Twitter Analysis of DBG Account

```python
In [9]:  import tweepy, codecs
         import matplotlib.pyplot as plt
```

```python
In [11]:  consumer_key = "cQcORsTZjTozZ53"
          consumer_secret = "Ro6p8oxhOj9kcI3vdeXlqetaWCZ1O"
          access_token ="3224795051-L4CQAiU8QjpcPYVH"
          access_token_secret ="FYcR91CokylrtL"

          auth = tweepy.OAuthHandler(consumer_key,consumer_secret)
          auth.set_access_token(access_token, access_token_secret)
          api = tweepy.API(auth)
```

```python
In [13]:  dbgaccount = api.get_user("DeutscheBoerse")
```

```python
In [15]:  dbgaccount.followers_count
```

```
Out[15]:  19509
```

```python
In [17]:  dbgaccount.statuses_count
```

```
Out[17]:  8835
```

```python
In [19]:  dbgaccount.favourites_count
```

```
Out[19]:  4246
```

```python
In [21]:  tweets= api.user_timeline(id = "DeutscheBoerse",result_type = "recent",
            count = 20000)
```

```python
In [23]:  for i in tweets:
```

```
      print(i.text)
```

@Qontigofinance: Pet Care, Video Gaming, Health Care: #Qontigo's #thematic #indices family is growing. https://t.co/9tx7HLYo5U https://t…
Happy 20th birthday, #ETFs! It all started with two exchange-traded #index funds, listed on our @Xetra market – and… https://t.co/wc8r82BLe2
With this year's start of the Securities Financing Transaction Regulation (SFTR), REGIS-TR aims to provide an exper… https://t.co/99XhF40lRg
RT @EurexGroup: Our recently launched #futures on STOXX® USA 500 ESG-X (FSUS) (Bloomberg: QFCA Index) are now available for #trading to U.S…
RT @Qontigofinance: Happy 20th birthday to #ETFs in Europe: Two decades ago, in April, the first European exchange-traded funds were listed…
Looking back at 20 years of ETFs: Stephan Kraus, responsible for the #ETF segment at Deutsche Börse, talks with us… https://t.co/Jnh0C7xpey
Our reading recommendation for today's #HomeOffice break! https://t.co/UCaPfFSGpg
RT @Qontigofinance: #MondayMotivation: We are proud that #STOXX was named 'Best European Index Provider' by @ETFExpress for the tenth time!…
As we are approaching the 20-year-anniversary of #ETFs on #Xetra, we're taking you back in time and outline the mos… https://t.co/3kzHDuizek
RT @Qontigofinance: As information technology and autonomous machines develop at fast pace, investors are seeking to profit from #AI's econ…
RT @Clearstream: 🖥 #FlattenTheCurve COVID-19 is challenging us to find new ways to do business. Phil Brown, #Clearstream Head of Global RM,…
From #Sydney via #Prague to #NewYork - we all are working from home to keep on creating trust in the markets of tod… https://t.co/RdLcr0bQAB
We just launched #TAIFEX Derivatives Market Ultra. With this new #data product, market participants will gain deepe… https://t.co/gWCCEnSAep
Deutsche Börse Photography Foundation and @DGPh join forces to award two new prizes for #research and innovative pu… https://t.co/Ru2087kLVk
RT @FESEBrussels: See our latest press release: 'European Exchanges will remain open' https://t.co/CWTlsomFAk
We have no plans of market closure. Quite the opposite: we will work hard to keep our #exchanges open even if the c… https://t.co/29TcXEu3a8
#Homeoffice #FlattenTheCurve https://t.co/HfgVLJmn4O
Next reading recommendation for your home office lunch break: Our #AnnualReport2019 with all facts and figures.… https://t.co/QS0TQuoY6l
#Homeoffice-induced cabin fever? Cool your mind and read how we create trust in the #markets by ensuring that… https://t.co/QpVK7ZsXvB
@jahnboehm Derzeit ist ein Termin in der zweiten Jahreshälfte angedach

t, ein genaues Datum steht allerdings noch ni… https://t.co/1Rkw4gxdtV
RT @EurexGroup: We expand the reach of our OTC #clearing services to #Japan! 🇯🇵 With this step, Japanese financial institutions can directl…
RT @Clearstream: 📝 Do you know what the patent behind @Postit notes and #Clearstream have in common? Both are turning 50 this year. Happy b…
RT @Qontigofinance: #Qontigo's Willem Keogh recently had an interview with @Climate_Action_ to discuss the outlook for #ESG data and its in…
Happy #InternationalWomensDay! To all women out there, here's a personal message to you from our Executive Board Me… https://t.co/GwXmS9R3MZ
Heike Eckert to take on responsibility for Human Resources and Compliance on our Executive Board as of 1 July.… https://t.co/TUhZlxDkFo
RT @EurexGroup: Eurex is delighted to become a partner of the #ISLA Council for Sustainable Finance (ICSF) and work towards adopting the Pr…
@investabel @KristinaJeromin Geplant ist derzeit 22h. Vielen Dank für Ihre Geduld!
@investabel @KristinaJeromin Liebe @investabel, vielen Dank für Ihre Anfrage - eine Auflistung wird in Kürze auf… https://t.co/2eE2TCanah
The #DAX has a new, sustainable family member: Launched by @qontigofinance, our #index and analytics business, the… https://t.co/pUGP1bjzpg
Putting the #DAX on the test bench: Like every quarter, tomorrow the composition of the DAX family will be reviewed… https://t.co/iXeQmwWj0d
RT @Clearstream: Looking for some #MondayMotivation? 🎦 Why not revisit @naszub's keynote speech on #technology and #innovation as key busin…
New day starting with a great event! Follow our colleagues from @EurexGroup to get some insights into today's… https://t.co/HujZWr5Yzj
RT @Xetra: New mark set: @XetraGold gold holdings have exceeded the 10 billion euro mark. Reasons: rising gold price and high demand. $Gold…
Looking forward to next week's #DerivativesForum 2020! #SaveTheDate https://t.co/kmFvNIjsow
#Art lovers can look forward: Our Deutsche Börse Photography Foundation is proudly presenting its upcoming… https://t.co/1xcUZvimE0
RT @stoxx: Spotlight on the #US and #Asia: We caught up with #Qontigo's Heads of Index Sales, Asia/Pacific and North America, Rick Chau and…
"I am deeply convinced that we are in a business that is growing - and we need to keep growing" - CEO Theodor Weimer. #db1pc
Theodor Weimer concludes the lecture part with an #outlook: "We look forward to the year 2020 with confidence."… https://t.co/mNy4U1uUmg
Our CFO Gregor Pottmeyer continues with the financial segment reporting: @EurexGroup +2%; @EEXGroup +13%; #360T +17… https://t.co/RpaqrlnUWk

