WEB SCRAPING PROJECT

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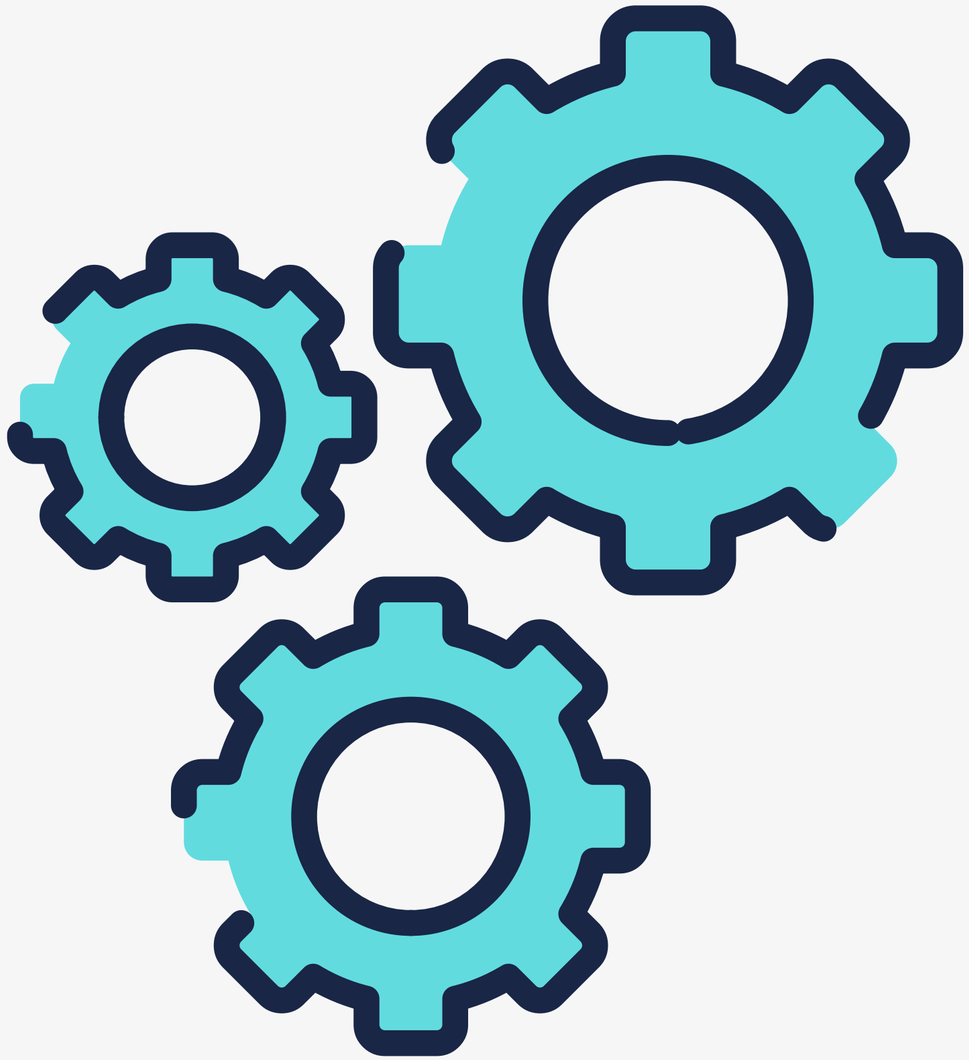
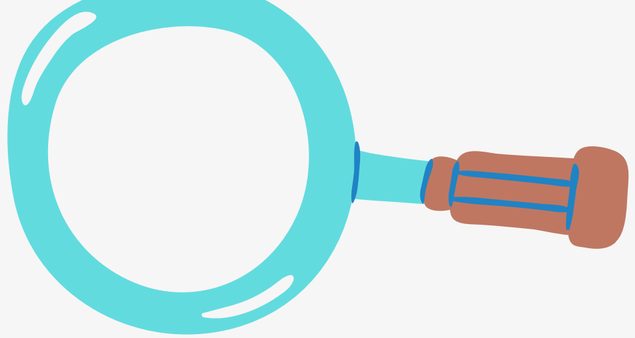
PROJECT INSIGHT

Web scraping is the process of collecting and parsing raw data from the Web.
The goal of this project was to extract data from twitter using Python.



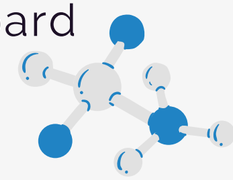


PROJECT BRIEF

In this Project, I made use of Selenium library in python because of the flexibility it offers. I was able to automate the process of logging in to my twitter account using the EdgeOption from selenium tools and extracted the data.

The next stage of the project was data cleaning,this process was required in order to get the extracted data in shape for easier visualizations and more accurate information.

