com/media/CT42GRgUYAA5iDo.jpg
         2  666033412701032449  https://pbs.twimg.com/media/CT4521TWwAEvMyu.jpg
         3  666044226329800704  https://pbs.twimg.com/media/CT5Dr8HUEAA-lEu.jpg
         4  666049248165822465  https://pbs.twimg.com/media/CT5IQmsXIAAKY4A.jpg
```

```
        img_num                          p1    p1_conf  p1_dog                  p2  \
0             1   Welsh_springer_spaniel  0.465074    True              collie
1             1                  redbone  0.506826    True  miniature_pinscher
2             1          German_shepherd  0.596461    True            malinois
3             1       Rhodesian_ridgeback  0.408143    True             redbone
4             1        miniature_pinscher  0.560311    True          Rottweiler


     p2_conf  p2_dog                    p3    p3_conf  p3_dog
0   0.156665    True     Shetland_sheepdog  0.061428    True
1   0.074192    True   Rhodesian_ridgeback  0.072010    True
2   0.138584    True             bloodhound  0.116197    True
3   0.360687    True     miniature_pinscher  0.222752    True
4   0.243682    True               Doberman  0.154629    True
```

In [35]: #
          image_pred.info()

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 2075 entries, 0 to 2074
Data columns (total 12 columns):
tweet_id    2075 non-null int64
jpg_url     2075 non-null object
img_num     2075 non-null int64
p1          2075 non-null object
p1_conf     2075 non-null float64
p1_dog      2075 non-null bool
p2          2075 non-null object
p2_conf     2075 non-null float64
p2_dog      2075 non-null bool
p3          2075 non-null object
p3_conf     2075 non-null float64
p3_dog      2075 non-null bool
dtypes: bool(3), float64(3), int64(2), object(4)
memory usage: 152.1+ KB
```

In [36]: #
          image_pred.describe()

Out[36]:
```
             tweet_id       img_num       p1_conf       p2_conf       p3_conf
count    2.075000e+03   2075.000000   2075.000000  2.075000e+03  2.075000e+03
mean     7.384514e+17      1.203855      0.594548  1.345886e-01  6.032417e-02
std      6.785203e+16      0.561875      0.271174  1.006657e-01  5.090593e-02
min      6.660209e+17      1.000000      0.044333  1.011300e-08  1.740170e-10
25%      6.764835e+17      1.000000      0.364412  5.388625e-02  1.622240e-02
50%      7.119988e+17      1.000000      0.588230  1.181810e-01  4.944380e-02
75%      7.932034e+17      1.000000      0.843855  1.955655e-01  9.180755e-02
max      8.924206e+17      4.000000      1.000000  4.880140e-01  2.734190e-01
```

```
In [37]: # tweet_id
         sum(image_pred.tweet_id.duplicated())

Out[37]: 0

In [38]: #
         sum(image_pred.jpg_url.duplicated())

Out[38]: 66
```

66

```
In [39]: image_pred

Out[39]:                      tweet_id  \
         0       666020888022790149
         1       666029285002620928
         2       666033412701032449
         3       666044226329800704
         4       666049248165822465
         5       666050758794694657
         6       666051853826850816
         7       666055525042405380
         8       666057090499244032
         9       666058600524156928
         10      666063827256086533
         11      666071193221509120
         12      666073100786774016
         13      666082916733198337
         14      666094000022159362
         15      666099513787052032
         16      666102155909144576
         17      666104133288665088
         18      666268910803644416
         19      666273097616637952
         20      666287406224695296
         21      666293911632134144
         22      666337882303524864
         23      666345417576210432
         24      666353288456101888
         25      666362758909284353
         26      666373753744588802
         27      666396247373291520
         28      666407126856765440
         29      666411507551481857
         ...                     ...
         2045    886366144734445568
         2046    886680336477933568
         2047    886736880519319552
```

2048	886983233522544640
2049	887101392804085760
2050	887343217045368832
2051	887473957103951883
2052	887517139158093824
2053	887705289381826560
2054	888078434458587136
2055	888202515573088257
2056	888554962724278272
2057	888804989199671297
2058	888917238123831296
2059	889278841981685760
2060	889531135344209921
2061	889638837579907072
2062	889665388333682689
2063	889880896479866881
2064	890006608113172480
2065	890240255349198849
2066	890609185150312448
2067	890729181411237888
2068	890971913173991426
2069	891087950875897856
2070	891327558926688256
2071	891689557279858688
2072	891815181378084864
2073	892177421306343426
2074	892420643555336193