"We have once again exceeded the previous year's results. We were again able to improve our strong net profit of th… https://t.co/xyAyS9NPmR

The calm before the storm...we are eagerly awaiting the start signal for our Annual Press Conference 2020. #excited… https://t.co/tAGQFrByv5

Tomorrow our Executive Board will present our #figures2019 and an outlook on #2020. Follow the link to join our liv… https://t.co/9NehZflgoq

Looking back on a good year: #Q4 and the full #2019 ending with strong #growth. https://t.co/P4l2CW6i8x https://t.co/0sgvHTUiGm

Our #CEO Theodor Weimer stays on board - the Supervisory Board extended his contract until 31 December 2024 in its… https://t.co/bu2UWEyBYp

RT @EurexGroup: #ESGDerivatives one year on 🌱 we're looking back on a successful first year in #ESG #trading! As of today, new #STOXX® USA…

RT @Clearstream: 📑✒ We've officially become a member of the #Luxembourg #sustainability network @imslux. Excited to tackle joint projects…

RT @EurexGroup: In the first month of 2020, European #equity #index #derivatives, OTC #clearing volumes, as well as power #trading volumes…

"Our industry is on the move. It is growing and profitable", stated our CEO Theodor Weimer on yesterday's… https://t.co/wBkYON0zys

The last day of our #GFFSummit has already started. Follow our colleagues from @Clearstream and @EurexGroup to get… https://t.co/WV4lGS2Muy

Today and tomorrow it is all about the #GFFSummit in #Luxembourg. Follow @Clearstream and @EurexGroup to stay tuned! https://t.co/tWRednmIIP

Onboarding completed: @jpmorgan successfully joins @EurexGroup GC Pooling as pilot client for balance sheet netting… https://t.co/PTUyC0Dxfl

@qontigofinance has launched the @stoxx Factor #Index suite, bringing together the powerful indexing and analytics… https://t.co/Tt82UVncYU

RT @EurexGroup: @DeutscheBoerse @Clearstream Our #GFFSummit is right around the corner! In the last part of our blog series, #Eurex's Jonat…

A very happy #ChineseNewYear to all those who #celebrate all around the globe! #YearoftheRat https://t.co/YuXaTOQ7yJ

It's a BLOCKBASTER — our research with the @bundesbank on the capabilities of #DLT-based #collateralmanagement.… https://t.co/FzNYjkEuNM

Happy to announce that our post-trade services provider @Clearstream has just received the #CSDR licence for its Ge… https://t.co/j8vBr0YiEv

RT @stoxx: Today, the World Economic Forum (#WEF20) started in Davos, Switzerland and sustainability is on top of the agenda. Here also #ES…

Delighted to announce @Clearstream's partnership with @UBS this morning! https://t.co/oYnJ3FfYDB https://t.co/jLhNXvO1o3

RT @Clearstream: @DeutscheBoerse @EurexGroup ☞ How are you managing yo

ur #SFTR requirements? In our next blog in the lead-up to this year's…

RT @Clearstream: ▮ #ReadySetGo Get in the mood for the #GFFSummit (28–30 Jan) with a blog series by colleagues from across @DeutscheBoerse!…

Just a few days left until this year's #GFFSummit! Are you going to join us? https://t.co/MigykqBwXd

RT @stoxx: 🗋Have a look at our most read article on #PulseOnline in 2019. Spoiler: It is about the #ESG version of our flagship EURO STOXX…

Happy Birthday, @Clearstream! Our subsidiary turns 50 and that will of course be celebrated extensively throughout… https://t.co/YyMJIK92Ii

RT @stoxx: 💡 Spotlight on our EURO #STOXX 50 #ESG Index: We caught up with @UBS' Clemens Reuter to hear why responsible investing is on the…

Let's get an update of the agenda of this year's #GFFSummit. Already excited and looking forward to seeing you from… https://t.co/kJoSL1ycrE

RT @EurexGroup: December rounded off a strong 2019 with yearly volumes up across a number of product segments and areas. OTC #clearing led…

Welcoming the new year 2020 by taking stock of the past one: These were the most #traded German #stocks in 2019!… https://t.co/eezpKXsvl9

With the #NewDecade just around the corner, we'd like to thank our colleagues, customers and partners around the gl… https://t.co/pFaL3d9WKS

☃Being #Santa can sometimes be quite exhausting and stressful — no wonder he and his companions lost their hats whi… https://t.co/HhVgdhMlYk

RT @EurexGroup: Disruption is shaping our industry at an unprecedented pace. How do we prepare for upcoming challenges — and which ones hav…