To wrap it up ,I created a simple dashboard to visualize the data.



keting Analysis

DATA EXTRACTION

Importing the neccessary libraries and setting up EdgeOption

In [1]:
```
import selenium
from selenium import webdriver
from selenium.webdriver.common.by import By
from selenium.webdriver.common.keys import Keys
from time import sleep
from getpass import getpass
from selenium.common.exceptions import NoSuchElementException
from msedge.selenium_tools import Edge,EdgeOptions
```

In [2]:
```
options = EdgeOptions()
options.use_chromium = True
driver = Edge(options=options)
```

```
<ipython-input-2-e3ed45f20b59>:3: DeprecationWarning: Selenium Tools for Microsoft Edge is deprecated. Please upgrade t
o Selenium 4 which has built-in support for Microsoft Edge (Chromium): https://docs.microsoft.com/en-us/microsoft-edge/
webdriver-chromium/#upgrading-from-selenium-3 (https://docs.microsoft.com/en-us/microsoft-edge/webdriver-chromium/#upgr
ading-from-selenium-3)
  driver = Edge(options=options)
```

In [3]:
```
driver.get('https://twitter.com/login')
```

In [47]:
```
sleep(3)
```

Signed in to my twitter account

In [48]:
```
username = driver.find_element_by_xpath("//input[@name='text']")
username.send_keys('popsyynn')
```

In [49]:
```
next_button = driver.find_element_by_xpath("//span[contains(text(),'Next')]")
next_button.click()
```

In [50]:
```
my_password = getpass()
```

```
........
```

In [51]:
```
password = driver.find_element_by_xpath("//input[@name='password']")
password.send_keys(my_password)
```

In [52]:
```
password.send_keys(Keys.RETURN)
```

In [53]:
```
search_input = driver.find_element_by_xpath("//input[@aria-label='Search query']")
search_input.send_keys('Ronaldo')
```

In [54]:
```
search_input.send_keys(Keys.RETURN)
```

In [55]:
```
people = driver.find_element_by_xpath("//span[contains(text(),'People')]")
people.click()
```

In [56]:
```
profile = driver.find_element_by_xpath("//*[@id='react-root']/div/div/div[2]/main/div/div/div/div/div/div[3]/div/section
profile.click()
```

Scraping of data

In [57]:
```
UserTag =  driver.find_element_by_xpath('//div[@data-testid="User-Names"]').text
```

In [58]:
```
print(UserTag)
```

```
Cristiano Ronaldo
@Cristiano
·
24 Sep
```

In [59]:
```
Time_stamp = driver.find_element_by_xpath('//time').get_attribute('datetime')
```

In [60]:
```
print(Time_stamp)
```

```
2022-09-24T21:38:35.000Z
```

In [61]:
```
Tweet = driver.find_element_by_xpath('//div[@data-testid="tweetText"]').text
```

In [62]:
```
Tweet
```

Out[62]:
```
'Grande jogo, importante vitória equipa!Continuamos focados no nosso objetivo \nObrigado ao público português pelo apoi
o fantástico.'
```

In [63]:
```
Reply = driver.find_element_by_xpath('//div[@data-testid="reply"]').text
Retweet = driver.find_element_by_xpath('//div[@data-testid="retweet"]').text
Like = driver.find_element_by_xpath('//div[@data-testid="like"]').text
```

In [64]:
```
print(UserTag)
print(Time_stamp)
print(Reply)
print(Retweet)
print(Like)
```

```
Cristiano Ronaldo
@Cristiano
·
24 Sep
2022-09-24T21:38:35.000Z
13.2K
11.3K
182.6K
```

In [73]:
```
articles = driver.find_elements_by_xpath('//article[@data-testid="tweet"]')
```

