

```

import pandas as pd
import numpy as np
from sklearn.model_selection import train_test_split
from sklearn.metrics import classification_report # Correct the typo
here
import re
import string
import matplotlib.pyplot as plt

data_true=pd.read_csv("/content/drive/MyDrive/ml proj/True.csv")
data_fake=pd.read_csv("/content/drive/MyDrive/ml proj/Fake.csv")

data_true.head()

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Jobbik flags and posters deriding the ruling elite, gathered outside the headquarters of Orban's Fidesz party. What we see unfolding is not an audit office investigation. It is not an official penalty. This is a death sentence with Jobbik's name on it. But in reality, it is a death sentence for Hungarian democracy, Jobbik leader Gabor Vona told the crowd. A government spokesman could not comment immediately on his remarks. ASZ chairman Laszlo Domokos is a former Fidesz lawmaker, whom Jobbik and other critics accuse of making decisions in favor of Orban. The audit office denies that. On Friday, ASZ again called on Jobbik to submit information that would challenge its findings, saying it acted fully within its rights throughout the probe. The ruling Fidesz party and the government have denied any involvement in the ASZ probe. This case has nothing to do with the election campaign, Orban aide Janos Lazar said on Thursday. For over a year Fidesz has targeted Jobbik, whose move to the center could upend the longstanding status quo of a dominant Fidesz with weaker opponents to its left and its right, said analyst Zoltan Novak at the Centre for Fair Political Analysis. Gyorgy Illes, a 67-year-old pensioner attending the rally, said he used to be a Socialist supporter but got disillusioned as the party struggled to overcome its internal divisions. This ASZ probe is a clear sign that Orban is way past any remedy. It is a ruthless attack on everything we hold dear. Democracy, the rule of law, equality, you name it, he said. \", \n \"/>BEIJING/TAIPEI (Reuters) - China accused the United States on Thursday of interfering in its internal affairs and said it had lodged a complaint after U.S. President Donald Trump signed into law an act laying the groundwork for possible U.S. navy visits to self-ruled Taiwan. Tensions have risen in recent days after a senior Chinese diplomat threatened China would invade Taiwan if any U.S. warships made port visits to the island which China claims as its own territory. On Monday, Chinese jets carried out island encirclement patrols around Taiwan, with state media showing pictures of bombers with cruise missiles slung under their wings as they carried out the exercise. On Tuesday, Trump signed into law the National Defense Authorization Act for the 2018 fiscal year, which authorizes the possibility of mutual visits by navy vessels between Taiwan and the United States. Such visits would be the first since the United States ended formal diplomatic relations with Taiwan in 1979 and established ties with Beijing. Chinese Foreign Ministry spokesman Lu Kang said while the Taiwan sections of the law were not legally binding, they seriously violate the One China policy and constitute an interference in China's internal affairs. China is resolutely opposed to this, and we have already lodged stern representations with the U.S. government, Lu told a daily news briefing. China is firmly opposed to any official exchanges, military contact, or arms sales between Taiwan and the United States, he added. Proudly democratic Taiwan has become increasingly concerned with the ramped up Chinese military presence, that has included several rounds of Chinese air force drills around the island in recent months. Taiwan is confident

of its defenses and responded quickly to the Chinese air force drills this week, its government said, denouncing the rise in China's military deployments as irresponsible. Taiwan presidential spokesman Alex Huang, speaking to Taiwan media in comments reported late on Wednesday, said the defense ministry had kept a close watch on the patrols and responded immediately and properly. Taiwan can ensure there are no concerns at all about national security, and people can rest assured, Huang said. Both sides of the narrow Taiwan Strait, which separates Taiwan from its giant neighbor, have a responsibility to protect peace and stability, he added. Such a raised military posture that may impact upon and harm regional peace and stability and cross-strait ties does not give a feeling of responsibility, and the international community does not look favorably upon this, Huang was quoted as saying. Relations have soured considerably since Tsai Ing-wen, who leads Taiwan's independence-leaning Democratic Progressive Party, won presidential elections last year. China suspects Tsai wants to declare the island's formal independence, a red line for Beijing. Tsai says she wants to maintain peace with China but will defend Taiwan's security. Taiwan is well equipped with mostly U.S. weapons but has been pressing for more advanced equipment to deal with what it sees as a rising threat from China. The United States is bound by law to provide the island with the means to defend itself. China has never renounced the use of force to bring Taiwan under its control. \\n

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```