Starting the new year with something big: 1 January 2020 we will launch our #instagram channel for a whole new leve… https://t.co/8QwobRgXEt

2020 is going to have an exciting start: Let's #SaveTheDate for our annual #GFFSummit, taking place from 28 to 30 J… https://t.co/kIVj0CRBiV

May the #financialmarkets expertise be with you! https://t.co/UygsKYoyzf

Smartly invest your money, you must. Less financial problems, you will have. #BabyYoda #TheMandalorian https://t.co/72rAYuHQCO

Good news for small and medium-sized enterprises (SMEs): The #Scale segment for SMEs on the Frankfurt Stock Exchang… https://t.co/RSfBHf3qdK

Congratulations to our @EurexGroup team! 🎉 https://t.co/3MeJtXRcfF

Just a few days since we have announced the start of our #DLT solution for the securities lending market: The… https://t.co/8VP0FiVRCV

The year is coming to an end and while we are excited about IPOs that await us in 2020, let's look back on our #IPO… https://t.co/sJvgaUl2L6

RT @inside_r3: Check out this recent video testimonial from HQLAx and @

DeutscheBoerse discussing their DLT journey with R3 - https://t.co/X…
RT @EurexGroup: Extending our pioneering role in #ETF #derivatives: we are excited to be the first exchange to launch EUR-denominated #Fixe…
'Tis the season for… our Trading Charity! Today, #DeutscheBoerse and the Specialists on the #Frankfurt trading flo… https://t.co/XatjToys8l
Officially nominated: Martin Jetter is to succeed Joachim Faber as Chairman of the #DeutscheBörse AG Supervisory Bo… https://t.co/QghpaKGbPP
Proud to be part of it! https://t.co/gvqGKJkqAI
Proud to have achieved a milestone for #DLT implementation in the securities lending market: successful launch of… https://t.co/k31kQAmLBH
Three successful days of our annual #Eigenkapitalforum where entrepreneurs meet investors — looking back on days fi… https://t.co/xI62fsyLjL
RT @EurexGroup: We feel honored to have received the "Exchange of the Year" award by @RiskDotNet — a real motivation for the new year! http…
Great start of the new #exhibition "New Works. 20 Years of Art Collection Deutsche Börse" of our Photography Founda… https://t.co/A2ZCUZJ5hQ
RT @EurexGroup: Disruption is shaping our industry at an unprecedented pace. How do we prepare for upcoming challenges — and which ones hav…
"We need real pensions again", states #CEO Theodor Weimer. The solution?
Click here and find out:… https://t.co/dau7YxkIFv
RT @stoxx: This is quite a step forward: four #STOXX #indices have received a Belgian #sustainability label from @Febelfin. https://t.co/Nj…
RT @DBVentureNet: The German-language brochure "Financing growth in Hesse — from Business Angels to IPO" has been updated and reprinted. A…
We proudly announce that together with @Swisscom_de and further partners, we successfully settled securities transa… https://t.co/jcdS35xmlo
RT @EurexGroup: #Eurex has launched #derivatives futures that enable market participants to hedge their dividend exposure around the globe.…
RT @stoxx: The #STOXX Europe 600 ESG-X is a simple way of incorporating #ESG criteria into your portfolio. Happy to announce that it's been…
You've become curious? Check out all #communication & #marketing #career opportunities on our job wall.… https://t.co/sGaVNGaD7i
Going next steps in our #FX unit 360 Trading Networks: New initiatives to foster organic growth.… https://t.co/wBsZLMX7D5
RT @EurexGroup: In the last part of our video series on #MSCI Dividend Point #Index #Futures, Martino Boffa from McKinley Capital Managemen…
Visit the last 20th anniversary #Art Collection Deutsche Börse exhibition "New Works" in Eschborn. Stop by on our n… https://t.co/WbOdOYesIs

First day at #SGFintechFestival is done! Our colleagues are looking forward to welcome you again at our booth 4M23… https://t.co/dYLBEbSenc
We are already looking forward to #SGFinTechFest next week. Will you join us at the world's largest #fintech festiv… https://t.co/Ec5FkUBatL
RT @DBVentureNet: @OsborneClarke @DeutscheBoerse @etventure @axelspringer The next #ExpertSession will be held as a #webinar on employee pa…
Our @EurexGroup team is reporting today live from the #DerivativesForum 2019 in London – follow them to stay tuned! https://t.co/PxTZAxtiWN
RT @Clearstream: 🌱 #SustainableFinance We and our #Cork Climate Working Group are thrilled to have hosted today's Climate Finance roundtabl…
Proud to announce together with the @TPGallery the shortlist of the Deutsche Börse Photography Foundation Prize 202… https://t.co/O8MzT1Tzef
Let's start the new month with figures from the previous: Our #cashmarkets achieved a turnover of 135.4 billion eur… https://t.co/IC57ftlHCX
RT @DBVentureNet: "The dimensions in which China thinks in terms of property and technology are much larger than in our European home marke…
@boersefrankfurt @FAZ_NET Continuing with some more impressions and information on our #OpeningBell ceremony this m… https://t.co/fZSN5Unm92
Celebration time at our @boersefrankfurt trading floor today: We are ringing the #OpeningBell for 70 years of… https://t.co/ITpQ5EMjl0
Way ahead: @EurexGroup is going one further step in the partnership with @MSCI_Inc. https://t.co/74yzJB2SRr
RT @stoxx: 🌊#MakingWaves: Lots of human waste and pollution sadly ends up in the ocean. Our new #index tracks best #sustainable water and c…
Next up in our #SettledIn series: Clarisse Detrait. Started as an intern, going then through several positions in o… https://t.co/cDKPo0Bb6B
Outlook confirmed – and we are still growing. Proud to announce our numbers for Q3/2019. More in our press release:… https://t.co/X6r8e20Zth
@Clearstream #internship Vestima delivers a suite of investment fund services supporting the cross-border distribut… https://t.co/yLbtcwyT4K
Searching for the perfect #internship to best complete his studies, Nicola´s decision fell on our subsidiary… https://t.co/PbCgDzApJ1
After attending this year's Global Investment Strategy Forum in Singapore, Willem Keogh, @stoxx´s Head of ESG, Them… https://t.co/5DoVJ4qLbU
Continuing with good news from #EurexClearing: the next step in our #FX strategy. https://t.co/pB1BnmSRRs
Free execution for #ETF savings plans: We support long-term diversified equity savings for private investors by now… https://t.co/mDhKxOokcv
Photography meets film: New cooperation of our Deutsche Börse Photograp