In [74]:
```
len(articles)
```

Out[74]:
```
4
```

In [80]:
```
print(Usertags)
print(Timestamps)
print(Tweets)
print(Replies)
print(Retweets)
print(Likes)
```

```
['Cristiano Ronaldo\n@Cristiano\n·\n24 Sep', 'Cristiano Ronaldo\n@Cristiano\n·\n24 Sep', 'Cristiano Ronaldo\n@Cristiano
\n·\n24 Sep', 'Cristiano Ronaldo\n@Cristiano\n·\n24 Sep', 'Cristiano Ronaldo\n@Cristiano\n·\n24 Sep', 'Cristiano Ronald
o\n@Cristiano\n·\n24 Sep', 'Cristiano Ronaldo\n@Cristiano\n·\n24 Sep', 'Cristiano Ronaldo\n@Cristiano\n·\n24 Sep', 'Cri
stiano Ronaldo\n@Cristiano\n·\n30 Apr', 'Cristiano Ronaldo\n@Cristiano\n·\n12 May', 'Cristiano Ronaldo\n@Cristiano\n·\n
12 May', 'Cristiano Ronaldo\n@Cristiano\n·\n12 May', 'Cristiano Ronaldo\n@Cristiano\n·\n9 May', 'Cristiano Ronaldo\n@Cr
istiano\n·\n9 May', 'Cristiano Ronaldo\n@Cristiano\n·\n9 May', 'Cristiano Ronaldo\n@Cristiano\n·\n9 May', 'Cristiano Ro
naldo\n@Cristiano\n·\n9 May', 'Cristiano Ronaldo\n@Cristiano\n·\n9 May', 'Cristiano Ronaldo\n@Cristiano\n·\n9 May', 'Cr
istiano Ronaldo\n@Cristiano\n·\n9 May', 'Cristiano Ronaldo\n@Cristiano\n·\n9 May', 'Cristiano Ronaldo\n@Cristiano\n·\n1
8 Dec 2021', 'Cristiano Ronaldo\n@Cristiano\n·\n18 Dec 2021', 'Cristiano Ronaldo\n@Cristiano\n·\n18 Dec 2021', 'Cristia
no Ronaldo\n@Cristiano\n·\n18 Dec 2021', 'Cristiano Ronaldo\n@Cristiano\n·\n18 Dec 2021', 'Cristiano Ronaldo\n@Cristian
o\n·\n18 Dec 2021', 'Cristiano Ronaldo\n@Cristiano\n·\n18 Dec 2021', 'Cristiano Ronaldo\n@Cristiano\n·\n13 Dec 2021',
'Cristiano Ronaldo\n@Cristiano\n·\n13 Dec 2021', 'Cristiano Ronaldo\n@Cristiano\n·\n13 Dec 2021', 'Cristiano Ronaldo\n@
Cristiano\n·\n13 Dec 2021', 'Cristiano Ronaldo\n@Cristiano\n·\n13 Dec 2021', 'Cristiano Ronaldo\n@Cristiano\n·\n30 Aug
2021', 'Cristiano Ronaldo\n@Cristiano\n·\n30 Aug 2021', 'Cristiano Ronaldo\n@Cristiano\n·\n30 Aug 2021']
['2022-09-24T21:38:35.000Z', '2022-09-24T21:38:35.000Z', '2022-09-24T21:38:35.000Z', '2022-09-24T21:38:35.000Z', '2022-
09-24T21:38:35.000Z', '2022-09-24T21:38:35.000Z', '2022-09-24T21:38:35.000Z', '2022-09-24T21:38:35.000Z', '2022-05-12T1
7:54:32.000Z', '2022-05-12T17:54:32.000Z', '2022-05-12T17:54:32.000Z', '2022-05-12T17:54:32.000Z', '2022-05-09T10:32:0
7.000Z', '2022-05-09T10:32:07.000Z', '2022-05-09T10:32:07.000Z', '2022-05-09T10:32:07.000Z', '2022-05-09T10:32:07.000
Z', '2022-05-09T10:32:07.000Z', '2022-05-09T10:32:07.000Z', '2022-05-09T10:32:07.000Z', '2022-05-09T10:32:07.000Z', '20
21-12-18T10:39:17.000Z', '2021-12-18T10:39:17.000Z', '2021-12-18T10:39:17.000Z', '2021-12-18T10:39:17.000Z', '2021-12-1
8T10:39:17.000Z', '2021-12-18T10:39:17.000Z', '2021-12-18T10:39:17.000Z', '2021-12-13T12:04:26.000Z', '2021-12-13T12:0
4:26.000Z', '2021-12-13T12:04:26.000Z', '2021-12-13T12:04:26.000Z', '2021-12-13T12:04:26.000Z', '2021-08-30T19:47:56.00
0Z', '2021-08-30T19:47:56.000Z', '2021-08-30T19:47:56.000Z']
['Grande jogo, importante vitória equipa!Continuamos focados no nosso objetivo \nObrigado ao público português pelo apo
io fantástico.', 'Grande jogo, importante vitória equipa!Continuamos focados no nosso objetivo \nObrigado ao público po
rtuguês pelo apoio fantástico.', 'Grande jogo, importante vitória equipa!Continuamos focados no nosso objetivo \nObriga
do ao público português pelo apoio fantástico.', 'Grande jogo, importante vitória equipa!Continuamos focados no nosso o
bjetivo \nObrigado ao público português pelo apoio fantástico.', 'Grande jogo, importante vitória equipa!Continuamos fo
```

```
'My 2nd Premier League Player Of The Month Award, the 6th in my career. I'm as happy to win today as I was in my early
days, the hunger for victory and achievements never fades away. Thanks to everyone that made this possible. ', 'My 2nd
Premier League Player Of The Month Award, the 6th in my career. I'm as happy to win today as I was in my early days, th
e hunger for victory and achievements never fades away. Thanks to everyone that made this possible. ', 'My 2nd Premier
League Player Of The Month Award, the 6th in my career. I'm as happy to win today as I was in my early days, the hunger
for victory and achievements never fades away. Thanks to everyone that made this possible. ', 'Always good to be with m
y Bro's ', 'Always good to be with my Bro's ', 'Always good to be with my Bro's ', 'Always good to be with my Bro's ',
'Always good to be with my Bro's ', 'Always good to be with my Bro's ', 'Always good to be with my Bro's ', 'Always goo
d to be with my Bro's ', 'Always good to be with my Bro's ', 'Never stop dreaming.\nWatch my chat with Sir Alex now \n#
MUFC #BringingYouCloser', 'Never stop dreaming.\nWatch my chat with Sir Alex now \n#MUFC #BringingYouCloser', 'Never st
op dreaming.\nWatch my chat with Sir Alex now \n#MUFC #BringingYouCloser', 'Never stop dreaming.\nWatch my chat with Si
r Alex now \n#MUFC #BringingYouCloser', 'Never stop dreaming.\nWatch my chat with Sir Alex now \n#MUFC #BringingYouClos
er', 'Never stop dreaming.\nWatch my chat with Sir Alex now \n#MUFC #BringingYouCloser', 'Never stop dreaming.\nWatch m
y chat with Sir Alex now \n#MUFC #BringingYouCloser', '', '', '', '', '', 'É sempre um orgulho voltar à seleção e repre
sentar o nosso país!', 'É sempre um orgulho voltar à seleção e representar o nosso país!', 'É sempre um orgulho voltar
à seleção e representar o nosso país!']
['13.2K', '13.2K', '13.2K', '13.2K', '13.2K', '13.2K', '13.2K', '13.2K', '6,501', '6,501', '6,501', '6,501', '5,277',
'5,277', '5,277', '5,277', '5,277', '5,277', '5,277', '5,277', '1,225', '1,225', '1,225', '1,225', '1,225',
'1,225', '1,225', '2,965', '2,965', '2,965', '2,965', '2,965', '4,356', '4,356', '4,356']
['11.3K', '11.3K', '11.3K', '11.3K', '11.3K', '11.3K', '11.3K', '11.3K', '24.4K', '24.4K', '24.4K', '24.4K', '14.2K',
'14.2K', '14.2K', '14.2K', '14.2K', '14.2K', '14.2K', '14.2K', '4,585', '4,585', '4,585', '4,585', '4,585',
'4,585', '4,585', '4,619', '4,619', '4,619', '4,619', '4,619', '17.3K', '17.3K', '17.3K']
['182.6K', '182.6K', '182.6K', '182.6K', '182.7K', '182.7K', '182.7K', '182.7K', '337.1K', '337.1K', '337.1K', '428.9
K', '428.9K', '428.9K', '428.9K', '428.9K', '428.9K', '428.9K', '428.9K', '428.9K', '59.8K', '59.8K', '59.8K', '59.8K',
'59.8K', '59.8K', '59.8K', '81.8K', '81.8K', '81.8K', '81.8K', '81.8K', '324.8K', '324.8K', '324.8K']
```

In [82]:
```
len(set(Tweets))
```

Out[82]: 6

In [83]:
```
import pandas as pd
```

In [84]:
```
data = pd.DataFrame(zip(Usertags,Timestamps,Tweets,Replies,Retweets,Likes),columns=['Usertags','Timestamps','Tweets','Re
```

In [90]:
```
data = data.drop_duplicates()
```

In [91]:
```
data
```

Out[91]:

	Usertags	Timestamps	Tweets	Replies	Retweets	Likes
0	Cristiano Ronaldo\n@Cristiano\n \n24 Sep	2022-09-24T21:38:35.000Z	Grande jogo, importante vitória equipa!Continu...	13.2K	11.3K	182.6K
4	Cristiano Ronaldo\n@Cristiano\n \n24 Sep	2022-09-24T21:38:35.000Z	Grande jogo, importante vitória equipa!Continu...	13.2K	11.3K	182.7K
8	Cristiano Ronaldo\n@Cristiano\n \n30 Apr	2022-05-12T17:54:32.000Z	My 2nd Premier League Player Of The Month Awar...	6,501	24.4K	337.1K
9	Cristiano Ronaldo\n@Cristiano\n \n12 May	2022-05-12T17:54:32.000Z	My 2nd Premier League Player Of The Month Awar...	6,501	24.4K	337.1K
11	Cristiano Ronaldo\n@Cristiano\n \n12 May	2022-05-12T17:54:32.000Z	My 2nd Premier League Player Of The Month Awar...	6,501	24.4K	428.9K
12	Cristiano Ronaldo\n@Cristiano\n \n9 May	2022-05-09T10:32:07.000Z	Always good to be with my Bro's	5,277	14.2K	428.9K
20	Cristiano Ronaldo\n@Cristiano\n \n9 May	2022-05-09T10:32:07.000Z	Always good to be with my Bro's	5,277	14.2K	59.8K
21	Cristiano Ronaldo\n@Cristiano\n \n18 Dec 2021	2021-12-18T10:39:17.000Z	Never stop dreaming.\nWatch my chat with Sir A...	1,225	4,585	59.8K
27	Cristiano Ronaldo\n@Cristiano\n \n18 Dec 2021	2021-12-18T10:39:17.000Z	Never stop dreaming.\nWatch my chat with Sir A...	1,225	4,585	81.9K
28	Cristiano Ronaldo\n@Cristiano\n \n13 Dec 2021	2021-12-13T12:04:26.000Z		2,965	4,619	81.8K
32	Cristiano Ronaldo\n@Cristiano\n \n13 Dec 2021	2021-12-13T12:04:26.000Z		2,965	4,619	324.8K
33	Cristiano Ronaldo\n@Cristiano\n \n30 Aug 2021	2021-08-30T19:47:56.000Z	É sempre um orgulho voltar à seleção e represe...	4,356	17.3K	324.8K