```
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```
data_fake['class']=0
```

```
data_true_manual_testing = data_true.tail(10)
```

```
data_true = data_true.iloc[:-10] # Remove last 10 rows from data_true
```

```
data_fake_manual_testing = data_fake.tail(10)
```

```
data_fake = data_fake.iloc[:-10] # Remove last 10 rows from data_fake
```

```

data_manual_testing = pd.concat([data_true_manual_testing ,
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\"(Reuters) - U.S. airline Alaska Airlines on Tuesday said it would
discontinue a daily flight between Los Angeles and Havana, Cuba, after
Jan. 22, due to the recent changes in Cuba travel policies by the U.S.
government. The U.S. government made it tougher last week for
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Russia (Reuters) - New U.S. sanctions imposed on Russia will have
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u201cAs for the negative consequences, as I said, they (the U.S.
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(Reuters) - U.S. Vice President Joseph Biden on Wednesday announced

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plans as part of the administration's Cancer Moonshot initiative, aimed at speeding development of treatments by cutting bureaucracy and easing collaboration between scientists, industry, patients and government. Speaking at a cancer summit at Howard University in Washington, Biden made an impassioned plea for increased urgency in the fight against cancer. The event was part of a national day of action involving hundreds of researchers, patient advocates and data experts across the country. Biden's son Beau died last year at age 46 from brain cancer, something Biden said helps inform his passion for the project. "I believe we can do in the next five years what would normally take 10 years," he said. "Time matters, days matter, minutes matter." Among proposals intended to bypass inefficiency at the federal level, he announced the formation of an Oncology Center of Excellence at the Food and Drug Administration, which will coordinate and review all of FDA cancer treatments. It comes as scientific advances in diagnostics allow for greater tailoring of drugs to an individual's genetic profile. It is the first of four potential centers proposed under a bill moving through Congress. Under the existing review system, companies submit products to different divisions of the agency depending on whether it is a drug, device or biologic, a drug made from living cells. A treatment that combines a drug and a diagnostic device could get reviewed on different timelines. "We are moving into a very complicated area in oncology where drugs and devices and biologics are going to be used in combination or sequentially," Dr. Richard Pazdur, the FDA's cancer drug director, said in an interview. Pazdur will oversee the establishment of the center and act as its director for the next 120 days, with the potential for the position to be renewed. He will report directly to FDA Commissioner Robert Califf. The Cancer Moonshot initiative was announced by President Barack Obama at his State of the Union address in January. Biden outlined a slew of other collaborations and initiatives, including making it easier for patients to find and enter clinical trials through the creation of a cancer trials website and making it easier for scientists to focus on research and less on raising money. "We have to change the culture that turns scientists into grant writers," he said. "We have to reward teamwork."

