NLP Assignment 2 Report

| Name:	Rahul Vasan Sivakkannan
Net ID:	rs7671
University ID:	N11204858
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Question 1:

What is the sentiment associated with Tweets addressing the probability of recession in 2023 and how has this changed over time?

Observations:

Value count of tweet polarity
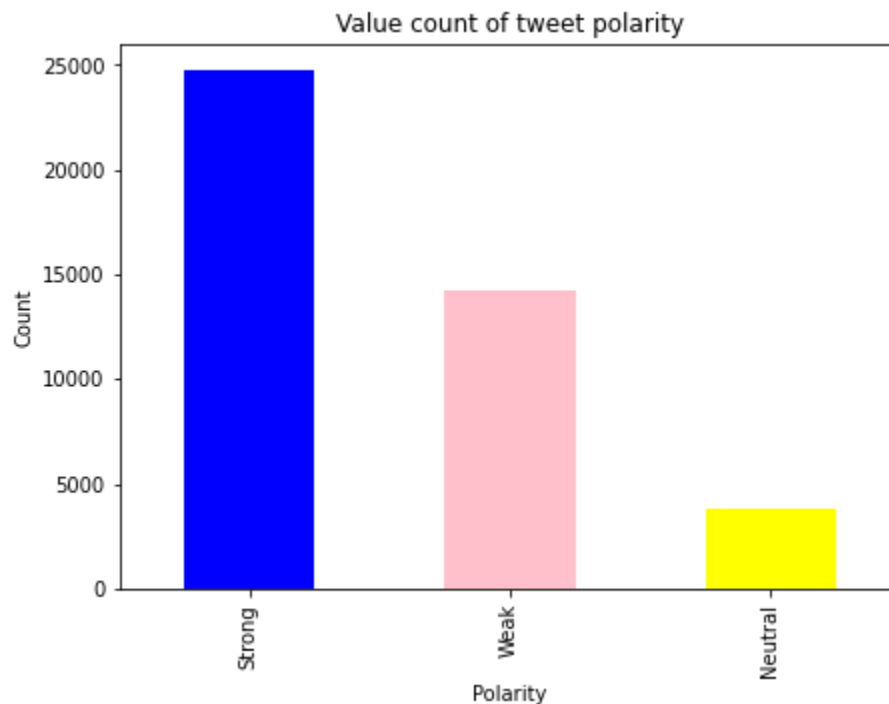
First of all, the sentiments about the recession have been quite strong throughout the year 2022. People have shown a sense of optimism and alarm towards the situations we face today.
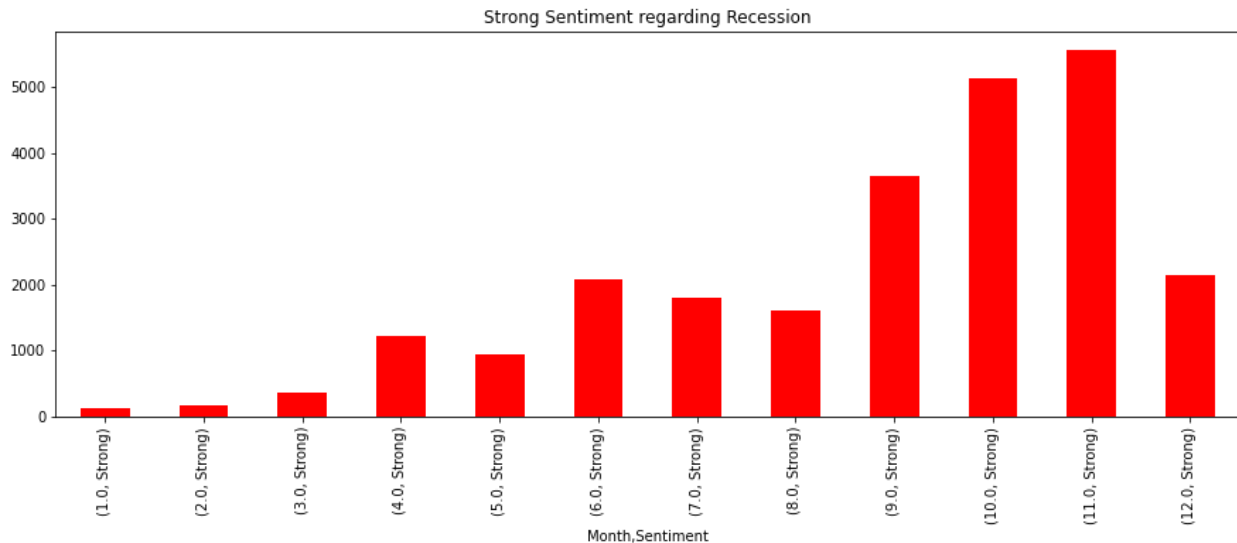
It can also be seen that the sentiments have constantly been increasing in strength as the months have progressed in 2022. This is because the effect of the recession was only felt during the last 4 months of the year.