In [92]:
```
data.to_csv('C:\\Users\\user\\Documents\\datasets\\tweet.csv',index = False)
```

In [ ]:

DATA CLEANING

In [61]:
```
data = pd.read_csv('C:\\Users\\user\\Documents\\datasets\\tweet.csv')
```

In [62]:
```
data['Replies'] = data['Replies'].str[:-1]
data['Retweets'] = data['Retweets'].str[:-1]
data['Likes'] = data['Likes'].str[:-1]
```

In [63]:
```
data
```

Out[63]:

	Usertags	Timestamps	Tweets	Replies	Retweets	Likes
0	Cristiano Ronaldo\n@Cristiano\n·\n24 Sep	2022-09-24T21:38:35.000Z	Grande jogo, importante vitória equipa!Continu...	13.2	11.3	182.6
1	Cristiano Ronaldo\n@Cristiano\n·\n24 Sep	2022-09-24T21:38:35.000Z	Grande jogo, importante vitória equipa!Continu...	13.2	11.3	182.7
2	Cristiano Ronaldo\n@Cristiano\n·\n30 Apr	2022-05-12T17:54:32.000Z	My 2nd Premier League Player Of The Month Awar...	6,50	24.4	337.1
3	Cristiano Ronaldo\n@Cristiano\n·\n12 May	2022-05-12T17:54:32.000Z	My 2nd Premier League Player Of The Month Awar...	6,50	24.4	337.1
4	Cristiano Ronaldo\n@Cristiano\n·\n12 May	2022-05-12T17:54:32.000Z	My 2nd Premier League Player Of The Month Awar...	6,50	24.4	428.9
5	Cristiano Ronaldo\n@Cristiano\n·\n9 May	2022-05-09T10:32:07.000Z	Always good to be with my Bro's	5,27	14.2	428.9
6	Cristiano Ronaldo\n@Cristiano\n·\n9 May	2022-05-09T10:32:07.000Z	Always good to be with my Bro's	5,27	14.2	59.8
7	Cristiano Ronaldo\n@Cristiano\n·\n18 Dec 2021	2021-12-18T10:39:17.000Z	Never stop dreaming.\nWatch my chat with Sir A...	1,22	4,58	59.8
8	Cristiano Ronaldo\n@Cristiano\n·\n18 Dec 2021	2021-12-18T10:39:17.000Z	Never stop dreaming.\nWatch my chat with Sir A...	1,22	4,58	81.8
9	Cristiano Ronaldo\n@Cristiano\n·\n13 Dec 2021	2021-12-13T12:04:26.000Z	NaN	2,96	4,61	81.8
10	Cristiano Ronaldo\n@Cristiano\n·\n13 Dec 2021	2021-12-13T12:04:26.000Z	NaN	2,96	4,61	324.8
11	Cristiano Ronaldo\n@Cristiano\n·\n30 Aug 2021	2021-08-30T19:47:56.000Z	É sempre um orgulho voltar à seleção e represe...	4,35	17.3	324.8

In [64]:
```
data['Replies'] = (pd.to_numeric(data['Replies'].str.replace(',',''), errors='coerce'))
data['Retweets'] = (pd.to_numeric(data['Retweets'].str.replace(',',''), errors='coerce'))
data['Likes'] = pd.to_numeric(data['Likes'])
```

```
data['Retweets'] = (data['Retweets'])*1000
data['Likes'] = (data['Likes'])*1000
```


In [67]:
```
data
```

Out[67]:

	Usertags	Timestamps	Tweets	Replies	Retweets	Likes
0	Cristiano Ronaldo\n@Cristiano\n·\n24 Sep	2022-09-24T21:38:35.000Z	Grande jogo, importante vitória equipa!Continu...	13200.0	11300.0	182600.0
1	Cristiano Ronaldo\n@Cristiano\n·\n24 Sep	2022-09-24T21:38:35.000Z	Grande jogo, importante vitória equipa!Continu...	13200.0	11300.0	182700.0
2	Cristiano Ronaldo\n@Cristiano\n·\n30 Apr	2022-05-12T17:54:32.000Z	My 2nd Premier League Player Of The Month Awar...	650000.0	24400.0	337100.0
3	Cristiano Ronaldo\n@Cristiano\n·\n12 May	2022-05-12T17:54:32.000Z	My 2nd Premier League Player Of The Month Awar...	650000.0	24400.0	337100.0
4	Cristiano Ronaldo\n@Cristiano\n·\n12 May	2022-05-12T17:54:32.000Z	My 2nd Premier League Player Of The Month Awar...	650000.0	24400.0	428900.0
5	Cristiano Ronaldo\n@Cristiano\n·\n9 May	2022-05-09T10:32:07.000Z	Always good to be with my Bro's	527000.0	14200.0	428900.0
6	Cristiano Ronaldo\n@Cristiano\n·\n9 May	2022-05-09T10:32:07.000Z	Always good to be with my Bro's	527000.0	14200.0	59800.0
7	Cristiano Ronaldo\n@Cristiano\n·\n18 Dec 2021	2021-12-18T10:39:17.000Z	Never stop dreaming.\nWatch my chat with Sir A...	122000.0	458000.0	59800.0
8	Cristiano Ronaldo\n@Cristiano\n·\n18 Dec	2021-12-				

9	Cristiano Ronaldo\n@Cristiano\n·\n13 Dec 2021	2021-12-13T12:04:26.000Z	NaN	296.0	461.0	81.8
10	Cristiano Ronaldo\n@Cristiano\n·\n13 Dec 2021	2021-12-13T12:04:26.000Z	NaN	296.0	461.0	324.8
11	Cristiano Ronaldo\n@Cristiano\n·\n30 Aug 2021	2021-08-30T19:47:56.000Z	É sempre um orgulho voltar à seleção e represe...	435.0	17.3	324.8

In [66]:
```
data['Replies'] = (data['Replies'])*1000
data['Retweets'] = (data['Retweets'])*1000
data['Likes'] = (data['Likes'])*1000
```

In [67]:
```
data
```

Out[67]:

	Usertags	Timestamps	Tweets	Replies	Retweets	Likes
0	Cristiano Ronaldo\n@Cristiano\n·\n24 Sep	2022-09-24T21:38:35.000Z	Grande jogo, importante vitória equipa!Continu...	13200.0	11300.0	182600.0
1	Cristiano Ronaldo\n@Cristiano\n·\n24 Sep	2022-09-24T21:38:35.000Z	Grande jogo, importante vitória equipa!Continu...	13200.0	11300.0	182700.0
2	Cristiano Ronaldo\n@Cristiano\n·\n30 Apr	2022-05-12T17:54:32.000Z	My 2nd Premier League Player Of The Month Awar...	650000.0	24400.0	337100.0
3	Cristiano Ronaldo\n@Cristiano\n·\n12 May	2022-05-12T17:54:32.000Z	My 2nd Premier League Player Of The Month Awar...	650000.0	24400.0	337100.0
4	Cristiano Ronaldo\n@Cristiano\n·\n12 May	2022-05-12T17:54:32.000Z	My 2nd Premier League Player Of The Month Awar...	650000.0	24400.0	428900.0
5	Cristiano Ronaldo\n@Cristiano\n·\n9 May	2022-05-09T10:32:07.000Z	Always good to be with my Bro's	527000.0	14200.0	428900.0
6	Cristiano Ronaldo\n@Cristiano\n·\n9 May	2022-05-09T10:32:07.000Z	Always good to be with my Bro's	527000.0	14200.0	59800.0
7	Cristiano Ronaldo\n@Cristiano\n·\n18 Dec 2021	2021-12-18T10:39:17.000Z	Never stop dreaming.\nWatch my chat with Sir A...	122000.0	458000.0	59800.0
8	Cristiano Ronaldo\n@Cristiano\n·\n18 Dec 2021	2021-12-18T10:39:17.000Z	Never stop dreaming.\nWatch my chat with Sir A...	122000.0	458000.0	81800.0
9	Cristiano Ronaldo\n@Cristiano\n·\n13 Dec 2021	2021-12-13T12:04:26.000Z	NaN	296000.0	461000.0	81800.0
10	Cristiano Ronaldo\n@Cristiano\n·\n13 Dec 2021	2021-12-13T12:04:26.000Z	NaN	296000.0	461000.0	324800.0
11	Cristiano Ronaldo\n@Cristiano\n·\n30 Aug 2021	2021-08-30T19:47:56.000Z	É sempre um orgulho voltar à seleção e represe...	435000.0	17300.0	324800.0

In [68]:
```
data['Timestamps'] = pd.to_datetime(data['Timestamps'])
```

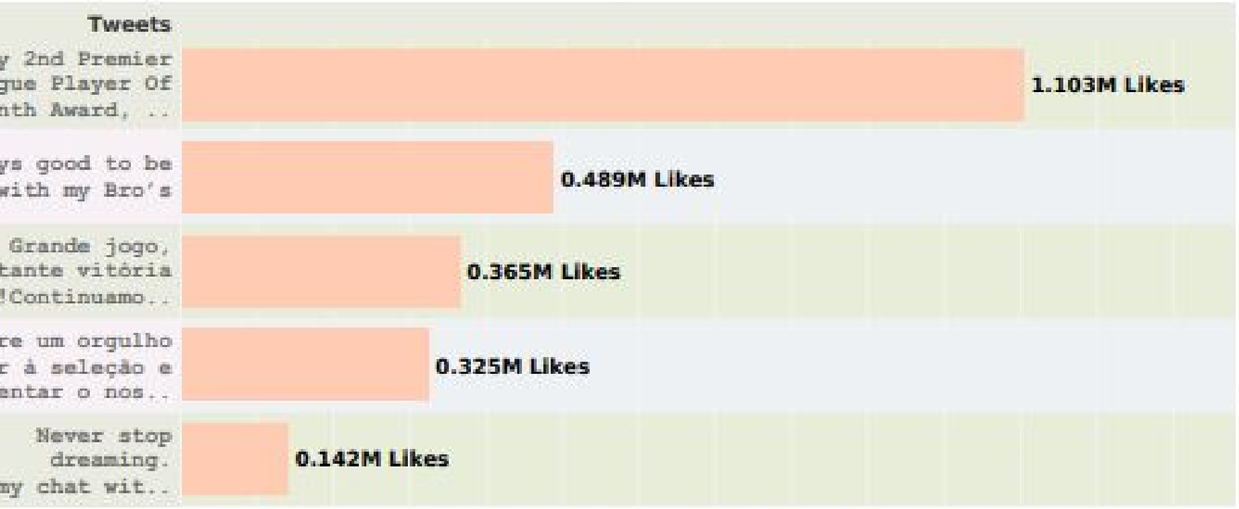
In [69]:
```
data
```

Out[69]:

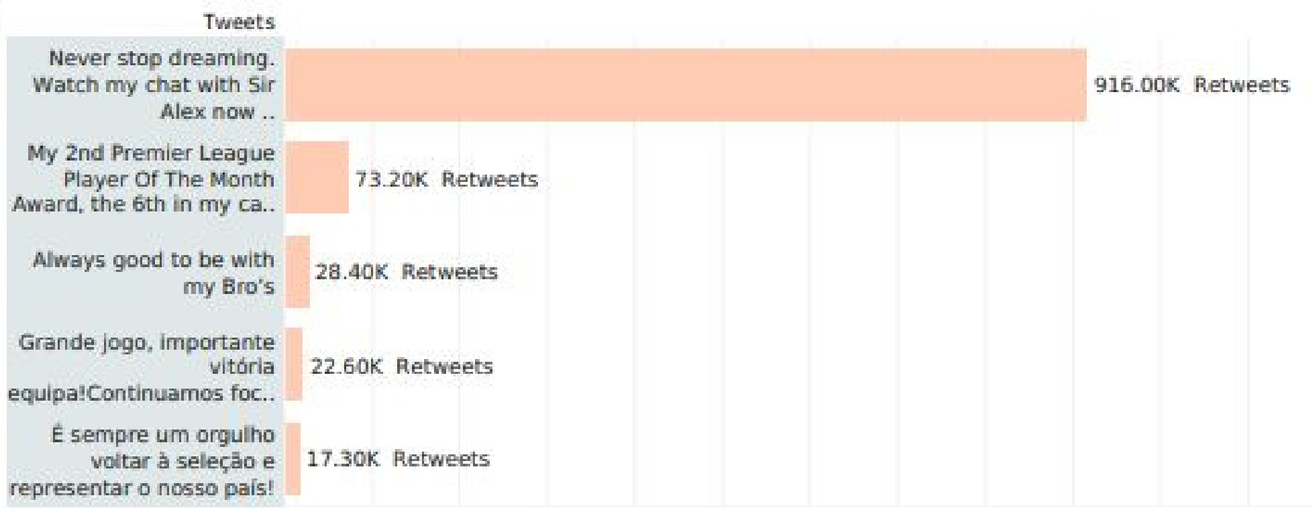
	Usertags	Timestamps	Tweets	Replies	Retweets	Likes
0	Cristiano Ronaldo\n@Cristiano\n·\n24 Sep	2022-09-24 21:38:35+00:00	Grande jogo, importante vitória equipa!Continu...	13200.0	11300.0	182600.0
1	Cristiano Ronaldo\n@Cristiano\n·\n24 Sep	2022-09-24 21:38:35+00:00	Grande jogo, importante vitória equipa!Continu...	13200.0	11300.0	182700.0
2	Cristiano Ronaldo\n@Cristiano\n·\n30 Apr	2022-05-12 17:54:32+00:00	My 2nd Premier League Player Of The Month Awar...	650000.0	24400.0	337100.0
3	Cristiano Ronaldo\n@Cristiano\n·\n12 May	2022-05-12 17:54:32+00:00	My 2nd Premier League Player Of The Month Awar...	650000.0	24400.0	337100.0
4	Cristiano Ronaldo\n@Cristiano\n·\n12 May	2022-05-12 17:54:32+00:00	My 2nd Premier League Player Of The Month Awar...	650000.0	24400.0	428900.0
5	Cristiano Ronaldo\n@Cristiano\n·\n9 May	2022-05-09 10:32:07+00:00	Always good to be with my Bro's	527000.0	14200.0	428900.0
6	Cristiano Ronaldo\n@Cristiano\n·\n9 May	2022-05-09 10:32:07+00:00	Always good to be with my Bro's	527000.0	14200.0	59800.0
7	Cristiano Ronaldo\n@Cristiano\n·\n18 Dec 2021	2021-12-18 10:39:17+00:00	Never stop dreaming.\nWatch my chat with Sir A...	122000.0	458000.0	59800.0
8	Cristiano Ronaldo\n@Cristiano\n·\n18 Dec	2021-12-18				

DATA VISUALIZATION

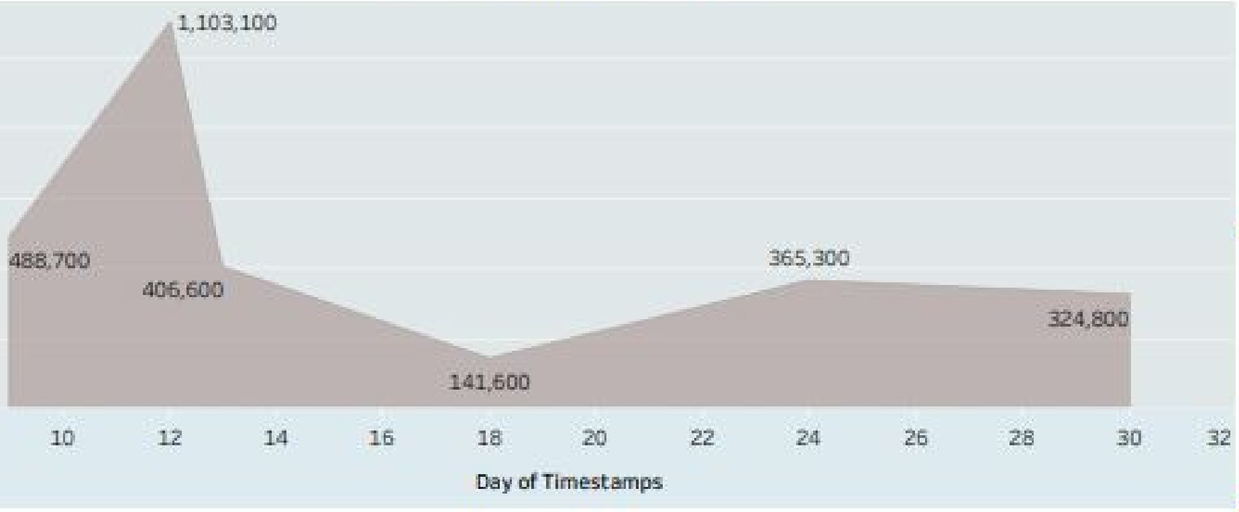
Number of Likes per Tweets



Number of Retweets per Tweet



Likes by Timestamps



Likes

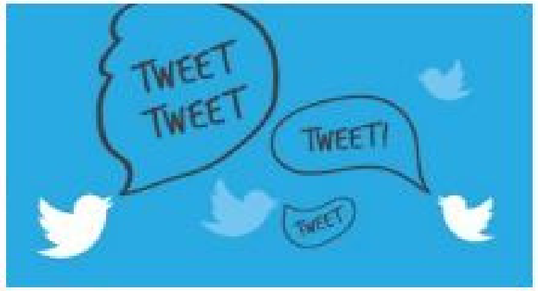
2.8M

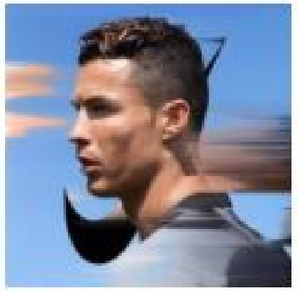
Retweets

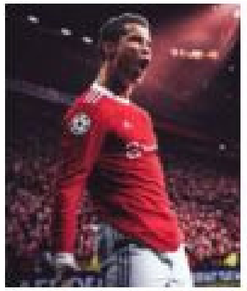
1.98M

Replies

4.3M







THANK YOU FOR VIEWING

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