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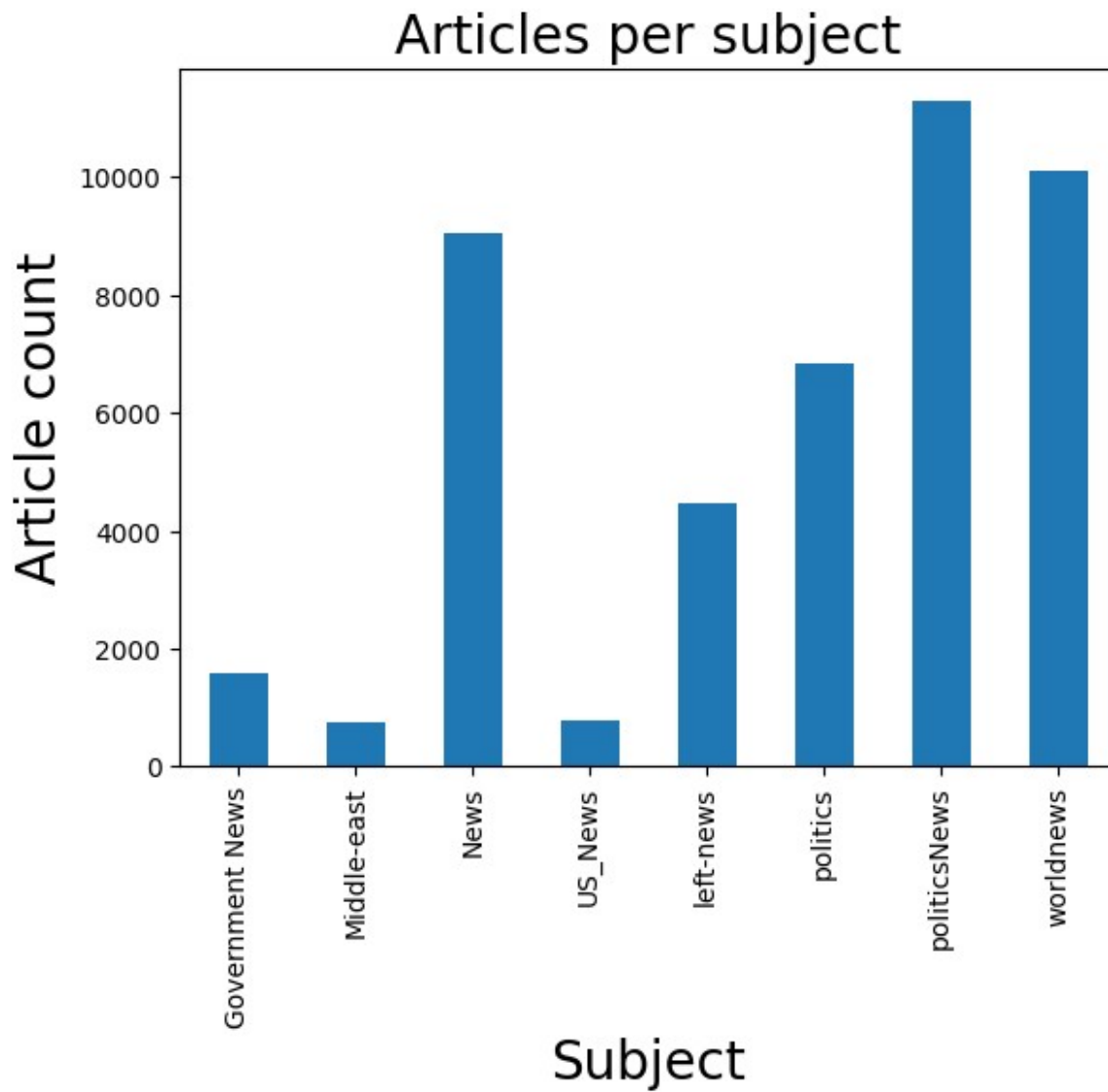
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plt.ylabel("Article count",size=20)
plt.show()
```

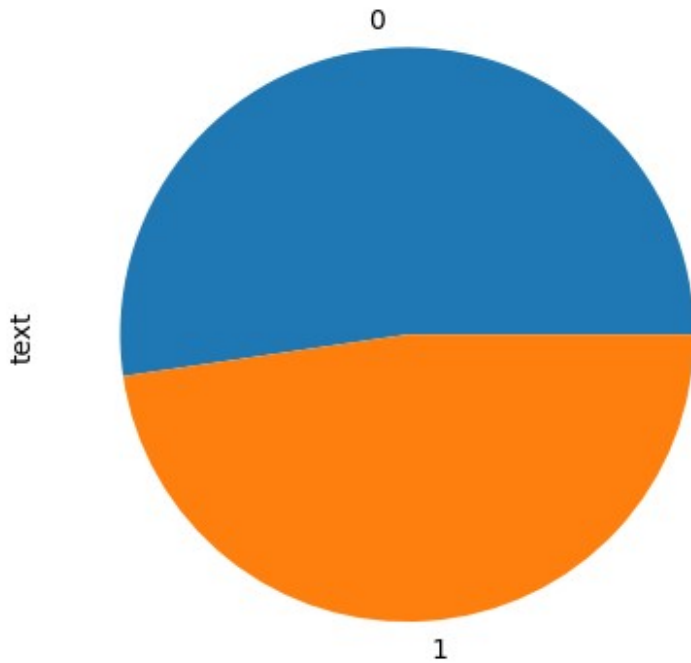
```
subject
Government News    1570
Middle-east        758
News               9050
US_News            783
left-news          4459
politics           6841
politicsNews       11272
worldnews          10115
Name: text, dtype: int64
```



```
print(data_merge.groupby(['class'])['text'].count())
print("0 = Fake news\n1 = True news")
data_merge.groupby(['class'])['text'].count().plot(kind='pie')
plt.title("Fake news vs True news",size=20)
plt.show()
```