hy Foundation and the @dff_film kicking of w… https://t.co/JYSUqseyET
Next step for our Deutsche Börse Buy-in Agent Service, which will offer
market participants an automated and standa… https://t.co/DdMdLTXaPG
Proud to announce we have reached a further step in examining the scope
of #DLT! Together with @commerzbank and MEA… https://t.co/fr2eUnZuIQ
The topic of #oldageprovision is present everywhere - and so it is the
main topic of our today's #ETFforum in Frank… https://t.co/N4Q0kCWXQK
With today´s launch of #ESG options, @EurexGroup brings the issue of #s
ustainability and the financial industry clo… https://t.co/6jIKwFIFBW
Join tomorrows #career fair at the @HochschuleTrier to start your very
special career at @Clearstream! https://t.co/sNymjVuGba
Bernard Tancré, Head of Investment Fund Services at @Clearstream, gives
insights into last week´s #FundSummit in Lu… https://t.co/2blKPAZEvU
Proud to have been part of the World Financial Information Conference #
WFIC in Vancouver, Canada. Deutsche Börse He… https://t.co/Wa0zfBJmHa
🇩🇪Vielen Dank an alle #sfgd2019 Teilnehmer für den transparenten Austa
usch. Wir freuen uns auf die nächsten gemeins… https://t.co/lkqZb6EJRW
🇩🇪 Nächster Agendapunkt #sfgd2019: Vorstellung der Wissenschaftsplattf
orm des #sustainablefinance-Beirats der Bunde… https://t.co/chuKxiobbS
🇩🇪Breakout Session zu #sustainablefinance Strategie und Kommunikation
mit @KristinaJeromin und Matthias Kopp vom… https://t.co/y8Lhc8vhip
🇩🇪@KristinaJeromin eröffnet den #sfgd2019. Folgen Sie dem #sustainable
finance Livestream über… https://t.co/HNdF7bMmdS
🇩🇪 Wir freuen uns! #sfgd2019 https://t.co/nDiWZKzuOP
RT @gsfcg: Auf dem morgigen Sustainable Finance Gipfel möchten wir die
Entwicklung der #sustainablefinance-Strategie transparent und unter…
Jana Rieger started working with us as a #student assistant and is now,
as part of our @CashMarket_ team, supportin… https://t.co/IOhaCrdwnB
In einer Stunde ist es soweit – Im #Webinar führt Sie @eddavogt in zehn
Schritten zum passenden #ETF Sparplan. https://t.co/k7WnzdUxDa
A step to Asia, new partnerships and new training strategies – our @DBV
entureNet continues to develop. All about it… https://t.co/Xd2DqCmEpo
#Sustainability is becoming an increasingly important issue for "future
-proofing" capital markets worldwide. In an… https://t.co/SEaWuJeEU6
🇩🇪 Starten Sie Ihre #Karriere bei uns: Als #Praktikant (w/m/d) im Bere
ich #CorporateDesign erwarten Sie Logos, Anze… https://t.co/Q7wFhjMTFN
RT @boersefrankfurt: Morgen ist Börsentag in Berlin. Wir werden auch da
sein und freuen uns über Ihren Besuch. Unsere Vorträge: 11 Uhr spri…
RT @DBVentureNet: When it comes to preparing for the capital market w

e've got you covered. Check out the article and video below or our Roa…
Today @Clearstream will host its 16th edition of the #FundSummit! Our c
olleagues in #Luxembourg take you through th… https://t.co/11S72fQKgY
RT @EurexGroup: This week, we launched #Equity Total Return #Futures (E
TRFs) as well as a functionality supporting basket trades of ETRFs.…
🇩🇪 Die @DeutscheBoerse geht mit ihrer Seminar-Reihe in die nächste Run
de: Über die Capital Markets Academy können P… https://t.co/FjS1my202a
We are setting a milestone for our #cloud usage: Christoph Böhm, Member
of the Executive Board of Deutsche Börse AG… https://t.co/q5FskHy1SF
Today we are going to drink our "Coffee with…" Cord Gebhardt. Being a
board member of the #Frankfurt #Stock Exchan… https://t.co/9GapCpgZnW
RT @EurexGroup: We continue to boost #futurization: our new Total Retur
n #Futures on single equities complement our suite of #equity #index…
The integration of #GTX Electronic Communications Network in our #FX un
it #360T created one of the largest and most… https://t.co/YcsX29Je7n
RT @eexgroup: How can #Commodity #Exchanges add value in an increasingl
y competitive marketplace? In Eps. 2 of "Talking OTC Commodities", #…
Next up in our series "#Internviews" is Leanne Smyth from #Cork who was
an intern at our subsidiary @Clearstream. R… https://t.co/4zjK2bQZ4g
Decentralised market infrastructure — the future of #financialmarkets?
That is what we discussed together with expe… https://t.co/qSuEXjAx8R
.@EurexGroup will launch the first exchange-traded #ESG #options: http
s://t.co/YHXhSpFtNW