	j
0	https://pbs.twimg.com/media/CT4udnOWwAA0a
1	https://pbs.twimg.com/media/CT42GRgUYAA5i
2	https://pbs.twimg.com/media/CT4521TWwAEvM
3	https://pbs.twimg.com/media/CT5Dr8HUEAA-l
4	https://pbs.twimg.com/media/CT5IQmsXIAAKY
5	https://pbs.twimg.com/media/CT5Jof1WUAEuV
6	https://pbs.twimg.com/media/CT5KoJ1WoAAJa
7	https://pbs.twimg.com/media/CT5N9tpXIAAif
8	https://pbs.twimg.com/media/CT5PY9OWoAAQG
9	https://pbs.twimg.com/media/CT5Qw94XAAA_2
10	https://pbs.twimg.com/media/CT5Vg_wXIAAXf
11	https://pbs.twimg.com/media/CT5cN_3WEAAlO
12	https://pbs.twimg.com/media/CT5d9DZXAAALc
13	https://pbs.twimg.com/media/CT5m4VGWEAAtK
14	https://pbs.twimg.com/media/CT5w9gUW4AAsB
15	https://pbs.twimg.com/media/CT51-JJUEAA6h
16	https://pbs.twimg.com/media/CT54YGiWUAEZn
17	https://pbs.twimg.com/media/CT56LSZWoAA1J
18	https://pbs.twimg.com/media/CT8QCd1WEAADX

```
19                                          https://pbs.twimg.com/media/CT8T1mtUwAA3a
20                                          https://pbs.twimg.com/media/CT8g3BpUEAAuF
21                                          https://pbs.twimg.com/media/CT8mx7KW4AEQu
22                                          https://pbs.twimg.com/media/CT9OwFIWEAMuR
23                                          https://pbs.twimg.com/media/CT9Vn7PWoAA_Z
24                                          https://pbs.twimg.com/media/CT9cxOtUEAAhN
25                                          https://pbs.twimg.com/media/CT9lXGsUcAAyU
26                                          https://pbs.twimg.com/media/CT9vZEYWUAAlZ
27                                          https://pbs.twimg.com/media/CT-D2ZHWIAA3g
28                                          https://pbs.twimg.com/media/CT-NvwmW4AAug
29                                          https://pbs.twimg.com/media/CT-RugiWIAELE
...
2045                                        https://pbs.twimg.com/media/DE0BTnQUwAApK
2046                                        https://pbs.twimg.com/media/DE4fEDzWAAAyH
2047                                        https://pbs.twimg.com/media/DE5Se8FXcAAJF
2048                                        https://pbs.twimg.com/media/DE8yicJWOAAAv
2049                                        https://pbs.twimg.com/media/DE-eAq6UwAA-j
2050   https://pbs.twimg.com/ext_tw_video_thumb/887343120832229379/pu/img/6HSuFrW1lzI_9M
2051                                        https://pbs.twimg.com/media/DFDw2tyUQAAAF
2052   https://pbs.twimg.com/ext_tw_video_thumb/887517108413886465/pu/img/WanJKwssZj4VJv
2053                                        https://pbs.twimg.com/media/DFHDQBbXgAEqY
2054                                        https://pbs.twimg.com/media/DFMWn56WsAAkA
2055                                        https://pbs.twimg.com/media/DFDw2tyUQAAAF
2056                                        https://pbs.twimg.com/media/DFTH_O-UQAACu
2057                                        https://pbs.twimg.com/media/DFWra-3VYAA2p
2058                                        https://pbs.twimg.com/media/DFYRgsOUQAARG
2059   https://pbs.twimg.com/ext_tw_video_thumb/889278779352338437/pu/img/VlbFB3v8H8VwzV
2060                                        https://pbs.twimg.com/media/DFg_2PVWOAEHN
2061                                        https://pbs.twimg.com/media/DFihzFfXsAYGD
2062                                        https://pbs.twimg.com/media/DFi579UWsAAat
2063                                        https://pbs.twimg.com/media/DFl99B1WsAITK
2064                                        https://pbs.twimg.com/media/DFnwSY4WAAAMl
2065                                        https://pbs.twimg.com/media/DFrEyVuWOAAO3
2066                                        https://pbs.twimg.com/media/DFwUU__XcAEpy
2067                                        https://pbs.twimg.com/media/DFyBahAVwAAhU
2068                                        https://pbs.twimg.com/media/DF1eOmZXUAALU
2069                                        https://pbs.twimg.com/media/DF3HwyEWsAABq
2070                                        https://pbs.twimg.com/media/DF6hr6BUMAAzZ
2071                                        https://pbs.twimg.com/media/DF_q7IAWsAEuu
2072                                        https://pbs.twimg.com/media/DGBdLU1WsAANx
2073                                        https://pbs.twimg.com/media/DGGmoV4XsAAUL
2074                                        https://pbs.twimg.com/media/DGKD1-bXoAAIA

      img_num                      p1    p1_conf  p1_dog  \
0           1    Welsh_springer_spaniel   0.465074    True
1           1                   redbone   0.506826    True
2           1           German_shepherd   0.596461    True
3           1       Rhodesian_ridgeback   0.408143    True
```

```
4            1              miniature_pinscher    0.560311     True
5            1          Bernese_mountain_dog      0.651137     True
6            1                     box_turtle     0.933012    False
7            1                           chow    0.692517     True
8            1                  shopping_cart    0.962465    False
9            1                miniature_poodle    0.201493     True
10           1               golden_retriever    0.775930     True
11           1                  Gordon_setter    0.503672     True
12           1                   Walker_hound    0.260857     True
13           1                            pug    0.489814     True
14           1                      bloodhound    0.195217     True
15           1                           Lhasa    0.582330     True
16           1                  English_setter    0.298617     True
17           1                            hen    0.965932    False
18           1                desktop_computer   0.086502    False
19           1               Italian_greyhound   0.176053     True
20           1                     Maltese_dog    0.857531     True
21           1                 three-toed_sloth   0.914671    False
22           1                             ox    0.416669    False
23           1               golden_retriever    0.858744     True
24           1                        malamute   0.336874     True
25           1                      guinea_pig    0.996496    False
26           1    soft-coated_wheaten_terrier    0.326467     True
27           1                      Chihuahua    0.978108     True
28           1          black-and-tan_coonhound  0.529139     True
29           1                            coho    0.404640    False
...          ...                            ...       ...       ...
2045         1                 French_bulldog    0.999201     True
2046         1                     convertible    0.738995    False
2047         1                          kuvasz    0.309706     True
2048         2                       Chihuahua    0.793469     True
2049         1                         Samoyed    0.733942     True
2050         1               Mexican_hairless    0.330741     True
2051         2                        Pembroke    0.809197     True
2052         1                        limousine   0.130432    False
2053         1                          basset    0.821664     True
2054         1                 French_bulldog    0.995026     True
2055         2                        Pembroke    0.809197     True
2056         3                   Siberian_husky   0.700377     True
2057         1               golden_retriever    0.469760     True
2058         1               golden_retriever    0.714719     True
2059         1                         whippet    0.626152     True
2060         1               golden_retriever    0.953442     True
2061         1                 French_bulldog    0.991650     True
2062         1                        Pembroke    0.966327     True
2063         1                 French_bulldog    0.377417     True
2064         1                         Samoyed    0.957979     True
2065         1                        Pembroke    0.511319     True
```

```
2066          1                Irish_terrier  0.487574   True
2067          2                   Pomeranian  0.566142   True
2068          1                   Appenzeller  0.341703   True
2069          1       Chesapeake_Bay_retriever  0.425595   True
2070          2                       basset  0.555712   True
2071          1                  paper_towel  0.170278  False
2072          1                    Chihuahua  0.716012   True
2073          1                    Chihuahua  0.323581   True
2074          1                       orange  0.097049  False


                              p2   p2_conf  p2_dog                        p3  \
0                          collie  0.156665   True           Shetland_sheepdog
1              miniature_pinscher  0.074192   True          Rhodesian_ridgeback
2                        malinois  0.138584   True                  bloodhound
3                         redbone  0.360687   True          miniature_pinscher
4                      Rottweiler  0.243682   True                    Doberman
5                English_springer  0.263788   True  Greater_Swiss_Mountain_dog
6                       mud_turtle  0.045885  False                    terrapin
7                  Tibetan_mastiff  0.058279   True                    fur_coat
8                  shopping_basket  0.014594  False            golden_retriever
9                         komondor  0.192305   True  soft-coated_wheaten_terrier
10                Tibetan_mastiff  0.093718   True          Labrador_retriever
11              Yorkshire_terrier  0.174201   True                    Pekinese
12              English_foxhound  0.175382   True                 Ibizan_hound
13                   bull_mastiff  0.404722   True               French_bulldog
14               German_shepherd  0.078260   True                    malinois
15                       Shih-Tzu  0.166192   True              Dandie_Dinmont
16                   Newfoundland  0.149842   True                      borzoi
17                          cock   0.033919  False                   partridge
18                          desk   0.085547  False                    bookcase
19                   toy_terrier  0.111884   True                     basenji
20                   toy_poodle   0.063064   True             miniature_poodle
21                         otter  0.015250  False               great_grey_owl
22                  Newfoundland  0.278407   True                 groenendael
23      Chesapeake_Bay_retriever  0.054787   True          Labrador_retriever
24                Siberian_husky  0.147655   True                  Eskimo_dog
25                         skunk  0.002402  False                     hamster
26                  Afghan_hound  0.259551   True                      briard
27                   toy_terrier  0.009397   True                    papillon
28                    bloodhound  0.244220   True        flat-coated_retriever
29                     barracouta  0.271485  False                         gar
...                          ...        ...    ...                         ...
2045                     Chihuahua  0.000361   True                 Boston_bull
2046                    sports_car  0.139952  False                   car_wheel
2047                 Great_Pyrenees  0.186136   True              Dandie_Dinmont
2048                   toy_terrier  0.143528   True                  can_opener
2049                    Eskimo_dog  0.035029   True   Staffordshire_bullterrier
2050                      sea_lion  0.275645  False                   Weimaraner
```

2051	Rhodesian_ridgeback	0.054950	True	beagle
2052	tow_truck	0.029175	False	shopping_cart
2053	redbone	0.087582	True	Weimaraner
2054	pug	0.000932	True	bull_mastiff
2055	Rhodesian_ridgeback	0.054950	True	beagle
2056	Eskimo_dog	0.166511	True	malamute
2057	Labrador_retriever	0.184172	True	English_setter
2058	Tibetan_mastiff	0.120184	True	Labrador_retriever
2059	borzoi	0.194742	True	Saluki
2060	Labrador_retriever	0.013834	True	redbone
2061	boxer	0.002129	True	Staffordshire_bullterrier
2062	Cardigan	0.027356	True	basenji
2063	Labrador_retriever	0.151317	True	muzzle
2064	Pomeranian	0.013884	True	chow
2065	Cardigan	0.451038	True	Chihuahua
2066	Irish_setter	0.193054	True	Chesapeake_Bay_retriever
2067	Eskimo_dog	0.178406	True	Pembroke
2068	Border_collie	0.199287	True	ice_lolly
2069	Irish_terrier	0.116317	True	Indian_elephant
2070	English_springer	0.225770	True	German_short-haired_pointer
2071	Labrador_retriever	0.168086	True	spatula
2072	malamute	0.078253	True	kelpie
2073	Pekinese	0.090647	True	papillon
2074	bagel	0.085851	False	banana

	p3_conf	p3_dog
0	0.061428	True
1	0.072010	True
2	0.116197	True
3	0.222752	True
4	0.154629	True
5	0.016199	True
6	0.017885	False
7	0.054449	False
8	0.007959	True
9	0.082086	True
10	0.072427	True
11	0.109454	True
12	0.097471	True
13	0.048960	True
14	0.075628	True
15	0.089688	True
16	0.133649	True
17	0.000052	False
18	0.079480	False
19	0.111152	True
20	0.025581	True
21	0.013207	False

```
22     0.102643     True
23     0.014241     True
24     0.093412     True
25     0.000461    False
26     0.206803     True
27     0.004577     True
28     0.173810     True
29     0.189945    False
...          ...       ...
2045   0.000076     True
2046   0.044173    False
2047   0.086346     True
2048   0.032253    False
2049   0.029705     True
2050   0.134203     True
2051   0.038915     True
2052   0.026321    False
2053   0.026236     True
2054   0.000903     True
2055   0.038915     True
2056   0.111411     True
2057   0.073482     True
2058   0.105506     True
2059   0.027351     True
2060   0.007958     True
2061   0.001498     True
2062   0.004633     True
2063   0.082981    False
2064   0.008167     True
2065   0.029248     True
2066   0.118184     True
2067   0.076507     True
2068   0.193548    False
2069   0.076902    False
2070   0.175219     True
2071   0.040836    False
2072   0.031379     True
2073   0.068957     True
2074   0.076110    False

[2075 rows x 12 columns]
```

In [40]: #
image_pred.img_num.value_counts()

Out[40]: 1   1780
         2   198
         3   66

```
        4        31
        Name: img_num, dtype: int64

In [41]:  #
          image_pred.p1.value_counts()

Out[41]:  golden_retriever              150
          Labrador_retriever            100
          Pembroke                       89
          Chihuahua                      83
          pug                            57
          chow                           44
          Samoyed                        43
          toy_poodle                     39
          Pomeranian                     38
          cocker_spaniel                 30
          malamute                       30
          French_bulldog                 26
          miniature_pinscher             23
          Chesapeake_Bay_retriever       23
          seat_belt                      22
          Siberian_husky                 20
          Staffordshire_bullterrier      20
          German_shepherd                20
          web_site                       19
          Cardigan                       19
          Shetland_sheepdog              18
          teddy                          18
          Eskimo_dog                     18
          beagle                         18
          Maltese_dog                    18
          Lakeland_terrier               17
          Rottweiler                     17
          Shih-Tzu                       17
          Italian_greyhound              16
          kuvasz                         16
                                        ...
          pillow                          1
          bighorn                         1
          teapot                          1
          bee_eater                       1
          cheeseburger                    1
          carousel                        1
          polecat                         1
          bison                           1
          cougar                          1
          book_jacket                     1
          crash_helmet                    1
```

```
         American_black_bear         1
         fiddler_crab               1
         black-footed_ferret        1
         prayer_rug                 1
         envelope                   1
         jersey                     1
         hand_blower                1
         revolver                   1
         tick                       1
         military_uniform           1
         bald_eagle                 1
         pedestal                   1
         robin                      1
         cuirass                    1
         bonnet                     1
         slug                       1
         cowboy_boot                1
         mortarboard                1
         fountain                   1
         Name: p1, Length: 378, dtype: int64
```

In [42]: *# p1*
         image_pred.p1_dog.value_counts()

Out[42]: True   1532
         False   543
         Name: p1_dog, dtype: int64

In [43]: *# p2*
         image_pred.p2_dog.value_counts()

Out[43]: True   1553
         False   522
         Name: p2_dog, dtype: int64

In [44]: *# p3*
         image_pred.p3_dog.value_counts()

Out[44]: True   1499
         False   576
         Name: p3_dog, dtype: int64

In [45]: image_pred.sample(5)

Out[45]:   tweet_id   jpg_url \
         649   681891461017812993 https://pbs.twimg.com/media/CXaQqGbWMAAKEgN.jpg
         1888   848212111729840128 https://pbs.twimg.com/media/C8V0aI5V0AAgO9m.jpg
         1203   741438259667034112 https://pbs.twimg.com/media/CkoeKTPWYAAcWmo.jpg
         755   688385280030670848 https://pbs.twimg.com/media/CY2iwGNWUAI5zWi.jpg
```

```
1742   822647212903690241   https://pbs.twimg.com/media/C2oRbOuWEAAbVSl.jpg

        img_num                           p1    p1_conf   p1_dog                p2  \
649           1                    Chihuahua   0.203570     True           doormat
1888          1            Bedlington_terrier   0.333486     True       Ibizan_hound
1203          1    Chesapeake_Bay_retriever    0.292675     True           redbone
755           2             golden_retriever   0.900437     True     cocker_spaniel
1742          1                      Samoyed   0.416769     True          malamute

        p2_conf   p2_dog           p3    p3_conf   p3_dog
649     0.134316   False   toy_terrier   0.084482     True
1888    0.245797    True       wallaby   0.131647    False
1203    0.197858    True        vizsla   0.150312     True
755     0.022292    True      sombrero   0.014997    False
1742    0.252706    True        kuvasz   0.157028     True
```

addition_data

In [46]: *# addtion_data*
        addition_data.head()

Out[46]:   tweet_id   retweet_count   favorite_count
        0   892420643555336192   8842   39492
        1   892177421306343424   6480   33786
        2   891815181378084864   4301   25445
        3   891689557279858688   8925   42863
        4   891327558926688256   9721   41016

In [47]: *# addtion_data.info()*
        addition_data.info()

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 2352 entries, 0 to 2351
Data columns (total 3 columns):
tweet_id          2352 non-null int64
retweet_count     2352 non-null int64
favorite_count    2352 non-null int64
dtypes: int64(3)
memory usage: 55.2 KB
```

In [48]: *# chak additoin_data*
        addition_data.describe()

Out[48]:   tweet_id   retweet_count   favorite_count
        count   2.352000e+03   2352.000000   2352.000000
        mean   7.425913e+17   3134.932398   8109.198980
```

```
std       6.846210e+16      5237.846296      11980.795669
min       6.660209e+17         0.000000          0.000000
25%       6.783949e+17       618.000000       1417.000000
50%       7.193536e+17      1456.500000       3596.500000
75%       7.991219e+17      3628.750000      10118.000000
max       8.924206e+17     79116.000000     132318.000000
```

In [49]: *# addition_datatweet_id*
         sum(addition_data.tweet_id.duplicated())

Out[49]: 0

In [50]: *#*
         addition_data.dtypes

Out[50]: tweet_id   int64
         retweet_count   int64
         favorite_count   int64
         dtype: object

In [51]: *# retweet_countint*
         pd.api.types.is_integer_dtype(addition_data['retweet_count'])

Out[51]: True

dog_archive

- tweet_idintstring
- timestampstringdatatime
- in_reply_to_status_idin_reply_to_user_idfloatstring
- retweeted_status_idretweeted_status_user_idfloatstring
- retweeted_status_timestampstringdatatime
- index313rating960/013/10
- index342dog
- index10689/1114/10
- index11654/2013/10
- index120250/5011/10
- index16627/1110/19
- index23351/29/10
-
-
- name
- image_preddog_archive

image_pred

- tweet_idintstring
- p2, p3
- image_pred

82

```
addition_data
```

- tweet_idintstring

- dog_archivedog41dogtionary
- dog_archivedog21
- image_predtweet_id, jpg_url, is_dogdogp1/p2/p3dogis_dogp1_dog/p2_dog/p3_dogdogis_dogtrue
- tweet_id

1.3

```
In [52]: #
         dog_archive_clean = dog_archive.copy()
         image_pred_clean = image_pred.copy()
         addition_data_clean = addition_data.copy()
```


dog_archive, image_pred, addition_datatweet_id

dog_archive, image_predtweet_idstringaddition_dataid_strtweet_id


```
In [53]: # tweet_id
         dog_archive_clean.tweet_id = dog_archive_clean.tweet_id.astype(str)
         image_pred_clean.tweet_id = image_pred_clean.tweet_id.astype(str)
         addition_data_clean.tweet_id = addition_data_clean.tweet_id.astype(str)
         # # id_str
         # addition_data_clean.rename(columns={'id_str': 'tweet_id'}, inplace=True)
```


```
In [54]: # tweet_id
         type(dog_archive_clean.tweet_id[0])
```

```
Out[54]: str
```

```
In [55]: # tweet_id
         type(image_pred_clean.tweet_id[0])
```

```
Out[55]: str
```

```
In [56]: # tweet_id
         pd.api.types.is_string_dtype(addition_data_clean.tweet_id)
```

```
Out[56]: True
```

dog_archivedog

- index342dog
- dogtextdog


```
In [57]: #
         dog_archive_clean.iloc[342]['text']

Out[57]: '@docmisterio account started on 11/15/15'

In [58]: #
         dog_archive_clean.drop(index=342, inplace=True)

In [59]: # text
         dog_archive_clean['last_score'] = \
             dog_archive_clean.text.str.findall('((?:\d+\.)?\d+/[1-9]+[0]+)').apply(lambda x: x[
         rating = dog_archive_clean['last_score'].str.split('/', n=1, expand=True)
         dog_archive_clean.rating_numerator = rating[0].astype(float)
         dog_archive_clean['rating_denominator'] = rating[1].astype(float)



In [60]: # rating
         sum(dog_archive_clean.rating_denominator<1)

Out[60]: 0

In [61]: # 1020
         dog_archive_clean.query('rating_numerator>20 | rating_denominator!=10')[['text', 'ratin
```

Out[61]:
```
         188
         189                                      @s8n You tried very hard to portray this good
         290
         433                                                               The floofs
         516   Meet Sam. She smiles 24/7 &amp; secretly aspires to be a reindeer. \nKeep Sam smi
         902
         979
         1120                                         Say hello to this unbelievably we
         1228                                                            Happy
         1254                                            Here's a brigade of
         1274                       From left to right:\nCletus, Jerome, Alejandro, Burp, &amp
         1351
         1433                                                            Happ
         1598                          Yes I do realize a rating of 4/20 would've been
```

```
1634                                                     Two sneaky puppers were not initially
1635                                     Someone help the girl is being mugged. Several are d
1663                                     I'm aware that I could've said 20/16, but here at W
1779
1843                                                           Here we have an ent
2074
```

```
        rating_numerator  rating_denominator
188               420.0                10.0
189               666.0                10.0
290               182.0                10.0
433                84.0                70.0
516                 NaN                 NaN
902               165.0               150.0
979              1776.0                10.0
1120              204.0               170.0
1228               99.0                90.0
1254               80.0                80.0
1274               45.0                50.0
1351               60.0                50.0
1433               44.0                40.0
1598                4.0                20.0
1634              143.0               130.0
1635              121.0               110.0
1663                NaN                 NaN
1779              144.0               120.0
1843               88.0                80.0
2074              420.0                10.0
```

rating

```
In [62]: #
         len_before = len(dog_archive_clean)
```

```
In [63]: # rating
         dog_archive_clean.dropna(subset=['rating_numerator', 'rating_denominator'], inplace=Tru
```

```
In [64]: #
         len_after = len(dog_archive_clean)
         print('{}'.format(len_before - len_after))
```

```
2
```

```
In [65]: # rating
         dog_archive_clean[dog_archive_clean.rating_numerator.isnull()]
```

```
Out[65]: Empty DataFrame
         Columns: [tweet_id, in_reply_to_status_id, in_reply_to_user_id, timestamp, source, text
         Index: []
```

image_preddog

image_predtweet_id, jpg_url, is_dogdogp1/p2/p3dogis_dogp1_dog/p2_dog/p3_dogdogis_dogtrue

```
In [66]: # is_dog
         image_pred_clean['is_dog'] = image_pred_clean['p1_dog'] | image_pred_clean['p2_dog'] |
         #
         image_pred_clean.drop(columns=['img_num', 'p1', 'p1_conf', 'p1_dog', 'p2', 'p2_conf', '
```

```
In [67]: # is_dog
         image_pred_clean.head()
```

```
Out[67]:            tweet_id                                   jpg_url  is_dog
         0  666020888022790149  https://pbs.twimg.com/media/CT4udn0WwAA0aMy.jpg    True
         1  666029285002620928  https://pbs.twimg.com/media/CT42GRgUYAA5iDo.jpg    True
         2  666033412701032449  https://pbs.twimg.com/media/CT4521TWwAEvMyu.jpg    True
         3  666044226329800704  https://pbs.twimg.com/media/CT5Dr8HUEAA-lEu.jpg    True
         4  666049248165822465  https://pbs.twimg.com/media/CT5IQmsXIAAKY4A.jpg    True
```

dog_archive

dog_archive101044/4011 -

```
In [68]: # rating
         dog_archive_clean['rating'] = dog_archive_clean['rating_numerator'] / dog_archive_clean
         dog_archive_clean.drop(columns=['rating_numerator', 'rating_denominator'], inplace=True
```

```
In [69]: # dog_archive_clean
         dog_archive_clean.columns
```

```
Out[69]: Index(['tweet_id', 'in_reply_to_status_id', 'in_reply_to_user_id', 'timestamp',
                'source', 'text', 'retweeted_status_id', 'retweeted_status_user_id',
                'retweeted_status_timestamp', 'expanded_urls', 'name', 'doggo',
                'floofer', 'pupper', 'puppo', 'last_score', 'rating'],
               dtype='object')
```

```
In [70]: # rating
         dog_archive_clean.rating.value_counts()

Out[70]: 12.00      561
         11.00      472
         10.00      455
         13.00      355
         9.00       157
         8.00       104
         14.00       56
         7.00        56
         5.00        34
         6.00        33
         3.00        19
         4.00        16
         2.00        11
         1.00         9
         0.00         2
         15.00        2
         420.00       2
         9.75         2
         11.26        1
         9.50         1
         11.27        1
         666.00       1
         13.50        1
         1776.00      1
         182.00       1
         Name: rating, dtype: int64
```

dog_archivedog4

dog_archivedog41dogtionary

```
In [71]: # None
         dog_archive_clean.loc[:,['doggo','floofer', 'pupper', 'puppo']] = \
           dog_archive_clean.loc[:,['doggo','floofer', 'pupper', 'puppo']].replace('None', '')

In [72]: # dogtionary
         dog_archive_clean['dogtionary'] = dog_archive_clean['doggo']+','+ dog_archive_clean['fl
             dog_archive_clean['pupper']+','+dog_archive_clean['puppo']
         dog_archive_clean.dogtionary = dog_archive_clean.dogtionary.str.strip(',')
         dog_archive_clean.dogtionary = dog_archive_clean.dogtionary.str.replace(',+', ',')
         dog_archive_clean.dogtionary.replace('', np.nan, inplace=True)
         # 'doggo','floofer', 'pupper', 'puppo'
         dog_archive_clean.drop(columns=['doggo','floofer', 'pupper', 'puppo'], inplace=True)
```

```
In [73]: # 'doggo','floofer', 'pupper', 'puppo'dogtionary
         dog_archive_clean.sample(5)

Out[73]:             tweet_id  in_reply_to_status_id  in_reply_to_user_id  \
         1156  724771698126512129                    NaN                  NaN
         1210  715680795826982913                    NaN                  NaN
         1847  675820929667219457                    NaN                  NaN
         906   758041019896193024                    NaN                  NaN
         1316  706644897839910912                    NaN                  NaN


                              timestamp  \
         1156  2016-04-26 01:26:53 +0000
         1210  2016-03-31 23:22:53 +0000
         1847  2015-12-12 23:34:00 +0000
         906   2016-07-26 20:47:17 +0000
         1316  2016-03-07 00:57:27 +0000


                                                                              sourc
         1156  <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
         1210  <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
         1847  <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
         906   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
         1316  <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a


         1156                                                              Nothin bett
         1210                                                                 This is Z
         1847    Here's a handful of sleepy puppers. All look unaware of their surroundings. Lous
         906    Teagan reads entire books in store so they're free. Loved 50 Shades of Grey (how
         1316   Meet Shadow. She's tired of the responsibilities associated with being a dog. No


               retweeted_status_id  retweeted_status_user_id  \
         1156                  NaN                       NaN
         1210                  NaN                       NaN
         1847                  NaN                       NaN
         906                   NaN                       NaN
         1316                  NaN                       NaN


               retweeted_status_timestamp  \
         1156                         NaN
         1210                         NaN
         1847                         NaN
         906                          NaN
         1316                         NaN


         1156  https://twitter.com/dog_rates/status/724771698126512129/photo/1,https://twitter.c
```

```
1210            https://twitter.com/dog_rates/status/715680795826982913/photo/1,https://t
1847
906
1316


       name last_score  rating dogtionary
1156   None      11/10    11.0      doggo
1210   Zeus      12/10    12.0        NaN
1847   None      11/10    11.0        NaN
906    None       9/10     9.0        NaN
1316 Shadow       9/10     9.0        NaN
```

In [74]: *# dogtionary*
dog_archive_clean[dog_archive_clean.dogtionary.str.contains(',+')==True]

Out[74]:
```
                 tweet_id  in_reply_to_status_id  in_reply_to_user_id  \
191    855851453814013952                    NaN                  NaN
200    854010172552949760                    NaN                  NaN
460    817777686764523521                    NaN                  NaN
531    808106460588765185                    NaN                  NaN
565    802265048156610565           7.331095e+17         4.196984e+09
575    801115127852503040                    NaN                  NaN
705    785639753186217984                    NaN                  NaN
733    781308096455073793                    NaN                  NaN
778    775898661951791106                    NaN                  NaN
822    770093767776997377                    NaN                  NaN
889    759793422261743616                    NaN                  NaN
956    751583847268179968                    NaN                  NaN
1063   741067306818797568                    NaN                  NaN
1113   733109485275860992                    NaN                  NaN


                      timestamp  \
191    2017-04-22 18:31:02 +0000
200    2017-04-17 16:34:26 +0000
460    2017-01-07 16:59:28 +0000
531    2016-12-12 00:29:28 +0000
565    2016-11-25 21:37:47 +0000
575    2016-11-22 17:28:25 +0000
705    2016-10-11 00:34:48 +0000
733    2016-09-29 01:42:20 +0000
778    2016-09-14 03:27:11 +0000
822    2016-08-29 03:00:36 +0000
889    2016-07-31 16:50:42 +0000
956    2016-07-09 01:08:47 +0000
1063   2016-06-10 00:39:48 +0000
1113   2016-05-19 01:38:16 +0000


                                                                        sourc
```

```
191    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
200    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
460    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
531    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
565    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
575    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
705    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
733                         <a href="http://vine.co" rel="nofollow">Vine - Make a Scene</a
778    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
822    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
889    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
956    <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
1063   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a
1113   <a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a


191          Here's a puppo participating in the #ScienceMarch. Cleverly disguising her
200    At first I thought this was a shy doggo, but it's actually a Rare Canadian Floofe
460    This is Dido. She's playing the lead role in "Pupper Stops to Catch Snow Before R
531                       Here we have Burke (pupper) and Dexter (doggo). Pupper wants
565
575                       This is Bones. He's being haunted by another doggo of roughly
705    This is Pinot. He's a sophisticated doggo. You can tell by the hat. Also pointier
733
778                                                                             RT @do
822                                                            RT @dog_rates: This is
889                       Meet Maggie &amp; Lila. Maggie is the doggo, Lila is the pupp
956                             Please stop sending it pictures that don't even have
1063                                                                        This is
1113


       retweeted_status_id  retweeted_status_user_id  \
191                   NaN                       NaN
200                   NaN                       NaN
460                   NaN                       NaN
531                   NaN                       NaN
565                   NaN                       NaN
575                   NaN                       NaN
705                   NaN                       NaN
733                   NaN                       NaN
778          7.331095e+17              4.196984e+09
822          7.410673e+17              4.196984e+09
889                   NaN                       NaN
956                   NaN                       NaN
1063                  NaN                       NaN
1113                  NaN                       NaN


     retweeted_status_timestamp  \
```

```
191                       NaN
200                       NaN
460                       NaN
531                       NaN
565                       NaN
575                       NaN
705                       NaN
733                       NaN
778    2016-05-19 01:38:16 +0000
822    2016-06-10 00:39:48 +0000
889                       NaN
956                       NaN
1063                      NaN
1113                      NaN


191                                                             https://twitter.c
200    https://twitter.com/dog_rates/status/854010172552949760/photo/1,https://twitter.c
460                                                             https://twitter.c
531                                                             https://twitter.c
565                                                             https://twitter.c
575    https://twitter.com/dog_rates/status/801115127852503040/photo/1,https://twitter.c
705    https://twitter.com/dog_rates/status/785639753186217984/photo/1,https://twitter.c
733
778    https://twitter.com/dog_rates/status/733109485275860992/photo/1,https://twitter.c
822    https://twitter.com/dog_rates/status/741067306818797568/photo/1,https://twitter.c
889    https://twitter.com/dog_rates/status/759793422261743616/photo/1,https://twitter.c
956                                                             https://twitter.c
1063                                                            https://twitter.c
1113                                                            https://twitter.c

         name  last_score  rating    dogtionary
191      None       13/10    13.0    doggo,puppo
200      None       11/10    11.0    doggo,floofer
460      Dido       13/10    13.0    doggo,pupper
531      None       12/10    12.0    doggo,pupper
565      None       11/10    11.0    doggo,pupper
575     Bones       12/10    12.0    doggo,pupper
705     Pinot       10/10    10.0    doggo,pupper
733      None       12/10    12.0    doggo,pupper
778      None       12/10    12.0    doggo,pupper
822      just       12/10    12.0    doggo,pupper
889    Maggie       12/10    12.0    doggo,pupper
956      None        5/10     5.0    doggo,pupper
1063     just       12/10    12.0    doggo,pupper
1113     None       12/10    12.0    doggo,pupper
```

In [75]: # dogtionary

```
        dog_archive_clean.dogtionary.value_counts()
```

Out[75]: pupper   245
         doggo   83
         puppo   29
         doggo,pupper   12
         floofer   9
         doggo,floofer   1
         doggo,puppo   1
         Name: dogtionary, dtype: int64

dog_archive, addition_dataimage_predtweet_id

In [76]: # merge,inner
```python
dog_archive_clean = dog_archive_clean.merge(image_pred_clean, how='inner', on='tweet_id
dog_archive_clean = dog_archive_clean.merge(addition_data_clean, how='left', on='tweet_
```

In [77]: # dog_archive_clean
```python
dog_archive_clean.columns
```

Out[77]: Index(['tweet_id', 'in_reply_to_status_id', 'in_reply_to_user_id', 'timestamp',
                'source', 'text', 'retweeted_status_id', 'retweeted_status_user_id',
                'retweeted_status_timestamp', 'expanded_urls', 'name', 'last_score',
                'rating', 'dogtionary', 'jpg_url', 'is_dog', 'retweet_count',
                'favorite_count'],
               dtype='object')

In [78]: #
```python
sum(dog_archive_clean.jpg_url.isnull())
```

Out[78]: 0

string

dog_archivetimestampretweeted_status_timestampdatetime

In [79]: # to_datetime
```python
dog_archive_clean.timestamp = pd.to_datetime(dog_archive_clean.timestamp)
dog_archive_clean.retweeted_status_timestamp = pd.to_datetime(dog_archive_clean.retweet
```

```
In [80]: # timestamp
         dog_archive_clean.info()

<class 'pandas.core.frame.DataFrame'>
Int64Index: 2074 entries, 0 to 2073
Data columns (total 18 columns):
tweet_id                     2074 non-null object
in_reply_to_status_id        23 non-null float64
in_reply_to_user_id          23 non-null float64
timestamp                    2074 non-null datetime64[ns]
source                       2074 non-null object
text                         2074 non-null object
retweeted_status_id          81 non-null float64
retweeted_status_user_id     81 non-null float64
retweeted_status_timestamp   81 non-null datetime64[ns]
expanded_urls                2074 non-null object
name                         2074 non-null object
last_score                   2074 non-null object
rating                       2074 non-null float64
dogtionary                   321 non-null object
jpg_url                      2074 non-null object
is_dog                       2074 non-null bool
retweet_count                1348 non-null float64
favorite_count               1348 non-null float64
dtypes: bool(1), datetime64[ns](2), float64(7), object(8)
memory usage: 293.7+ KB
```

in_reply_to_status_idretweeted_status_idid

dog_archivein_reply_to_status_idretweeted_status_ididfloatstring

```
In [81]: # in_reply_to_status_idstring
         dog_archive_clean.in_reply_to_status_id.fillna(0, inplace=True)
         dog_archive_clean.in_reply_to_status_id = dog_archive_clean.in_reply_to_status_id.astyp
         dog_archive_clean.in_reply_to_status_id = dog_archive_clean.in_reply_to_status_id.astyp
         dog_archive_clean.in_reply_to_status_id.replace('0', 'None', inplace=True)
         # in_reply_to_status_idstring
         dog_archive_clean.in_reply_to_user_id.fillna(0, inplace=True)
         dog_archive_clean.in_reply_to_user_id = dog_archive_clean.in_reply_to_user_id.astype(in
         dog_archive_clean.in_reply_to_user_id = dog_archive_clean.in_reply_to_user_id.astype(st
         dog_archive_clean.in_reply_to_user_id.replace('0', 'None', inplace=True)

In [82]: # retweeted_status_idstring
         dog_archive_clean.retweeted_status_id.fillna(0, inplace=True)
```

```
dog_archive_clean.retweeted_status_id = dog_archive_clean.retweeted_status_id.astype(in
dog_archive_clean.retweeted_status_id = dog_archive_clean.retweeted_status_id.astype(st
dog_archive_clean.retweeted_status_id.replace('0', 'None', inplace=True)
# retweeted_status_user_idstring
dog_archive_clean.retweeted_status_user_id.fillna(0, inplace=True)
dog_archive_clean.retweeted_status_user_id = dog_archive_clean.retweeted_status_user_id
dog_archive_clean.retweeted_status_user_id = dog_archive_clean.retweeted_status_user_id
dog_archive_clean.retweeted_status_user_id.replace('0', 'None', inplace=True)
```

In [83]: # in_reply_to_status_id
         dog_archive_clean.in_reply_to_status_id[30]

Out[83]: 'None'

In [84]: # in_reply_to_status_id
         dog_archive_clean.in_reply_to_status_id[31]

Out[84]: 'None'

In [85]: # in_reply_to_user_id
         dog_archive_clean.in_reply_to_user_id[30]

Out[85]: 'None'

In [86]: # in_reply_to_user_id
         dog_archive_clean.in_reply_to_user_id[31]

Out[86]: 'None'

In [87]: # retweeted_status_id
         dog_archive_clean.retweeted_status_id[19]

Out[87]: '887473957103951872'

In [88]: # retweeted_status_id
         dog_archive_clean.retweeted_status_id[18]

Out[88]: 'None'

In [89]: # retweeted_status_user_id
         dog_archive_clean.retweeted_status_user_id[19]

Out[89]: '4196983835'

In [90]: # retweeted_status_user_id
         dog_archive_clean.retweeted_status_user_id[18]

Out[90]: 'None'

()retweeted_status_id'None'

```
In [91]: #
         retweeted_index = dog_archive_clean[dog_archive_clean.retweeted_status_id!='None'].inde
         dog_archive_clean.drop(index=retweeted_index, inplace=True)
```

```
In [92]: #
         sum(dog_archive_clean.retweeted_status_id!='None')
```

```
Out[92]: 0
```

```
In [93]: #
         dog_archive_clean.drop(columns=['retweeted_status_id', 'retweeted_status_user_id', 'ret
```

```
In [94]: dog_archive_clean.columns
```

```
Out[94]: Index(['tweet_id', 'in_reply_to_status_id', 'in_reply_to_user_id', 'timestamp',
                'source', 'text', 'expanded_urls', 'name', 'last_score', 'rating',
                'dogtionary', 'jpg_url', 'is_dog', 'retweet_count', 'favorite_count'],
               dtype='object')
```

dog_archivein_reply_to_status_id

```
In [95]: # id_listtweet_id
         # id_listtweet_idstring
         id_str_list = map(str, id_list)
         for tweet_id in id_str_list:
             dog_archive_clean = dog_archive_clean[dog_archive_clean.tweet_id!=tweet_id]
```

```
In [96]: #
         tweet_id_arr = dog_archive_clean.tweet_id.values
         in_reply_to_status_id_arr = dog_archive_clean.in_reply_to_status_id.values
         # tweet_id_listid
         tweet_id_list = []
         for tweet_id in in_reply_status_id_arr:
             if tweet_id in tweet_id_arr:
                 tweet_id_list.append(tweet_id)
         print('{}'.format(len(tweet_id_list)))
```

0

dog_archive

```
In [97]:  #
          len(dog_archive_clean)

Out[97]:  1963

In [98]:  #
          sum(dog_archive_clean.is_dog==True)

Out[98]:  1662

In [99]:  #
          sum(dog_archive_clean.is_dog==False)

Out[99]:  301

In [100]:  #
           sum(dog_archive_clean.is_dog.isnull())

Out[100]:  0
```

2142 = 1663 + 201 + 178

```
In [101]:  #
           dog_archive_notdog = dog_archive_clean[dog_archive_clean.is_dog==False]
           id_notdog_arr = dog_archive_notdog.index.values
           dog_archive_clean.drop(index=id_notdog_arr, inplace=True)



In [102]:  #
           sum(dog_archive_clean.is_dog==False)

Out[102]:  0
```

dropjpg_url

```
In [103]:  #
           sum(dog_archive_clean.jpg_url.isnull())

Out[103]:  0

In [104]:  # jpg_url
           sum(dog_archive_clean.jpg_url.duplicated())

Out[104]:  0
```

1

name

np.nan

```
In [105]:  #
           mask = (dog_archive_clean.name.str.islower())|(dog_archive_clean.name == 'None')
           dog_archive_clean.loc[mask, 'name'] = np.nan
```

```
In [106]:  #
           dog_archive_clean[dog_archive_clean.name.str.islower()==True]

Out[106]:  Empty DataFrame
           Columns: [tweet_id, in_reply_to_status_id, in_reply_to_user_id, timestamp, source, tex
           Index: []
```

1.3.1

```
In [107]:  #  csv  SQLite
           dog_archive_clean.to_csv('twitter_archive_master.csv', header=True, index=True)
```

1.4

1.4.1

dogtionary - -

- -

dogtionary - dogtionary - dogtionary

-

1 dogtionary - -