```
class
0    23461
1     21387
Name: text, dtype: int64
0 = Fake news
1 = True news
```


Fake news vs True news



```
from google.colab import drive
drive.mount('/content/drive')
```

Mounted at /content/drive

```
data = data_merge.drop(['title', 'subject', 'date'], axis=1)
data.head(10)
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```


or a full refund, the company said. \", \n \"/>NIZHNEBUREISKY, Russia (Reuters) - New U.S. sanctions imposed on Russia will have negative consequences for the United States and backfire on U.S. energy majors, Igor Sechin, chief executive officer of Russia's largest oil producer Rosneft, said on Thursday. U.S. President Donald Trump grudgingly signed into law new sanctions against Russia on Wednesday, a move Moscow said amounted to a full-scale trade war and an end to hopes for better ties with the Trump administration. \"/>The sanctions are beginning to backfire on those who are introducing them, which is positive, \"/>Sechin told reporters. \"/>The powers of the U.S. president are limited, and sometimes it seems to me that sanctions are imposed on him, not us. \"/>Sechin said in this situation he saw positive consequences for Rosneft. \"/>As for the negative consequences, as I said, they (the U.S. sanctions) are starting to work against our American partners. As for the positive ones, you will learn about them in the next four weeks, \"/>he said, without elaborating. \", \n \"/>WASHINGTON (Reuters) - U.S. Vice President Joseph Biden on Wednesday announced plans as part of the administration's \"/>Cancer Moonshot \"/>initiative, aimed at speeding development of treatments by cutting bureaucracy and easing collaboration between scientists, industry, patients and government. Speaking at a cancer summit at Howard University in Washington, Biden made an impassioned plea for increased urgency in the fight against cancer. The event was part of a national day of action involving hundreds of researchers, patient advocates and data experts across the country. Biden's son Beau died last year at age 46 from brain cancer, something Biden said helps inform his passion for the project. \"/>I believe we can do in the next five years what would normally take 10 years, \"/>he said. \"/>Time matters, days matter, minutes matter. \"/>Among proposals intended to bypass inefficiency at the federal level, he announced the formation of an Oncology Center of Excellence at the Food and Drug Administration, which will coordinate and review all of FDA cancer treatments. It comes as scientific advances in diagnostics allow for greater tailoring of drugs to an individual's genetic profile. It is the first of four potential centers proposed under a bill moving through Congress. Under the existing review system, companies submit products to different divisions of the agency depending on whether it is a drug, device or biologic, a drug made from living cells. A treatment that combines a drug and a diagnostic device could get reviewed on different timelines. \"/>We are moving into a very complicated area in oncology where drugs and devices and biologics are going to be used in combination or sequentially, \"/>Dr. Richard Pazdur, the FDA's cancer drug director, said in an interview. Pazdur will oversee the establishment of the center and act as its director for the next 120 days, with the potential for the position to be renewed. He will report directly to FDA Commissioner Robert Califf. The \"/>Cancer Moonshot \"/>initiative was announced by President Barack Obama at his State of the Union address in January.

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#shuffling the data

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data.head(10)

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YORK (Reuters) - Hillary Clinton walked onto the ballroom stage
Wednesday morning to do what many had considered unthinkable: thank
her campaign staff after failing in her bid to become the first woman
elected U.S. president, instead of the anticipated victory speech
under a symbolic glass ceiling. Hundreds of staffers and supporters
gathered at the New Yorker Hotel in midtown Manhattan to hear Clinton
speak publicly for the first time after her bruising loss to New York
real estate magnate Donald Trump in the early hours of the morning.
Many wore the same clothes as the night before, having stayed up all
night after leaving the\\u00a0glass-ceilinged Jacob J. Javits
Convention Center, where Clinton\\u2019s final rally never
materialized. Campaign Chairman John Podesta told the distraught crowd
just after 2 a.m. to go home and expect to ultimately \\u201cbring
this home.\\u201d Shortly after, news broke that Clinton had
telephoned Trump to concede.\\u00a0 As staffers and supporters filed
into the ballroom, there were tears, hugs, and disbelief that Clinton,
a former secretary of state, U.S senator and first lady, had again
failed to shatter what she called the \\u201chighest and hardest glass
ceiling\\u201d after her first attempt at the presidency in 2008, when
she lost in her bid for the Democratic nomination. This time, Clinton
won the Democratic primary race, becoming the first women to secure a
major party\\u2019s nomination in her race against U.S. Senator Bernie
Sanders. But in the final contest for the White House, she lost to
Trump, the unorthodox Republican nominee. \\u201cWe have seen that our
nation is more deeply divided than we thought, but I still believe in
America and I always will, and if you do then we must accept this
result and then look to the future,\\u201d Clinton said, with her