In [25]:
```python
import pandas as pd
def timeline_df(tweets):
    idler = [tweet.id for tweet in tweets]
    df = pd.DataFrame(idler, columns = ["id"])

    df["id"] = list(map(lambda tweet: tweet.id,tweets))
    df["created_at"] = [tweet.created_at for tweet in tweets]
    df["text"] = [tweet.text for tweet in tweets]
    df["retweeted"] = list(map(lambda tweet: tweet.retweeted, tweets))
    df["favorite_count"] = [tweet.favorite_count for tweet in tweets]
    df["retweet_count"] = [tweet.retweet_count for tweet in tweets]
    df["source"] = [tweet.source for tweet in tweets]
    df["location"] = [tweet.author.location for tweet in tweets]
    df["screen_name"] = [tweet.author.screen_name for tweet in tweets]
```

```
        return df
```

In [27]:
```
h = timeline_df(tweets)
```

In [29]:
```
h.sort_values("favorite_count", ascending = False).head()
```

Out[29]:

	id	created_at	text	retweeted	favorite_count	retweet_count
134	1201792222338924545	2019-12-03 09:16:08	Proud to have achieved a milestone for #DLT im...	False	60	33
142	1196733843975204865	2019-11-19 10:15:57	We proudly announce that together with @Swissc...	False	25	4
198	1179414375570067464	2019-10-02 15:14:34	Decentralised market infrastructure – the futu...	False	18	10
179	1184366754837024775	2019-10-16 07:13:33	@KristinaJeromin eröffnet den #sfgd2019. Fol...	False	18	3
23	1267348557490728960	2020-06-01 06:53:36	Wishing our customers and colleagues, their fr...	False	16	5

In [31]:
```
h.sort_values("retweet_count", ascending = False).head()
```

Out[31]:

	id	created_at	text	retweeted	favorite_count	retweet_count

	id	created_at	text	retweeted	favorite_count	retweet_count
129	1204290625673277445	2019-12-10 06:43:54	RT @inside_r3: Check out this recent video tes...	False	0	35
134	1201792222338924545	2019-12-03 09:16:08	Proud to have achieved a milestone for #DLT im...	False	60	33
65	1239973210453463040	2020-03-17 17:53:45	RT @FESEBrussels: See our latest press release...	False	0	20
66	1239885143864741893	2020-03-17 12:03:48	We have no plans of market closure. Quite the ...	False	11	11
198	1179414375570067464	2019-10-02 15:14:34	Decentralised market infrastructure – the futu...	False	18	10

In [33]:
```python
h.sort_values("retweet_count", ascending = False)[["text","favorite_count"]].head()
```
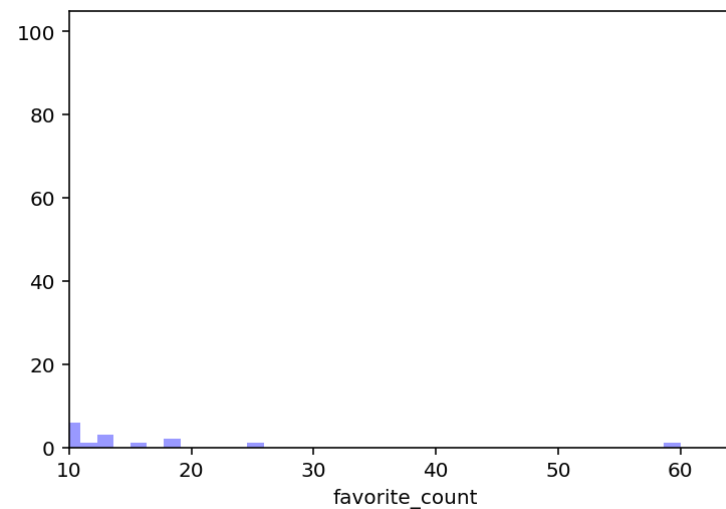
Out[33]:

	text	favorite_count
129	RT @inside_r3: Check out this recent video tes...	0
134	Proud to have achieved a milestone for #DLT im...	60
65	RT @FESEBrussels: See our latest press release...	0
66	We have no plans of market closure. Quite the ...	11
198	Decentralised market infrastructure – the futu...	18

```
In [ ]:
```

```
In [35]: %config InlineBackend.figure_format = "retina"
         import seaborn as sns
         import matplotlib.pyplot as plt
```
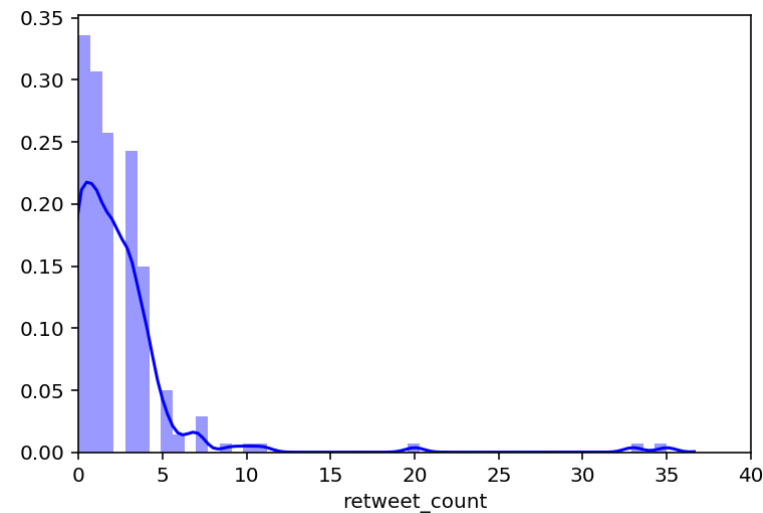
```
In [37]: sns.distplot(h.favorite_count, kde=False, color = "blue"); #favorite co
         unts
         plt.xlim(10,65)
```