```
[('global recession 2023', 819),
 ('cession en 2023', 637),
 ('feel like recession', 534),
 ('recession coming 2023', 531),
 ('2023 feel like', 496),
 ('mild recession 2023', 458),
 ('economy recession 2023', 406),
 ('chief economist eugenio', 318),
 ('economist eugenio alem', 318),
 ('risk global recession', 293),
 ('recession late 2023', 291),
 ('whopper recession 2023', 290),
 ('occur half 2023', 284),
 ('recession occur half', 281),
 ('half 2023 survey', 276),
 ('cfos responding survey', 270),
 ('survey recession occur', 270),
 ('american economy recession', 270),
 ('according majority 68', 269),
 ('majority 68 cfos', 269)]
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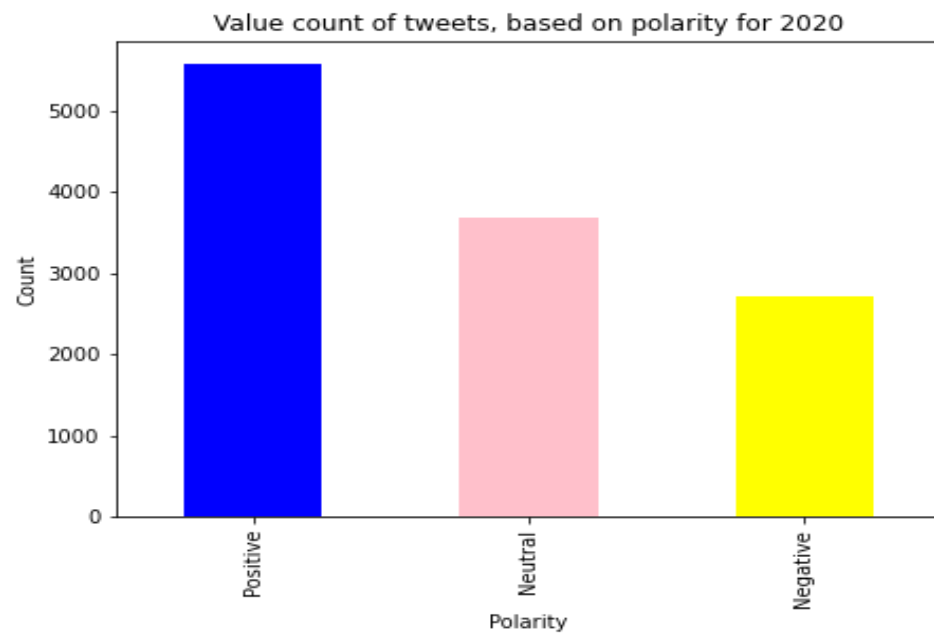
The most popular trigrams of the tweets corpus suggest a forecast about the nature of the recession in 2023 since the recession took off severely in the late months of 2022 and is hence suggestive of a more serious recession during 2023.