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husband, former President Bill Clinton, daughter Chelsea Clinton and Chelsea's husband, Marc Mezvinsky, at her side. Also on the stage were Clinton's vice presidential pick, U.S. Senator Tim Kaine of Virginia, and his wife, Anne Holton. Clinton wore a black suit with purple lapels - the color created by combining blue and red, the colors that symbolize the two major U.S. political parties - and not the suffragette white that many expected Tuesday night. Bill Clinton wore a matching tie. Clinton urged her backers to seek unity in the wake of defeat. "Donald Trump is going to be our president, we owe him an open mind and the chance to lead," she said. Likely facing her last opportunity for a presidential run, Clinton, 69, acknowledged the bitter sting of an election defeat in which initial results show she won the popular vote but came up short in the Electoral College vote that ultimately decides the race. Clinton had been leading Trump in public opinion polls for months, and in the final week of her campaign, her staff celebrated a drawn-out campaign marked with vitriol at star-studded rallies with performers such as Jon Bon Jovi, Jay Z and Beyonce. But as election returns came in, Trump pulled off major upsets in key states including Pennsylvania, Michigan, Wisconsin and Florida that Clinton's campaign expected to win. Aides appeared visibly shaken as Tuesday night turned into Wednesday morning. "Hate trumps love, I guess," a supporter in the ballroom on Wednesday said, flipping the phrase Clinton had used to close her rallies. Clinton thanked her supporters - women and young people in particular - and urged them to never give up. "I've had successes, and I've had setbacks, sometimes really painful ones. Many of you are at the beginning of your professional, public, political careers. You will have successes and setbacks too. This setback hurts, but please never stop believing that fighting for what is right is worth it," she said.

"TOKYO (Reuters) - Finance Minister Taro Aso said on Tuesday that Japan would seek the United States' understanding of the strategic and economic benefits of joining the Trans-Pacific Partnership, after President Donald Trump formally withdrew from the free-trade pact. Aso told reporters after a cabinet meeting that arrangements were being made for Prime Minister Shinzo Abe to visit the United States and meet Trump, but that it was undecided who would accompany the premier. Fulfilling a campaign pledge to end American involvement in the 2015 pact, Trump signed an executive order in the Oval Office pulling the United States out of the 12-nation TPP, which includes Japan.

"Congressman Steve King (R-IA) is pretty much the most openly racist person sitting in Congress. He recently came under fire for tweeting openly white supremacist sentiments about western civilization and not being able to restore it with somebody else's babies. Here is that awful tweet: Wilders understands that culture and demographics are our destiny. We can't restore our civilization with somebody else's babies. <https://t.co/4nxLipafW0> Steve King (@SteveKingIA) March 12, 2017 Now, he is giving Donald Trump a warning about sidelining white

supremacist Steve Bannon in the White House in favor of more left-leaning advisers like Trump's daughter Ivanka and her husband Jared Kushner. This warning comes because word on the street is that there is a battle brewing between Bannon and Kushner, and it seems that Bannon is losing big time. In fact, Bannon may indeed be on his way out. Well, this is not sitting well with the white supremacists who have championed Trump so long and so hard, and indeed were instrumental in putting him into the White House. They even deliberately trended #FireKushner to send a message to Trump about where his priorities should lie. Rep. King chimed in with similar sentiments Sunday night, tweeting at Trump: @RealDonaldTrump Steve Bannon is the lynchpin to your energized base. Conservatives are an endangered species in your White House. Steve King (@SteveKingIA) April 10, 2017 So, in other words, King is warning Trump that if he gives in to what the alt-right (read: white supremacists) call Ivanka and Jared's globalist leanings and policies, he's finished and his base will turn on him. This is probably true. However, the idea that Trump would pick Bannon in a showdown between the former Breitbart head and his daughter and son-in-law is downright laughable. So, suck it, Steve King. You won't be getting your way on this one. If the Bannon v. Kushner feud continues, Bannon will be pushed out, and there will be marginally more reasonable people who have Trump's ear. The side effect will be a betrayed and outraged alt-right and conservative base, which will ensure Donald Trump's defeat in 2020, along with his feuding with the Republicans on Capitol Hill who will surely not bow to his daughter and son-in-law's largely Democratic policies. So, bad for Republicans and Trump world, great for America. Featured image via Scott Olson/Getty Images