Out[37]: (10, 65)


```
In [39]: sns.distplot(h.retweet_count, color = "blue") #how many retweet dbg get
         s
         plt.xlim(00,40)
```

Out[39]: (0, 40)

```
In [41]:  h["tweet_saat"] = h["created_at"].apply(lambda x: x.strftime("%H")) ##w
          hich hours the account send tweets
```

```
In [43]:  h["tweet_saat"] = pd.to_numeric(h["tweet_saat"])
          h.info()
```
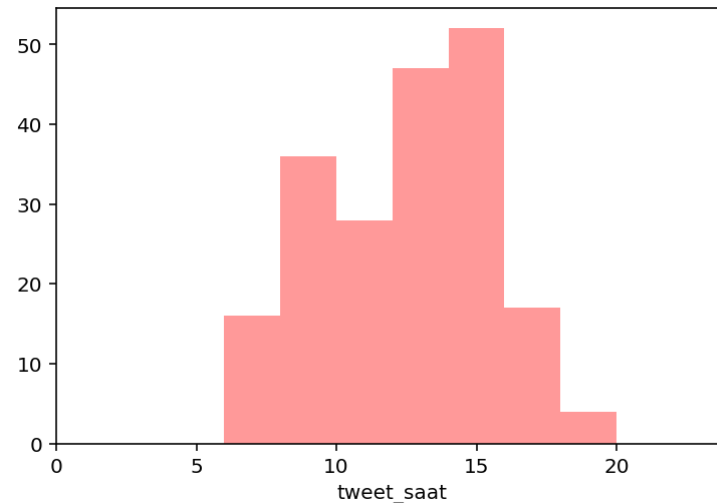
```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 200 entries, 0 to 199
Data columns (total 10 columns):
 #   Column          Non-Null Count  Dtype
---  ------          --------------  -----
 0   id              200 non-null    int64
 1   created_at      200 non-null    datetime64[ns]
 2   text            200 non-null    object
 3   retweeted       200 non-null    bool
 4   favorite_count  200 non-null    int64
 5   retweet_count   200 non-null    int64
 6   source          200 non-null    object
 7   location        200 non-null    object
 8   screen_name     200 non-null    object
 9   tweet_saat      200 non-null    int64
```

```
dtypes: bool(1), datetime64[ns](1), int64(4), object(4)
memory usage: 14.4+ KB
```

Which hours DBG generally tweets

```
In [45]: sns.distplot(h.tweet_saat,kde = False,color = "red",kde_kws={"color":
         "k", "lw": 3, "label": "KDE"}) # Looks like around 12-15
         plt.xlim(00,24)
```

```
Out[45]: (0, 24)
```



```
In [132]: h["days"] = h["created_at"].dt.weekday
```

```
In [143]: h.days.replace([0, 1], ["monday", "tuesday"], inplace=True)
          h.days.replace([2, 3], ["wednesday", "thursday"], inplace=True)
          h.days.replace([4, 5], ["friday", "saturday"], inplace=True)
          h.days.replace([6], ["sunday"], inplace=True)
```
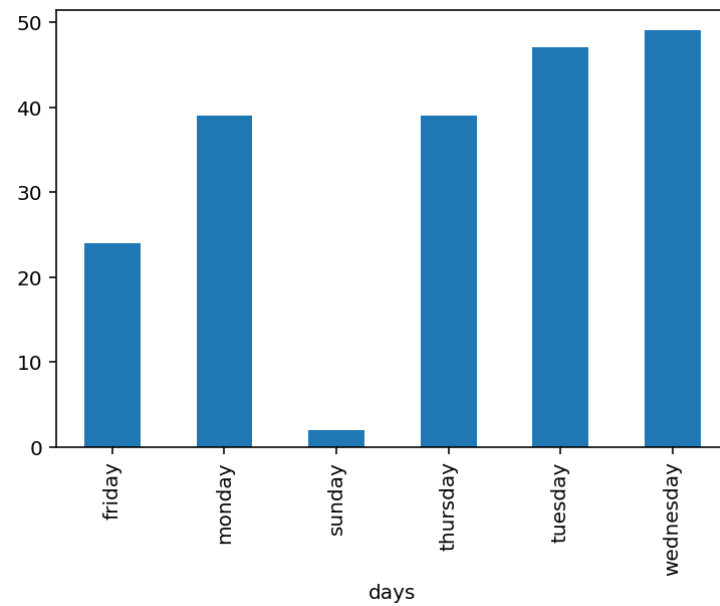
```
In [144]: h.head()
```

Out[144]:

	id	created_at	text	retweeted	favorite_count	retweet_count	sou
0	1278226201019105281	2020-07-01 07:17:29	As #Germany is taking over the EU Council's pr...	False	7	1	Twi V /
1	1276133595988594694	2020-06-25 12:42:13	RT @EurexGroup: We're delighted to announce th...	False	0	4	Twi V /
2	1275814502546759681	2020-06-24 15:34:15	RT @EurexGroup: We warmly welcome Tammo Diemer...	False	0	2	Twi V /
3	1275059211450212354	2020-06-22 13:33:00	As of 1 July, Deutsche Börse Data Services is ...	False	2	0	Twi V /
4	1273199156543328256	2020-06-17 10:21:48	@EurexGroup clears the first interest rate swa...	False	1	1	Twi V /