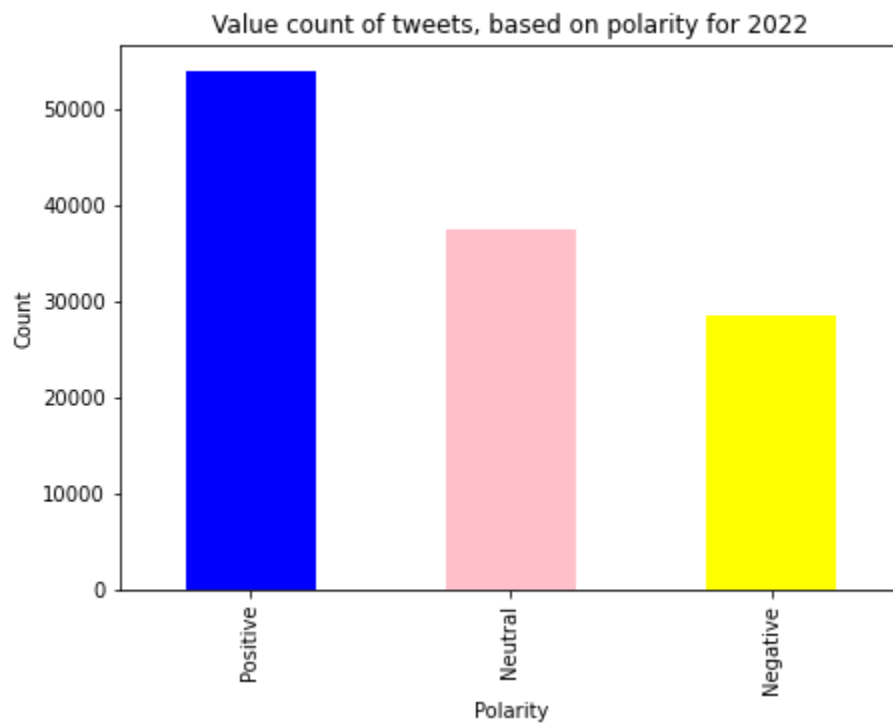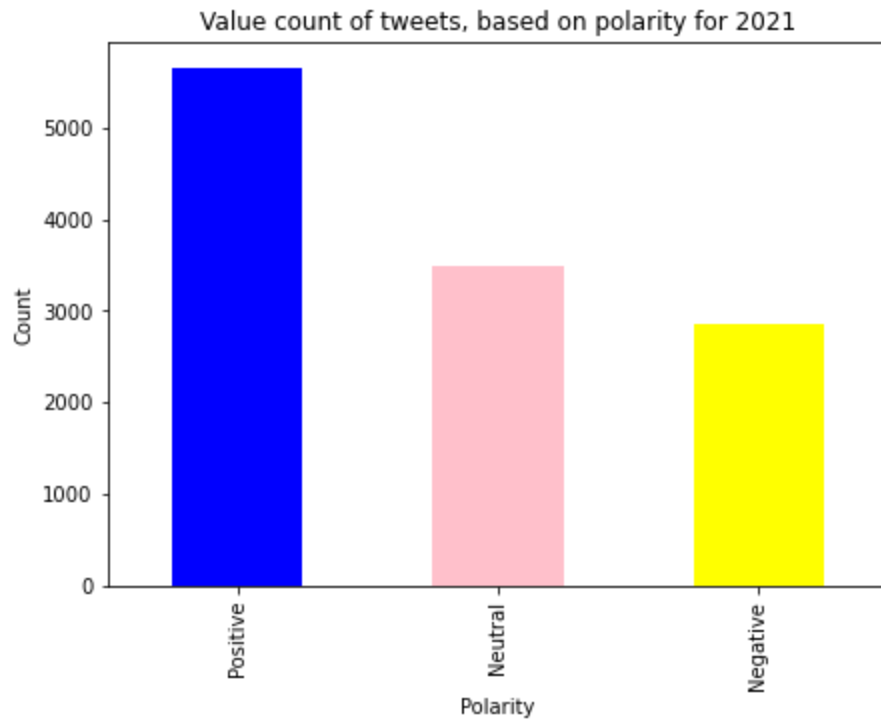
The trigrams that suggest them are: ('global recession 2023', 819), ('recession late 2023', 291), ('half 2023 survey', 276), ('mild recession 2023', 458), ('recession coming 2023', 531)

Question 2:

What is the sentiment of tweets addressing inflation concerns over time using the longest time period that you can?

For this question, we have considered 3 years 2022,2021, and 2020.

Value count of tweets, based on polarity for 2020

Value count of tweets, based on polarity for 2021

Value count of tweets, based on polarity for 2022

It can be seen that the sentiment toward inflation over the years has been predominantly strong, positive, and neutral.

Analysis using the trigrams:

```
[('fed chair powell', 48),
 ('supply chain issues', 35),
 ('powell warn congress', 35),
 ('warn congress inflation', 35),
 ('congress inflation pressures', 32),
 ('inflation pressures longer', 32),
 ('pressures longer expected', 32),
 ('30 silver pieces', 28),
 ('inflation gas prices', 28),
 ('chair powell warn', 28),
 ('high gas prices', 26),
 ('asset price inflation', 23),
 ('inflation cost living', 22),
 ('gas prices inflation', 21),
 ('raising minimum wage', 20),
 ('raise minimum wage', 20),
 ('inflation supply chain', 20),
 ('consumer price index', 18),
 ('15 min wage', 16),
 ('says spike inflation', 16)]


[('asset price inflation', 52),
 ('average inflation targeting', 32),
 ('net asset value', 26),
 ('low inflation rates', 25),
 ('threat low inflation', 24),
 ('house price inflation', 22),
 ('annual inflation rate', 21),
 ('rates amid virus', 21),
 ('amid virus threat', 21),
 ('virus threat low', 21),
 ('15 drop exports', 20),
 ('raising minimum wage', 19),
 ('ucits etf acc', 19),
 ('etf acc net', 19),
 ('acc net asset', 19),
 ('seen slashing rates', 19),
 ('slashing rates amid', 19),
 ('protect investments inflation', 19),
 ('drop exports inflation', 19),
 ('federal minimum wage', 18)]
```

It can be seen that the majority of the tweets are warnings and clarion calls instead of pure blame spread over the internet. That's why we majority see helping hands, planning, and optimism about the inflation state. This can be seen with the trigrams of 2021 where fed "chairman Powell warns the congress about inflation". There are also discussions about increasing the minimum wage. And there are complaints such as "gas prices increasing" and "supply chain issues" due to inflation.

2020 still shows the effect of the covid situation on the economy with trigrams such as "virus threat low", "rates amid virus" etc. There have been good predictions as well in 2020 itself with trigrams such as "protect investments inflation", "drop exports inflation"
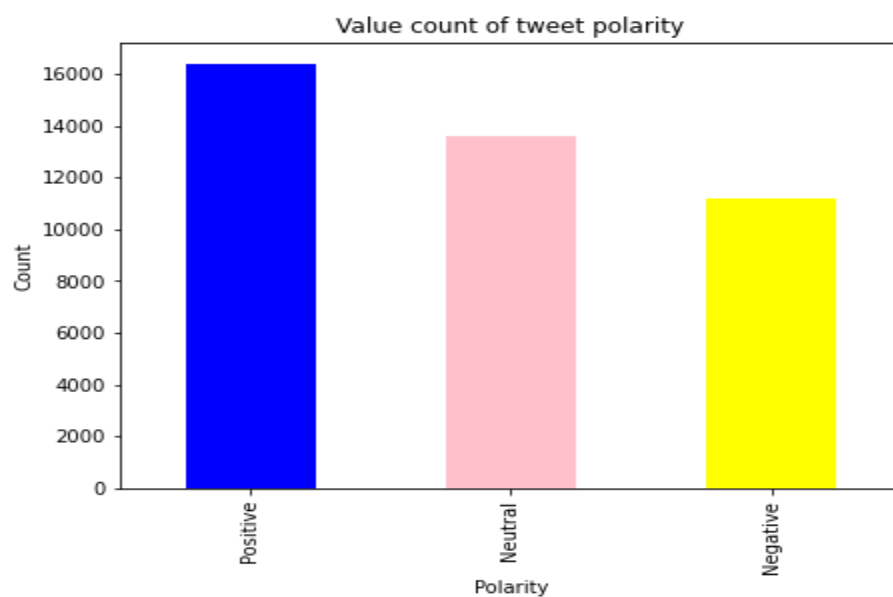
Question 3:

What is the sentiment of tweets around the China Covid-19 Zero Policy and the probability of China reopening?

Observations:

**Analyzing China's zero covid policy:**

It is interesting to see that the sentiment has almost been equally distributed between the 3 classes. It clearly shows that the population is either very neutral or majorly wish for a zero covid policy and lockdowns in turn.

```
[('zero covid policy', 33556),
 ('china zero covid', 13703),
 ('covid zero policy', 3715),
 ('covid policy china', 1586),
 ('china covid zero', 1182),
 ('dynamic zero covid', 1109),
 ('strict zero covid', 962),
 ('covid 19 policy', 731),
 ('xi jinping zero', 690),
 ('jinping zero covid', 686),
 ('zero covid 19', 588),
 ('protests erupt china', 522),
 ('challenge xi jinping', 454),
 ('unprecedented challenge xi', 450),
 ('china unprecedented challenge', 434),
 ('erupt china unprecedented', 431),
 ('zero tolerance covid', 418),
 ('china dynamic zero', 386),
 ('china strict zero', 385),
 ('zero tolerance policy', 364)]
```

It can be seen that the policy has been very strict enforcement and the policy has stirred protests and has challenged the government of china severely from N-gram such as ('china unprecedented challenge', 434), ('erupt china unprecedented', 431), ('protests erupt china', 522),('challenge xi Jinping, 454)

Analysing reopen probability:

Value count of tweet polarity
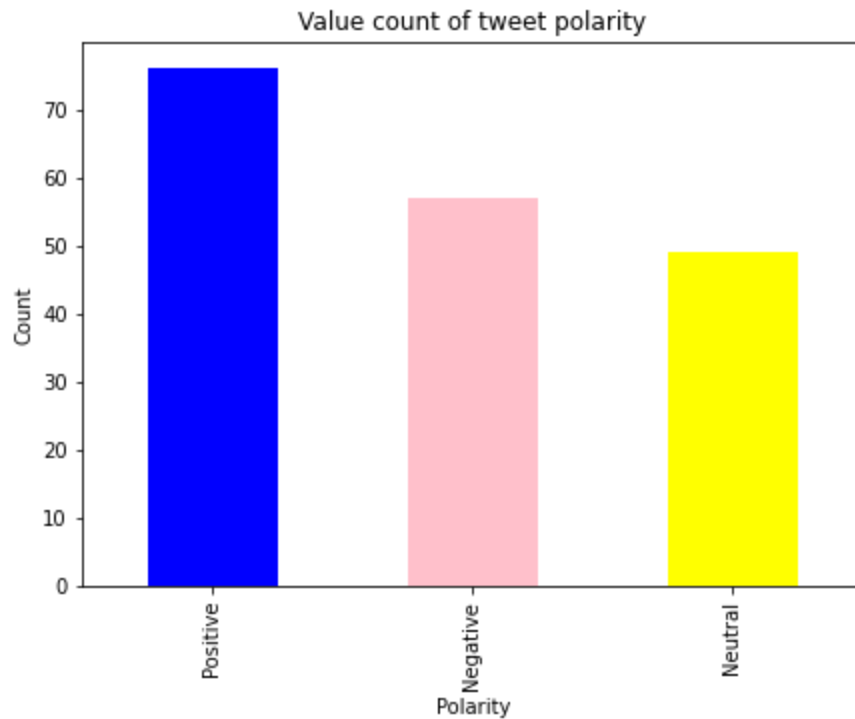
It is clear that the majority of the population are optimistic about china reopening all the trade and businesses and everything that corresponds to a normal daily life of the citizens.

```
[('covid 19 lockdown', 7),
 ('shanghai reopen schools', 6),
 ('lockdown fears persist', 6),
 ('china economic hub', 5),
 ('china largest city', 5),
 ('andy vermaut shares', 5),
 ('china online retailer', 5),
 ('online retailer sees', 5),
 ('retailer sees worrying', 5),
 ('sees worrying signs', 5),
 ('worrying signs shoppers', 5),
 ('signs shoppers reluctant', 5),
 ('shoppers reluctant reopen', 5),
 ('reluctant reopen wallets', 5),
 ('reopen wallets covid', 5),
 ('wallets covid lockdown', 5),
 ('covid lockdown ease', 5),
 ('shanghai subway shops', 5),
 ('subway shops reopen', 5),
 ('shops reopen streets', 5)]
```

It can be seen that the majority of the people wish for a reopening from the trigrams such as ('shanghai reopen schools', 6), ('retailer sees worrying', 5), ('lockdown fears persist', 6) and that a section of the society still shows reluctance for reopening from phrases such as ('shoppers reluctant reopen', 5), ('reluctant reopen wallets', 5)