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```

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data.isnull().sum()
```

```
text      0
class     0
dtype: int64
```

#removing unwanted data with filtering

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def filter_text(data):
    text=data.lower()
    text=re.sub('[.*?\\]', '', text)
    text=re.sub("\\W", " ", text)
    text=re.sub('https?://\\S+|www\\.\\S+', '', text)
    text=re.sub('<.*?>+', '', text)
    text=re.sub('[%s]' % re.escape(string.punctuation), '', text)
```

```
text=re.sub('\n',' ',text)
text=re.sub('\w*\d\w*',' ',text)
return text
```

```
data["text"]=data["text"].apply(filter_text)
data.head(10)
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presidency on thursday when he agreed to testify about russia in  
exchange for immunity this prompted one member of the house  
intelligence committee to state the obvious innocent people don t  
ask for immunity speaking to msnbc s chris hayes rep eric Swalwell  
d ca said what we have all been thinking since the announcement was  
made that flynn was willing to testify in exchange for immunity if  
you didn t do anything wrong then you don t need immunity the only  
reason to seek immunity is to protect yourself from prosecution from  
the illegal crap you ve done innocent people don t ask for immunity  
but that s not something that i m familiar with in our investigation  
if he has something to say and he s not worried about what he did he  
should just come forward and testify in a public setting Swalwell  
added hayes argued that there might be some scenarios where an  
innocent person would ask for immunity the msnbc host said that  
asking for immunity doesn t automatically mean you are guilty of  
something what if they are worried about perjury or concerned that  
maybe their words could somehow be used against them in some other way  
hey it s possible right Swalwell wasn t having it he said that  
prosecutors don t run around seeking perjury charges because somebody  
had a lapse of memory but this isn t the case when it comes to flynn  
he explained what we have here is a pattern of deceit with michael  
flynn it s not forgetfulness the congressman replied you can watch  
the entire interview below via msnbc featured image via video screen  
capture\", \n    \"being a middle aged man whose only experience  
with miley cyrus is a daughter raised on hannah montana and a dislike  
for her music i was surprised to find out what an incredible person  
she s grown into it wasn t until i came across a post on her  
instagram account about one donald j trump that was less than  
flattering that i decided to take a look at just who she s become it  
wasn t long before i found myself feeling terrible about the way i ve  
allowed a pre conceived notion about a pop country singer whose voice  
i don t like stand in the way of admiring an absolutely remarkable  
young woman ms cyrus currently supports charities and causes most  
of which are favorites of liberals like me on top of that miley is  
possibly the most outspoken voice against donald trump i ve heard to  
date miley s instagram account is chock full of shots at the donald  
which he apparently isn t taking seriously considering his lack of  
drunken rants towards her on twitter little does the donald know that
```


miley cyrus may seem like a mere nuisance to be swatted away but her age and popularity paint the picture of a youngster who can impact the donald s ability to secure the youth vote her latest post for example is pushing likes on the increasingly popular social media platform showing that this is one woman not to be trifled with trump can t stop won t stop saying stupid ass sexist shit comparing two women are you fucking kidding we will not allow you to destroy everything we have overcome as women i feel as though we are stronger than ever as a unit we have an understanding and respect for one another more than trump can say about anyone his fellow candidates other races and religions other public figures just human beings in general and of course animals check out his family hunting photos it s absolute insanity that this has gone on this long and far wake me up from this nightmare someone please a photo posted by miley cyrus mileycyrus on mar at pdtto listen to her speak makes me sorry i haven t paid more attention to what i must now consider an incredible voice does that mean i ll be downloading wrecking ball from itunes certainly not but the next time my now teenage daughter asks me if she can buy a cyrus song the answer will be absolutely but before you do i d like you to take a look at the person behind that song she s pretty fantastic tolerance and the ability to learn is what separates liberals from conservatives if you re not a miley cyrus fan because you don t her music or her antics at the video music awards have a look into how she spends her time outside of work and you ll find a woman whose ideologies will hopefully help inspire a generation to better the world they live in featured image from instagram",\n\n" reuters u s attorney general jeff sessions on wednesday strongly criticized the city of chicago s political leadership citing its so called sanctuary policies as an example of the breakdown of law and order in the country sessions has begun imposing new restrictions on some law enforcement grants to cities that decline to use municipal resources to enforce federal immigration laws chicago along with the state of california and city of san francisco sued this month over those conditions president donald trump frequently criticizes chicago and its high murder rate and cracking down on illegal immigration was a theme of his presidential campaign democratic city and state leaders argue that sanctuary policies build trust between immigrant communities and law enforcement which helps deter crime in a speech in miami sessions praised leaders of miami dade county for complying with requirements that allow federal immigration authorities access to detainees in local jails chicago s refusal to do the same has made it a haven for predators and drug dealers sessions said respect for the rule of law has broken down sessions said in chicago i suggest the so called sanctuary policies are just one sad example chicago mayor rahm emanuel said in a statement the city will not cave to federal officials in a week in which the trump administration is being forced to answer questions about neo nazis white supremacists and the kkk emanuel said they could not have picked

a worse time to resume their attack on the immigrants who see america as a beacon of hope sessions said miami dade county s homicide count is barely a third of what it was in the and this year chicago has more than three times as many as miami dade does the county includes the city of miami and surrounding areas and is similar in population size to chicago immigration advocates say there is no correlation between immigration and violent crime los angeles which also has embraced sanctuary city policies has seen a sharp drop in homicides since they reached a high in the early in people were killed in the city according to the fbi s uniform crime reporting statistics in the los angeles police department reported homicides chicago police superintendent eddie johnson said in a statement that shootings are down percent this year and that undocumented immigrants are not driving violence in the city

```

],\n
\"semantic_type\": \"\", \n      \"description\": \"\"\n    },\n    {\n      \"column\": \"class\", \n      \"properties\": {\n        \"dtype\": \"number\", \n        \"std\": 0, \n        \"min\": 0, \n        \"max\": 1, \n        \"num_unique_values\": 2, \n        \"samples\": [\n          0, \n          1\n        ], \n        \"semantic_type\": \"\", \n        \"description\": \"\"\n      }\n    }\n  ],\n  \"type\": \"dataframe\", \"variable_name\": \"data\"}

```

```

x=data['text'] #independent
y=data['class'] #dependant

```

prompt: linear regression code

```

from sklearn.linear_model import LinearRegression
from sklearn.feature_extraction.text import TfidfVectorizer # Import
TfidfVectorizer for text to numerical conversion
from sklearn.model_selection import train_test_split
from sklearn.metrics import classification_report

```

```

model = LinearRegression()
x=data['text'] #independent
y=data['class'] #dependant

```

Vectorize the text data

```

vectorizer = TfidfVectorizer()
x = vectorizer.fit_transform(x) # Transform text to numerical features

```

```

x_train, x_test, y_train, y_test = train_test_split(x, y,
test_size=0.2, random_state=42)
model.fit(x_train, y_train) # Fit the model with the numerical data
y_pred = model.predict(x_test)

```

*# Note: Linear Regression is not ideal for classification tasks.
Consider using Logistic Regression or other classification
algorithms.*


```
print(classification_report(y_test, y_pred.round().astype(int))) #  
Round predictions to integers for classification report
```

	precision	recall	f1-score	support
-1	0.00	0.00	0.00	0
0	0.92	0.91	0.91	4657
1	0.94	0.88	0.91	4313
2	0.00	0.00	0.00	0
accuracy				8970
macro avg	0.46	0.45	0.46	8970
weighted avg	0.93	0.90	0.91	8970

```
/usr/local/lib/python3.10/dist-packages/sklearn/metrics/  
_classification.py:1344: UndefinedMetricWarning: Recall and F-score  
are ill-defined and being set to 0.0 in labels with no true samples.  
Use `zero_division` parameter to control this behavior.  
_warn_prf(average, modifier, msg_start, len(result))  
/usr/local/lib/python3.10/dist-packages/sklearn/metrics/_classification.  
py:1344: UndefinedMetricWarning: Recall and F-score are ill-defined  
and being set to 0.0 in labels with no true samples. Use  
`zero_division` parameter to control this behavior.  
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py:1344: UndefinedMetricWarning: Recall and F-score are ill-defined  
and being set to 0.0 in labels with no true samples. Use  
`zero_division` parameter to control this behavior.  
_warn_prf(average, modifier, msg_start, len(result))
```