In [145]:
```
day_freq=h.groupby("days").count()["id"]
```

Which days DBG account send tweets

In [146]:
```
day_freq.plot.bar(x = "days", y = "id")
```
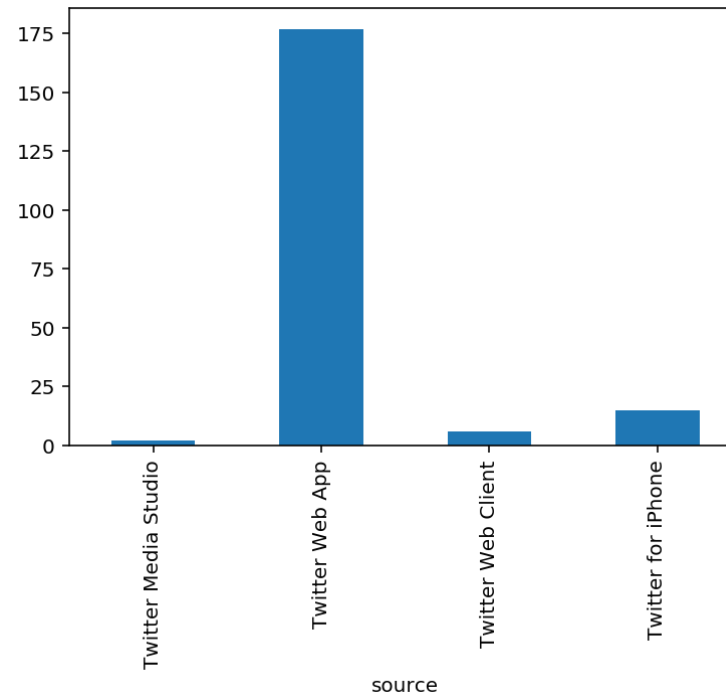
Out[146]: `<matplotlib.axes._subplots.AxesSubplot at 0x1a4cdbff1d0>`

```
In [57]: source_freq = h.groupby("source").count()["id"]

         source_freq.plot.bar()
```

Out[57]: <matplotlib.axes._subplots.AxesSubplot at 0x1a4cb030be0>

In [59]: `#h.groupby(["source","tweet_saat","gunler"])[["tweet_saat"]].count().head(50)`

In [ ]:

Which followers or friends are more active for DBG

In [61]:
```
dbg = api.get_user(id = "DeutscheBoerse", count = 350, request_type = "recent")
```

In [63]:
```
for friend in dbg.followers():
    print(friend.screen_name)
```

LeeChongg

```
vivekvarma427
agentur_z
KelvyTapia
davidh_23
Bardnet
ReneGutzmann
Matthia61038367
edgars83656365
Krew376
vannakkol
bertbondnet
trapp_ma
Flo_bckr
hamed01670699
GilcaValentino
Johntrad23
echtes
zitnikv
LucaJoHaerms
```

In [108]:
```
friends = dbg.friends()
followers=dbg.followers()
```

In [67]:
```python
import pandas as pd
def followers_df(takipci):
    idler = [kisi.id for kisi in takipci]
    fl = pd.DataFrame(idler, columns = ["id"])

    fl["screen_name"] = [kisi.screen_name for kisi in takipci]
    fl["created_at"] = [kisi.created_at for kisi in takipci]
    fl["followers_count"] = [kisi.followers_count for kisi in takipci]
    fl["statutes_count"] = [kisi.statuses_count for  kisi in takipci]
    fl["favorite_count"] = [kisi.favourites_count for kisi in takipci]
    fl["friends_count"] = [kisi.friends_count for kisi in takipci]
    fl["location"] = [kisi.location for kisi in takipci]

    return fl
```

```
In [109]: flw_dbg = followers_df(followers)
```

```
In [110]: flw_dbg.head()
```

Out[110]:

	id	screen_name	created_at	followers_count	statutes_count	favorite_coun
0	287670077	LeeChongg	2011-04-25 13:11:56	68	683	
1	289863716	vivekvarma427	2011-04-29 10:32:00	7	159	20
2	1278985806166753282	agentur_z	2020-07-03 09:36:09	0	0	
3	316753685	KelvyTapia	2011-06-13 22:37:58	92	123	902
4	456093537	davidh_23	2012-01-05 21:30:39	287	90	19

```
In [111]: flw_dbg.shape
```

Out[111]: (20, 8)

```
In [112]: flw_dbg["location"].value_counts(normalize= True)*100
```

Out[112]:
```
                                    50.0
🏴󠁧󠁢WORLDWIDEWEB              5.0
Phnom Penh,Cambodia.                 5.0
Brno, Czech Republic                 5.0
Gujarat,india                        5.0
Hamburg, Deutschland                 5.0
Mannheim, Germany                    5.0
Deutschland                          5.0
vienna                               5.0
Dominican Republic                   5.0
```

```
Fürstenwalde/Spree, Deutschlan    5.0
Name: location, dtype: float64
```

In [113]:
```python
aa= flw_dbg.groupby("location").count()["followers_count"]
```

In [114]:
```python
flw_dbg.groupby("screen_name").agg({"friends_count":"mean"})
```

Out[114]:

screen_name	friends_count
Bardnet	3279
Flo_bckr	4
GilcaValentino	39
Johntrad23	236
KelvyTapia	1722
Krew376	120
LeeChongg	81
LucaJoHaerms	28
Matthia61038367	99
ReneGutzmann	8
agentur_z	9
bertbondnet	1926
davidh_23	1546
echtes	908
edgars83656365	452
hamed01670699	60
trapp_ma	592
vannakkol	2184

	friends_count
screen_name	
vivekvarma427	304
zitnikv	56

In [116]: `#aa.plot.bar()`

In [117]: `flw_dbg.index = flw_dbg["screen_name"]`

In [ ]: `flw_dbg.head()`

In [118]:
```
s_data = flw_dbg[["followers_count", "statutes_count"]]
s_data
```

Out[118]:

	followers_count	statutes_count
screen_name		
LeeChongg	68	683
vivekvarma427	7	159
agentur_z	0	0
KelvyTapia	92	123
davidh_23	287	90
Bardnet	642	58896
ReneGutzmann	1	2
Matthia61038367	21	4
edgars83656365	3	0
Krew376	17	68
vannakkol	939	10109
bertbondnet	59	2637

	followers_count	statutes_count
screen_name		
trapp_ma	132	200
Flo_bckr	0	0
hamed01670699	0	0
GilcaValentino	9	0
Johntrad23	4	4
echtes	189	4903
zitnikv	4	5
LucaJoHaerms	0	0