```
In [109]: # dogtionaryNone
          archive_part = dog_archive_clean[dog_archive_clean.dogtionary.notnull()]
          # dogtionary
          doggo_archive = archive_part[archive_part.dogtionary.str.contains('doggo')]
          pupper_archive = archive_part[archive_part.dogtionary.str.contains('pupper')]
          puppo_archive = archive_part[archive_part.dogtionary.str.contains('puppo')]
          floofer_archive = archive_part[archive_part.dogtionary.str.contains('floofer')]
```

```
In [110]: # doggo
          doggo_archive.describe()
```

```
Out[110]:            rating  retweet_count  favorite_count
          count  62.000000      34.000000       34.000000
          mean   11.838710    5350.411765    15620.500000
          std     1.580553    8397.928100    18518.772406
          min     5.000000     987.000000     3660.000000
          25%    11.000000    1956.750000     6594.000000
          50%    12.000000    2486.000000     9128.500000
          75%    13.000000    3977.000000    12335.000000
          max    14.000000   42045.000000    95138.000000
```

```
In [111]: # pupper
          pupper_archive.describe()
```

```
Out[111]:             rating  retweet_count  favorite_count
          count  174.000000     120.000000      120.000000
          mean    10.857874    2225.783333     7022.000000
          std      1.542384    2528.016332     7793.300403
          min      4.000000     102.000000      687.000000
          25%     10.000000     688.750000     2433.500000
          50%     11.000000    1265.500000     3612.000000
          75%     12.000000    2525.250000     8013.000000
          max     14.000000   15743.000000    39558.000000
```

```
In [112]: # puppo
          puppo_archive.describe()
```

```
Out[112]:            rating  retweet_count  favorite_count
          count  22.000000      15.000000       15.000000
          mean   12.000000    5234.000000    16755.800000
          std     1.309307    6250.101108    16499.277414
          min     9.000000     707.000000     3265.000000
          25%    11.250000    1586.000000     6447.000000
          50%    12.000000    3029.000000    10088.000000
          75%    13.000000    4681.500000    18959.000000
          max    14.000000   19563.000000    56199.000000
```

```
In [113]: # floofer
          floofer_archive.describe()

Out[113]:          rating  retweet_count  favorite_count
          count   8.000000       5.000000        5.000000
          mean   11.875000    2513.800000     8133.600000
          std     1.125992    1809.608576     6051.676156
          min    10.000000     494.000000     2255.000000
          25%    11.000000    1136.000000     4003.000000
          50%    12.000000    2496.000000     6038.000000
          75%    13.000000    3419.000000    11252.000000
          max    13.000000    5024.000000    17120.000000
```

puppo

```
In [114]: # list
          data = [doggo_archive.rating.values, pupper_archive.rating.values,
                  puppo_archive.rating.values, floofer_archive.rating.values]
          #
          fig,ax=plt.subplots(figsize=(6, 4))
          ax.boxplot(data, positions=[0, 0.6, 1.2, 1.8])
          ax.set_xticklabels(['doggo', 'pupper', 'puppo', 'floofer'])
          ax.set_title('box plot of rating')
          plt.show()
```
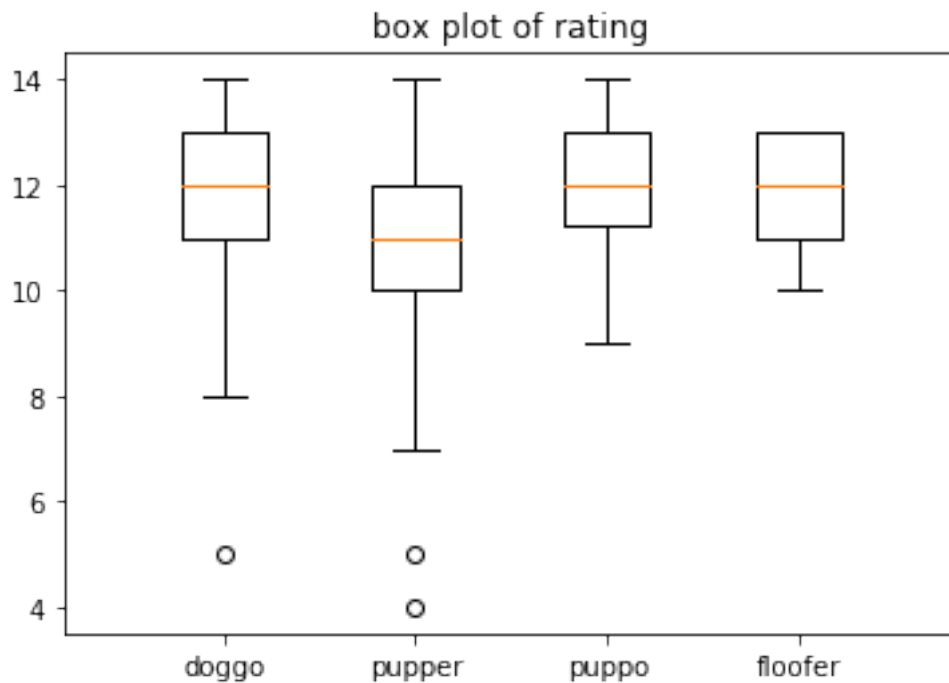
```
In [115]: import seaborn as sns
          plt.figure(figsize=(6,4), dpi= 80)
          sns.kdeplot(doggo_archive.rating.values, shade=True, color="#FFE384", label="doggo", a
          sns.kdeplot(pupper_archive.rating.values, shade=True, color="#1E90FF", label="pupper",
          sns.kdeplot(puppo_archive.rating.values, shade=True, color="#7FFFD4", label="puppo", a
          sns.kdeplot(floofer_archive.rating.values, shade=True, color='#DDA0DD', label="floofer
          plt.title('rating density plot')
          plt.xlabel('rating')
          plt.ylabel('density')
          plt.show()
```
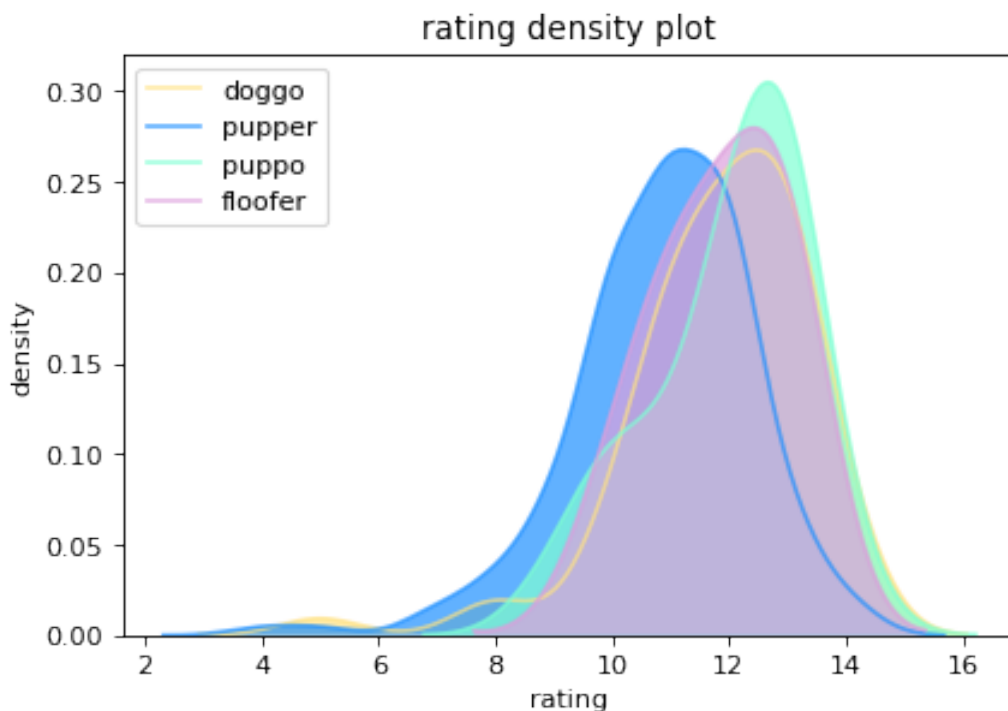

1

- puppopuppo
- pupperpupper

2   - -

```
In [116]: #
          dog_archive_clean.retweet_count = dog_archive_clean.retweet_count.astype(float)
          dog_archive_clean.favorite_count = dog_archive_clean.favorite_count.astype(float)
          dog_archive_clean['retweet_count_log'] = np.log(dog_archive_clean['retweet_count']+1)
          dog_archive_clean['favorite_count_log'] = np.log(dog_archive_clean['favorite_count']+1
          dog_archive_clean['rating_log'] = np.log(dog_archive_clean['rating']+1)
```

```
In [117]: #
          fig = plt.figure(figsize=(6, 10))
          ax1 = fig.add_subplot(2, 1, 1)
          title1 = 'scatter plot of retweet count vs rating'
          dog_archive_clean.plot(y='retweet_count_log', x='rating_log', kind='scatter',
                                 ax=ax1, title=title1, color='#32CD32')
          ax1.set_xlim(1, 3)
          ax2 = fig.add_subplot(2, 1, 2)
          title2 = 'scatter plot of favorite count vs rating'
          dog_archive_clean.plot(x='rating_log', y='favorite_count_log', kind='scatter',
                                 ax=ax2, title=title2, color='#8A2BE2')
          ax2.set_xlim(1, 3)
          fig.suptitle('relationship plot between retweet count or favorite count and rating', f
          plt.show()
```

relationship plot between retweet count or favorite count and rating

scatter plot of retweet count vs rating

scatter plot of favorite count vs rating
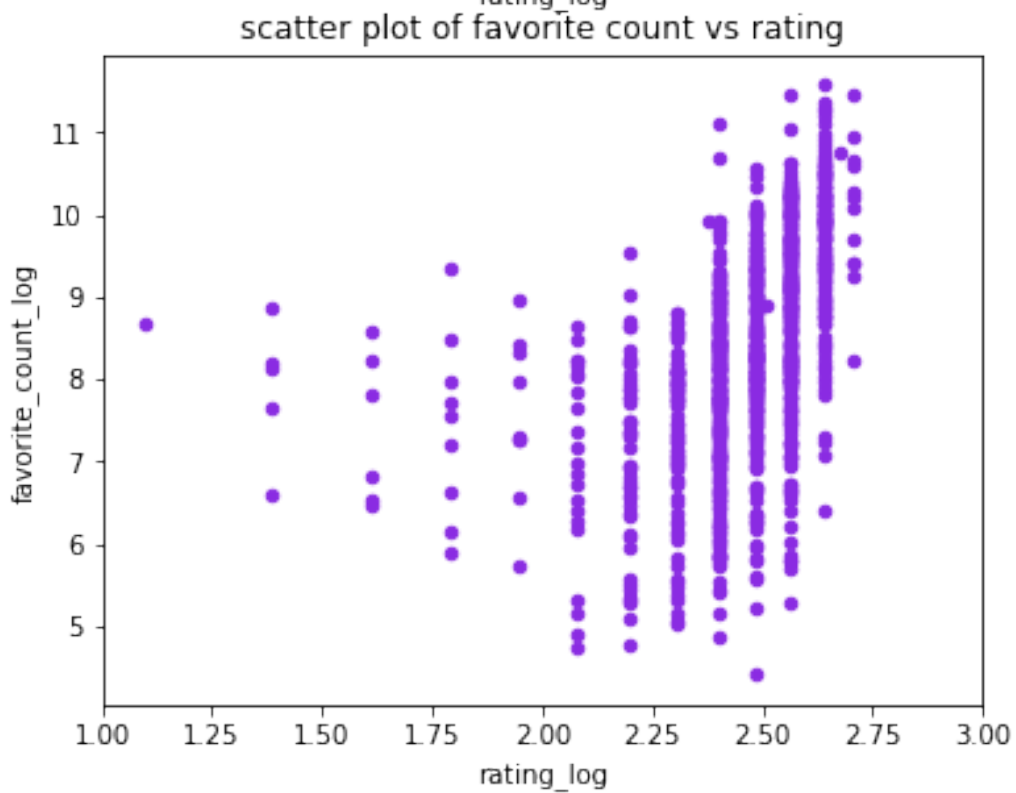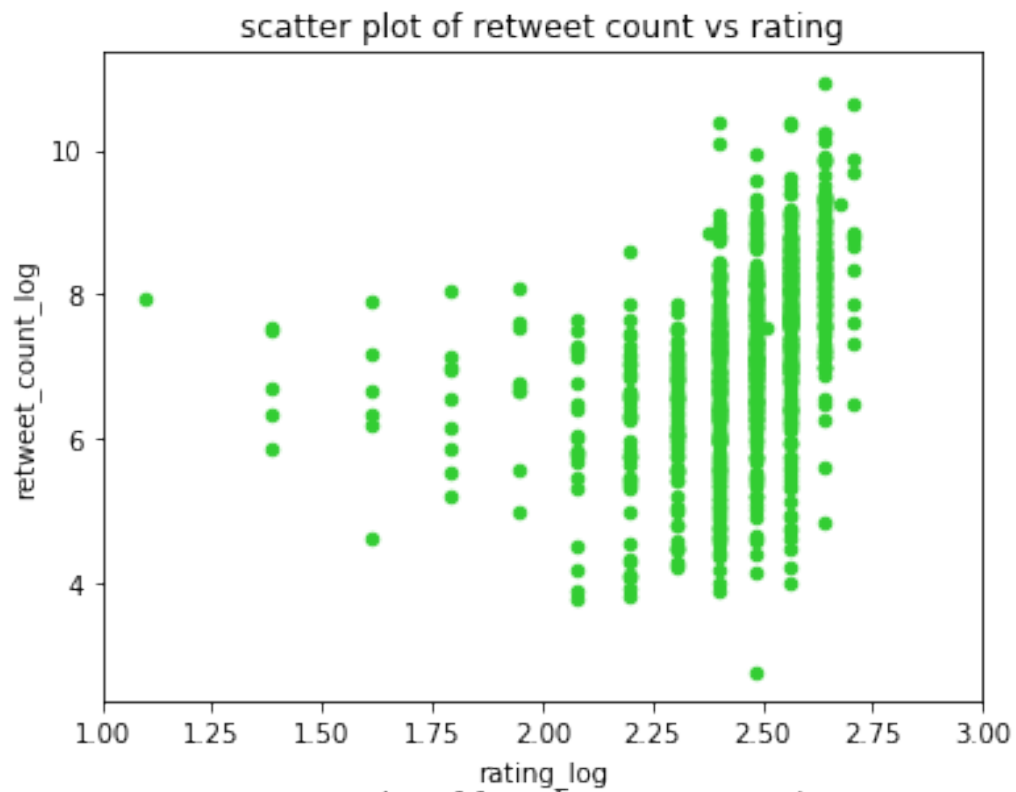
3 **dogtionary** - dogtionary - dogtionary

```
In [118]: #
          doggo_archive.retweet_count = doggo_archive.retweet_count.astype(float)
          pupper_archive.retweet_count = pupper_archive.retweet_count.astype(float)
          puppo_archive.retweet_count = puppo_archive.retweet_count.astype(float)
          floofer_archive.retweet_count = floofer_archive.retweet_count.astype(float)

          doggo_archive.favorite_count = doggo_archive.favorite_count.astype(float)
          pupper_archive.favorite_count = pupper_archive.favorite_count.astype(float)
          puppo_archive.favorite_count = puppo_archive.favorite_count.astype(float)
          floofer_archive.favorite_count = floofer_archive.favorite_count.astype(float)
```

```
/opt/conda/lib/python3.6/site-packages/pandas/core/generic.py:4405: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row_indexer,col_indexer] = value instead

See the caveats in the documentation: http://pandas.pydata.org/pandas-docs/stable/indexing.html#
  self[name] = value
```

```
In [119]: # doggo
          doggo_archive.describe()
```

```
Out[119]:             rating   retweet_count   favorite_count
          count   62.000000       34.000000        34.000000
          mean    11.838710     5350.411765     15620.500000
          std      1.580553     8397.928100     18518.772406
          min      5.000000      987.000000      3660.000000
          25%     11.000000     1956.750000      6594.000000
          50%     12.000000     2486.000000      9128.500000
          75%     13.000000     3977.000000     12335.000000
          max     14.000000    42045.000000     95138.000000
```

```
In [120]: # pupper
          pupper_archive.describe()
```

```
Out[120]:             rating   retweet_count   favorite_count
          count  174.000000      120.000000       120.000000
          mean    10.857874     2225.783333      7022.000000
          std      1.542384     2528.016332      7793.300403
          min      4.000000      102.000000       687.000000
          25%     10.000000      688.750000      2433.500000
```

```
         50%     11.000000    1265.500000     3612.000000
         75%     12.000000    2525.250000     8013.000000
         max     14.000000   15743.000000    39558.000000

In [121]: # puppo
          puppo_archive.describe()

Out[121]:            rating  retweet_count  favorite_count
          count  22.000000      15.000000       15.000000
          mean   12.000000    5234.000000    16755.800000
          std     1.309307    6250.101108    16499.277414
          min     9.000000     707.000000     3265.000000
          25%    11.250000    1586.000000     6447.000000
          50%    12.000000    3029.000000    10088.000000
          75%    13.000000    4681.500000    18959.000000
          max    14.000000   19563.000000    56199.000000

In [122]: # floofer
          floofer_archive.describe()

Out[122]:            rating  retweet_count  favorite_count
          count   8.000000       5.000000        5.000000
          mean   11.875000    2513.800000     8133.600000
          std     1.125992    1809.608576     6051.676156
          min    10.000000     494.000000     2255.000000
          25%    11.000000    1136.000000     4003.000000
          50%    12.000000    2496.000000     6038.000000
          75%    13.000000    3419.000000    11252.000000
          max    13.000000    5024.000000    17120.000000
```

retweet_countpuppo,pupper
favorite_countpuppo,pupper

```
In [125]: #
          plt.figure(figsize=(6,4), dpi= 80)
          sns.kdeplot(doggo_archive.retweet_count.values, shade=True, color="#FFE384", label="do
          sns.kdeplot(pupper_archive.retweet_count.values, shade=True, color="#1E90FF", label="p
          sns.kdeplot(puppo_archive.retweet_count.values, shade=True, color="#7FFFD4", label="pu
          sns.kdeplot(floofer_archive.retweet_count.values, shade=True, color='#DDA0DD', label="
          plt.xlim(-5000, 50000)
          plt.title('retweet number density plot')
          plt.xlabel('retweet number')
          plt.ylabel('density')
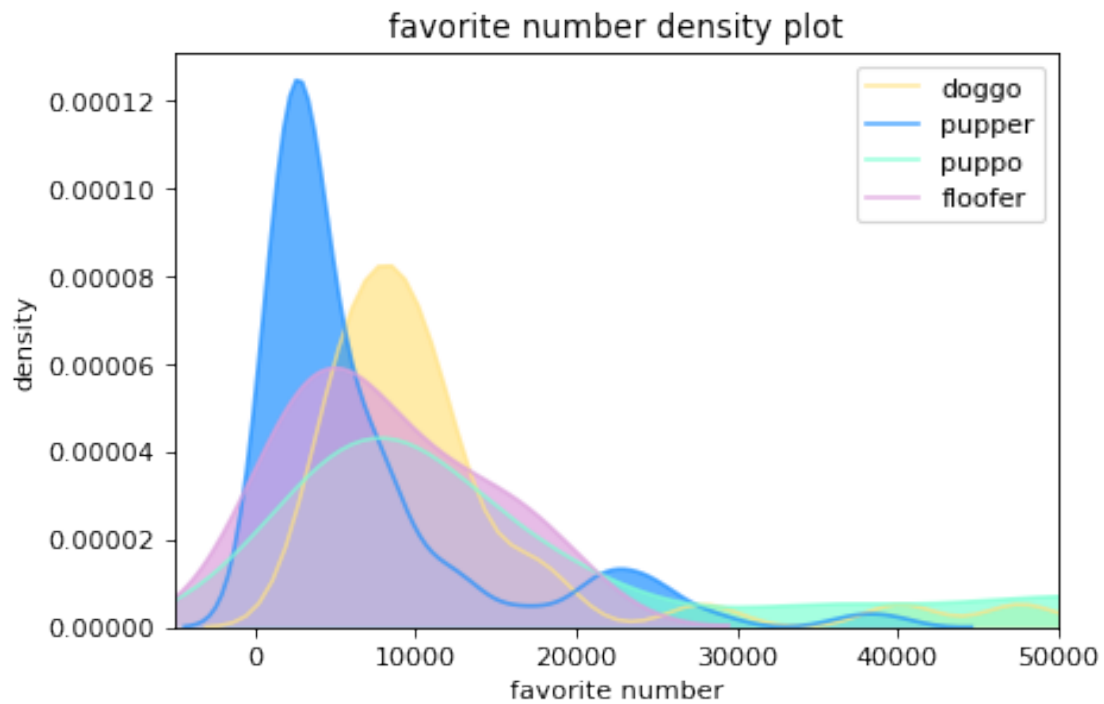          plt.show()

/opt/conda/lib/python3.6/site-packages/statsmodels/nonparametric/kde.py:454: RuntimeWarning: inv
  X = X[np.logical_and(X>clip[0], X<clip[1])] # won't work for two columns.
/opt/conda/lib/python3.6/site-packages/statsmodels/nonparametric/kde.py:454: RuntimeWarning: inv
  X = X[np.logical_and(X>clip[0], X<clip[1])] # won't work for two columns.
```

retweet number density plot
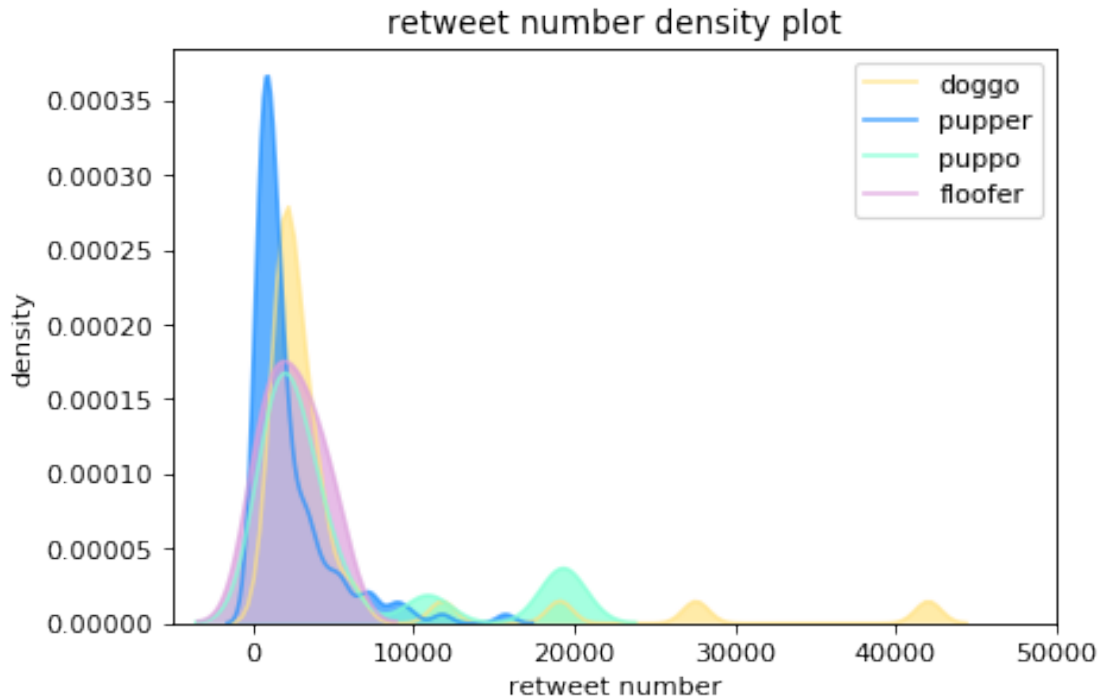
In [124]: #
```python
plt.figure(figsize=(6,4), dpi= 80)
sns.kdeplot(doggo_archive.favorite_count.values, shade=True, color="#FFE384", label="d
sns.kdeplot(pupper_archive.favorite_count, shade=True, color="#1E90FF", label="pupper"
sns.kdeplot(puppo_archive.favorite_count, shade=True, color="#7FFFD4", label="puppo",
sns.kdeplot(floofer_archive.favorite_count, shade=True, color='#DDA0DD', label="floofe
plt.xlim(-5000, 50000)
plt.title('favorite number density plot')
plt.xlabel('favorite number')
plt.ylabel('density')
plt.show()
```

```
/opt/conda/lib/python3.6/site-packages/statsmodels/nonparametric/kde.py:454: RuntimeWarning: inv
  X = X[np.logical_and(X>clip[0], X<clip[1])] # won't work for two columns.
/opt/conda/lib/python3.6/site-packages/statsmodels/nonparametric/kde.py:454: RuntimeWarning: inv
  X = X[np.logical_and(X>clip[0], X<clip[1])] # won't work for two columns.
```

favorite number density plot

- pupper
- puppo

4 -

```
In [126]: #
          dog_archive_clean.plot.scatter(x='retweet_count_log', y='favorite_count_log', color='#
          plt.title('retweet_count vs favorite_count')
          plt.show()
```

retweet_count vs favorite_count

1.4.2
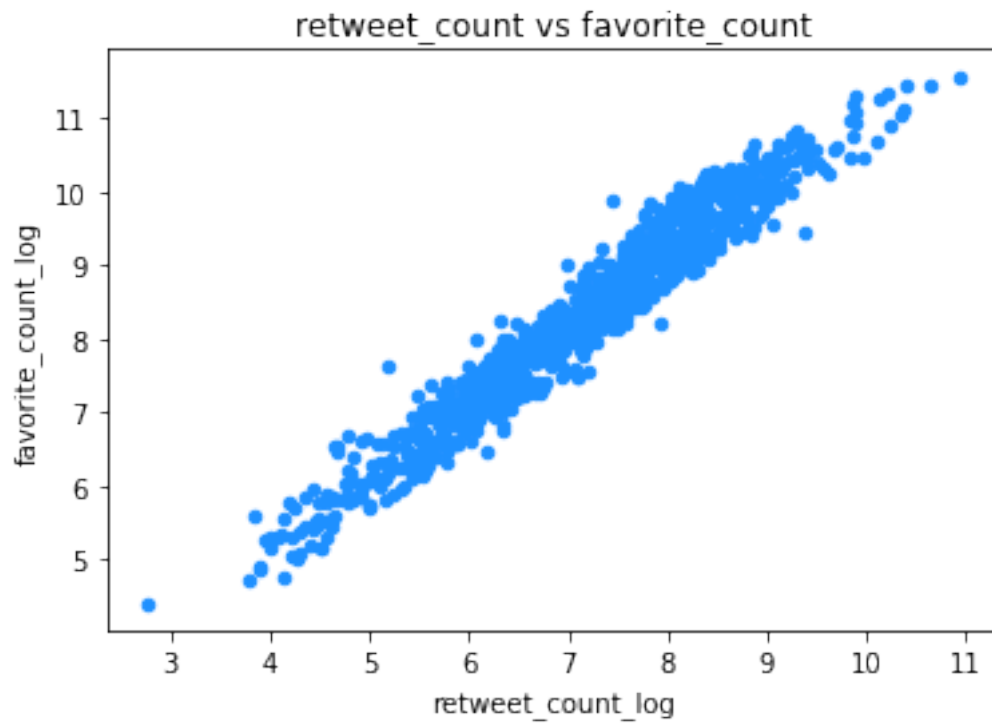
dogtionary

- puppopuppo
- pupperpupper

-

dogtionary

- pupper
- puppo

-

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1.
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