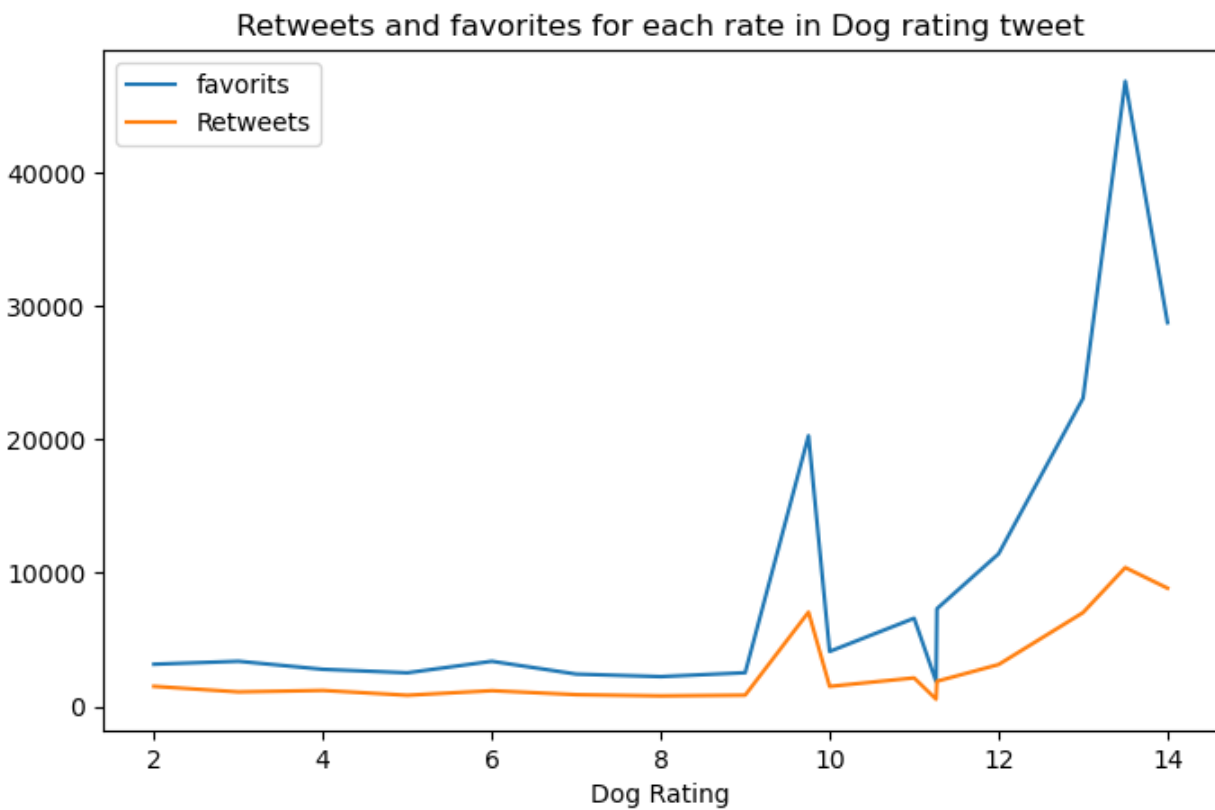


Analyze and visualize

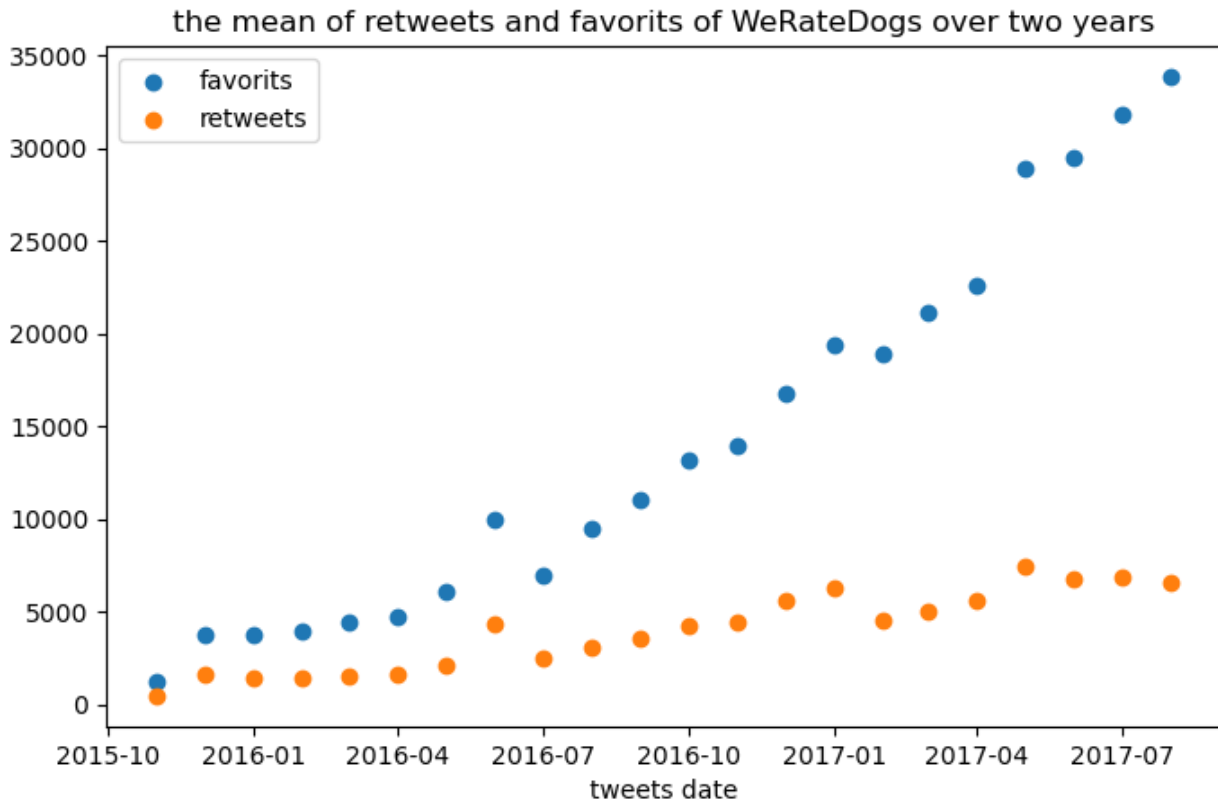
after we cleaned the data set its ready to be analyzed:

1- does the favorites and retweets in tweet have correlation with its rating?

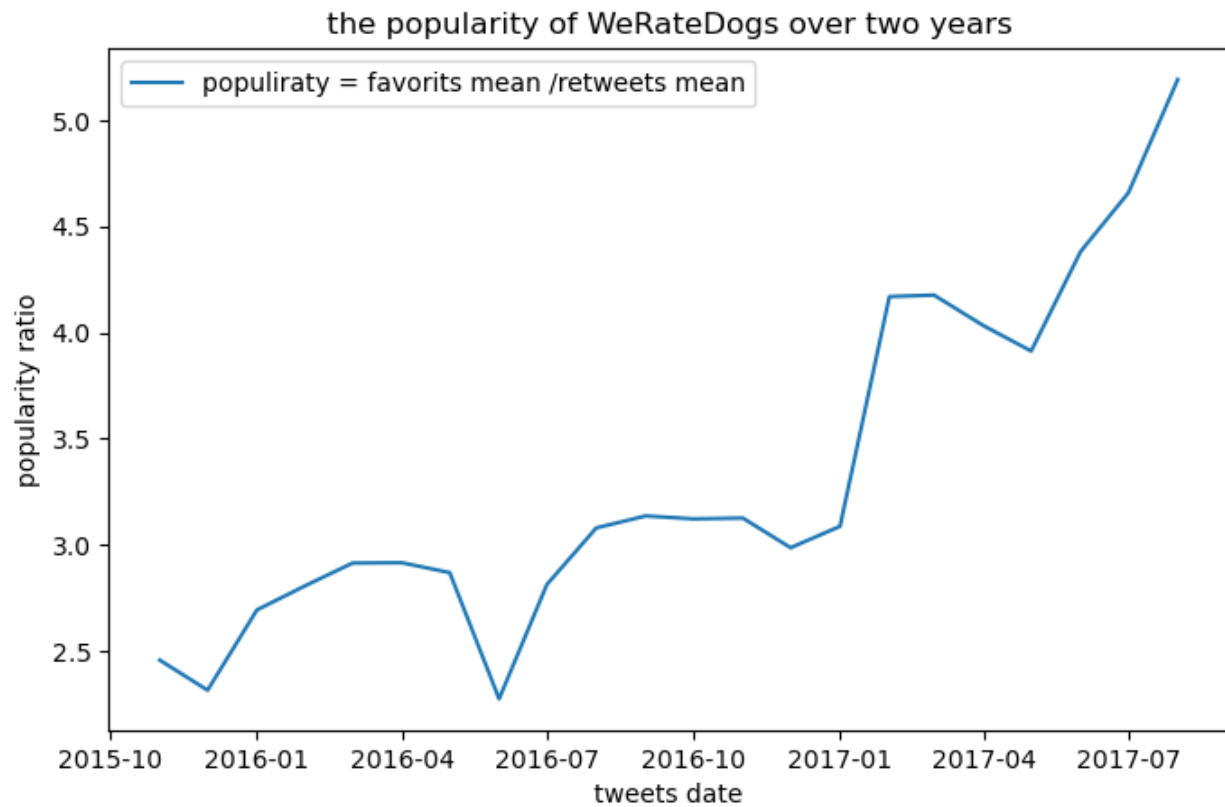


It seems that tweets with rating 2 to 9 have the same retweet and favorite however from 10 we can see its increased and the peak is around 14 so we can say that tweet with rating above 9 have more chance to be retweeted and favorited.

2- how the popularity of this account has increased over time ?

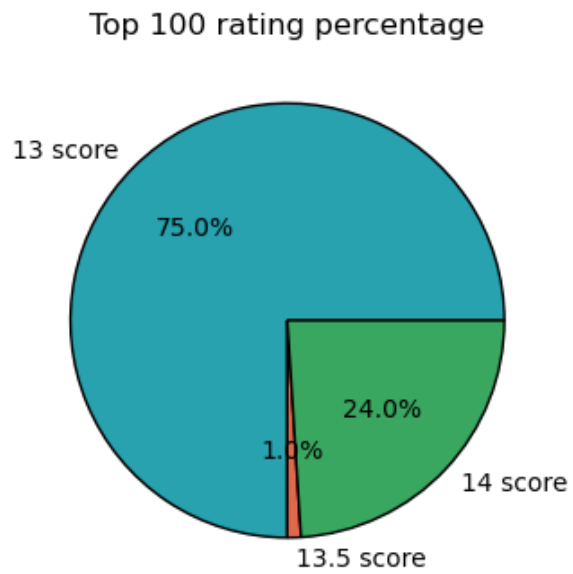


There are positive correlation in tweets and favorites with date witch indicate that popularity of WeRateDogs account is increasing over time. Lets see the popularity :

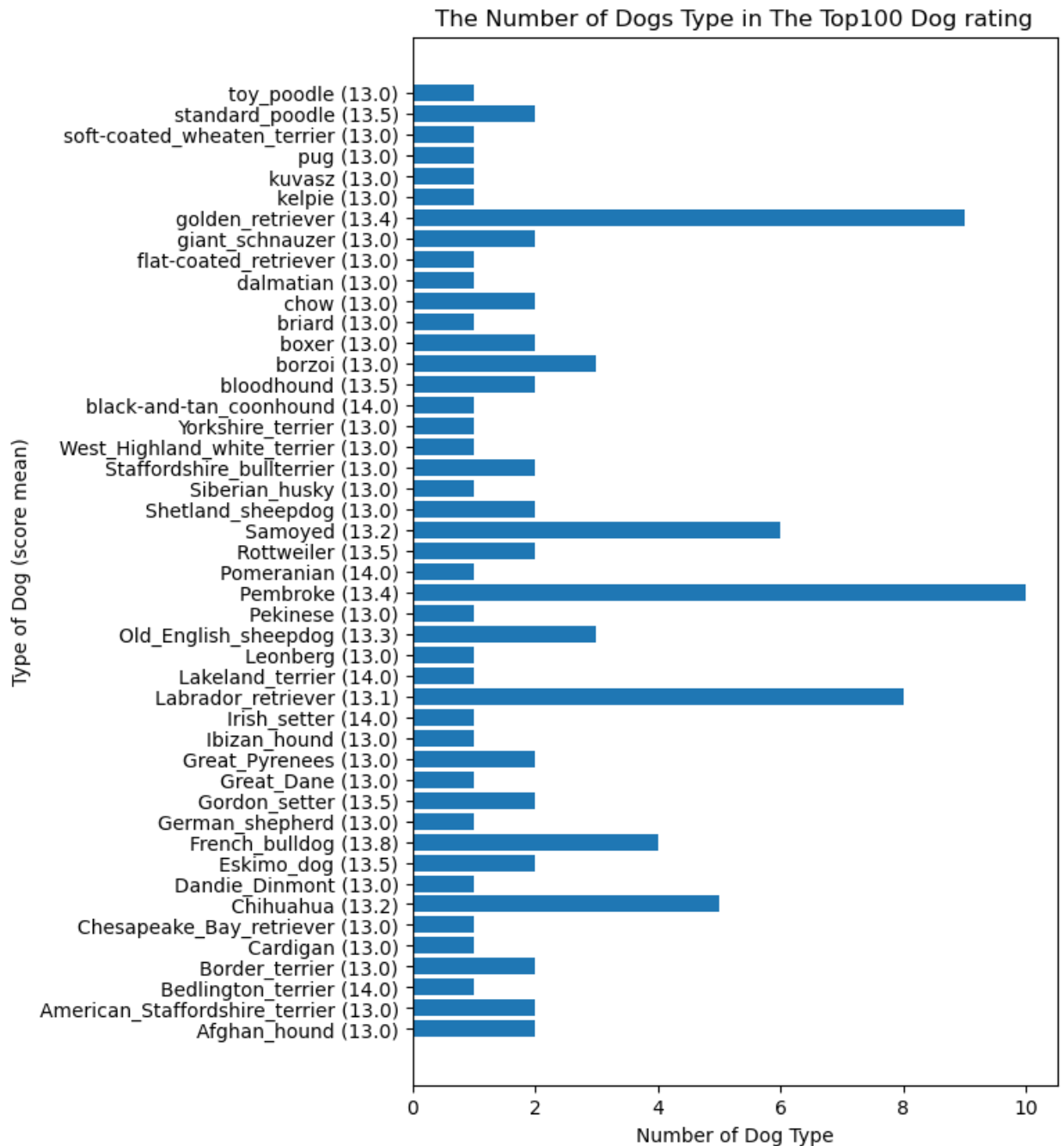


as we see in the first chart this chart ensure the fact of WeRateDogs account is increasing , they started with 2.5 popularity in 2015 and in 2017 they reach almost 5 popularity

3- what are the top 100 rating dogs and their type?



we cannot answer the question by this chart, but it shows us that the highest score is 14 and only 24 dogs from 1600 have it. Lets see the other chart:



there are so many dog type sharing the top 100 witch indicate that there are no relation between a doge type and its rating however we have two dog type that have high number in top100 golden_retriever with 9 with mean score of 13.4 and pembroke with 10 and mean score of 13.4 so these two type of dogs have high chance to rated high.

4- what is the probability of having golden_retriever dog type in a new tweet?

$$P(\text{golden retriever}) = 0.09323040380047506$$

the probability of having golden_retriever dog type in a new tweet is 9.32 %

5- what is the probability of having the rate (12) given that the dog type is Labrador retriever?

$$P(12 \mid \text{Labrador_retriever}) = (P(\text{Labrador_retriever} \mid 12) * P(12)) / P(\text{Labrador_retriever})$$

$$P(\text{Labrador_retriever} \mid 12) = 7.27\%$$

$$P(12) = 25.29\%$$

$$P(\text{Labrador_retriever}) = 6.41\%$$

$$P(12 \mid \text{Labrador_retriever}) = 0.287037037037037$$

the probability of having the rate (12) given that the dog type is Labrador retriever = 28.7%