In [119]:
```python
s_data["followers_count"] = s_data["followers_count"]+0.01   # Here I added 0.1 value.
```

In [122]:
```python
s_data["statutes_count"] = s_data["statutes_count"]+0.01
```

In [123]:
```python
s_data
```
Out[123]:

	followers_count	statutes_count
screen_name		
LeeChongg	0.072417	0.021597
vivekvarma427	0.007455	0.012700
agentur_z	0.000000	0.010000
KelvyTapia	0.097977	0.012088
davidh_23	0.305644	0.011528
Bardnet	0.683706	1.010000
ReneGutzmann	0.001065	0.010034

	followers_count	statutes_count
screen_name		
Matthia61038367	0.022364	0.010068
edgars83656365	0.003195	0.010000
Krew376	0.018104	0.011155
vannakkol	1.000000	0.181642
bertbondnet	0.062833	0.054774
trapp_ma	0.140575	0.013396
Flo_bckr	0.000000	0.010000
hamed01670699	0.000000	0.010000
GilcaValentino	0.009585	0.010000
Johntrad23	0.004260	0.010068
echtes	0.201278	0.093248
zitnikv	0.004260	0.010085
LucaJoHaerms	0.000000	0.010000

```
In [121]: s_data = s_data.apply(lambda x: (x-min(x))/(max(x)-min(x)))
          s_data
```

Out[121]:

	followers_count	statutes_count
screen_name		
LeeChongg	0.072417	0.011597
vivekvarma427	0.007455	0.002700
agentur_z	0.000000	0.000000
KelvyTapia	0.097977	0.002088
davidh_23	0.305644	0.001528

	followers_count	statutes_count
screen_name		
Bardnet	0.683706	1.000000
ReneGutzmann	0.001065	0.000034
Matthia61038367	0.022364	0.000068
edgars83656365	0.003195	0.000000
Krew376	0.018104	0.001155
vannakkol	1.000000	0.171642
bertbondnet	0.062833	0.044774
trapp_ma	0.140575	0.003396
Flo_bckr	0.000000	0.000000
hamed01670699	0.000000	0.000000
GilcaValentino	0.009585	0.000000
Johntrad23	0.004260	0.000068
echtes	0.201278	0.083248
zitnikv	0.004260	0.000085
LucaJoHaerms	0.000000	0.000000

```
In [125]: score = s_data["followers_count"] * s_data["statutes_count"]
```

```
In [126]: score.sort_values(ascending = False)
```

```
Out[126]: screen_name
          Bardnet          0.690543
          vannakkol        0.181642
          echtes           0.018769
          davidh_23        0.003524
          bertbondnet      0.003442
          trapp_ma         0.001883
          LeeChongg        0.001564
```

```
         KelvyTapia           0.001184
         Matthia61038367      0.000225
         Krew376              0.000202
         GilcaValentino       0.000096
         vivekvarma427        0.000095
         zitnikv              0.000043
         Johntrad23           0.000043
         edgars83656365       0.000032
         ReneGutzmann         0.000011
         Flo_bckr             0.000000
         hamed01670699        0.000000
         agentur_z            0.000000
         LucaJoHaerms         0.000000
         dtype: float64
```

In [127]:
```python
s_data["score"] = score
```

In [128]:
```python
import numpy as np
s_data["segment"] = np.where(s_data["score"] >= score.median()+ score.std()/len(score),"A","B")
```

Segmentation of our DBG account followers

In [129]:
```python
s_data
```

Out[129]:

screen_name	followers_count	statutes_count	score	segment
LeeChongg	0.072417	0.021597	0.001564	B
vivekvarma427	0.007455	0.012700	0.000095	B
agentur_z	0.000000	0.010000	0.000000	B
KelvyTapia	0.097977	0.012088	0.001184	B
davidh_23	0.305644	0.011528	0.003524	B

screen_name	followers_count	statutes_count	score	segment
Bardnet	0.683706	1.010000	0.690543	A
ReneGutzmann	0.001065	0.010034	0.000011	B
Matthia61038367	0.022364	0.010068	0.000225	B
edgars83656365	0.003195	0.010000	0.000032	B
Krew376	0.018104	0.011155	0.000202	B
vannakkol	1.000000	0.181642	0.181642	A
bertbondnet	0.062833	0.054774	0.003442	B
trapp_ma	0.140575	0.013396	0.001883	B
Flo_bckr	0.000000	0.010000	0.000000	B
hamed01670699	0.000000	0.010000	0.000000	B
GilcaValentino	0.009585	0.010000	0.000096	B
Johntrad23	0.004260	0.010068	0.000043	B
echtes	0.201278	0.093248	0.018769	A
zitnikv	0.004260	0.010085	0.000043	B
LucaJoHaerms	0.000000	0.010000	0.000000	B

In [148]:
```
! jupyter nbconvert --to html dbgaccount.ipynb
```

```
[NbConvertApp] Converting notebook dbgaccount.ipynb to html
[NbConvertApp] Writing 466110 bytes to dbgaccount.html
```

In [ ]: