

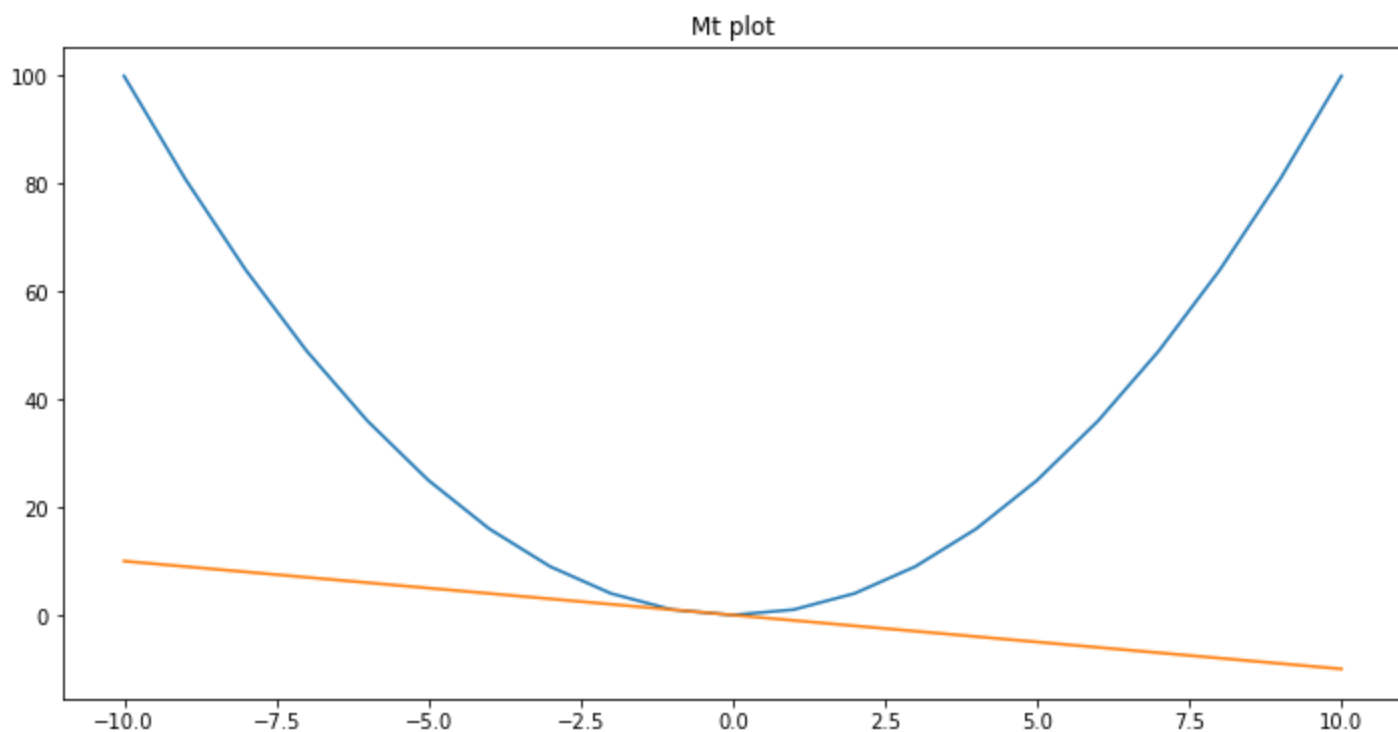
```
In [1]: import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
%matplotlib inline
```

## global api

```
In [2]: x = np.arange(-10,11)
```

```
In [3]: plt.figure(figsize=(12,6))
plt.title('Mt plot')
plt.plot(x, x**2)
plt.plot(x, -1 * (x**1))
```

```
Out[3]: [<matplotlib.lines.Line2D at 0x2475d17c790>]
```



```
In [4]: df = pd.read_csv('C:\\Users\\andre\\Desktop\\data\\netflix_titles.csv')
```

```
In [5]: df
```

```
Out[5]:
```

	show_id	type	title	director	cast	country	date_added	release_year	rating	du
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	2020	TV-MA	S

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	2016	TV-MA	
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	2011	R	
3	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connelly...	United States	November 16, 2017	2009	PG-13	
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	2008	PG-13	1
...	...	...	...	...	...	...	...	...	...	
7782	s7783	Movie	Zozo	Josef Fares	Imad Creidi, Antoinette Turk, Elias Gergi, Car...	Sweden, Czech Republic, United Kingdom, Denmar...	October 19, 2020	2005	TV-MA	
7783	s7784	Movie	Zubaan	Mozez Singh	Vicky Kaushal, Sarah-Jane Dias, Raaghav Chanan...	India	March 2, 2019	2015	TV-14	1
7784	s7785	Movie	Zulu Man in Japan	NaN	Nasty C	NaN	September 25, 2020	2019	TV-MA	
7785	s7786	TV Show	Zumbo's Just Desserts	NaN	Adriano Zumbo, Rachel Khoo	Australia	October 31, 2020	2019	TV-PG	1
7786	s7787	Movie	ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS	Sam Dunn	NaN	United Kingdom, Canada, United States	March 1, 2020	2019	TV-MA	

7787 rows x 12 columns

```
In [6]: df.isnull().sum()
```

```
Out[6]: show_id      0
        type         0
        title        0
```

```
cast      718
country   507
date_added 10
release_year 0
rating     7
duration   0
listed_in  0
description 0
dtype: int64
```

```
In [7]: df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 7787 entries, 0 to 7786
Data columns (total 12 columns):
#   Column                Non-Null Count  Dtype
---  -
0   show_id               7787 non-null   object
1   type                  7787 non-null   object
2   title                 7787 non-null   object
3   director              5398 non-null   object
4   cast                  7069 non-null   object
5   country               7280 non-null   object
6   date_added            7777 non-null   object
7   release_year          7787 non-null   int64
8   rating                7780 non-null   object
9   duration              7787 non-null   object
10  listed_in             7787 non-null   object
11  description            7787 non-null   object
dtypes: int64(1), object(11)
memory usage: 730.2+ KB
```

```
In [8]: df1=df.fillna('unknown').replace()
df1
```

Out[8]:	show_id	type	title	director	cast	country	date_added	release_year	rating	du
	0	s1 TV Show	3%	unknown	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	2020	TV-MA	S
	1	s2 Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	2016	TV-MA	
	2	s3 Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence ...	Singapore	December 20, 2018	2011	R	
	3	s4 Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connelly...	United States	November 16, 2017	2009	PG-13	

	show_id	type	title	director	cast	country	date_added	release_year	rating	du
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	2008	PG-13	1
...	...	...	...	...	...	...	...	...	...	...
7782	s7783	Movie	Zozo	Josef Fares	Imad Creidi, Antoinette Turk, Elias Gergi, Car...	Sweden, Czech Republic, United Kingdom, Denmar...	October 19, 2020	2005	TV-MA	
7783	s7784	Movie	Zubaan	Mozez Singh	Vicky Kaushal, Sarah-Jane Dias, Raaghav Chanan...	India	March 2, 2019	2015	TV-14	1
7784	s7785	Movie	Zulu Man in Japan	unknown	Nasty C	unknown	September 25, 2020	2019	TV-MA	
7785	s7786	TV Show	Zumbo's Just Desserts	unknown	Adriano Zumbo, Rachel Khoo	Australia	October 31, 2020	2019	TV-PG	1
7786	s7787	Movie	ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS	Sam Dunn	unknown	United Kingdom, Canada, United States	March 1, 2020	2019	TV-MA	

7787 rows × 12 columns

```
In [9]: df1.loc[df1['rating'] == 'unknown']
```

	show_id	type	title	director	cast	country	date_added	release_year	rating
67	s68	Movie	13TH: A Conversation with Oprah Winfrey & Ava ...	unknown	Oprah Winfrey, Ava DuVernay	unknown	January 26, 2017	2017	unkno
2359	s2360	TV Show	Gargantia on the Verdurous Planet	unknown	Kaito Ishikawa, Hisako Kanemoto, Ai Kayano, Ka...	Japan	December 1, 2016	2013	unkno
3660	s3661	TV Show	Little Lunch	unknown	Flynn Curry, Olivia Deeble, Madison Lu, Oisín ...	Australia	February 1, 2018	2015	unkno

	show_id	type	title	director	cast	country	date_added	release_year	rating
<b>3736</b>	s3737	Movie	Louis C.K. 2017	Louis C.K.	Louis C.K.	United States	April 4, 2017	2017	unknown
<b>3737</b>	s3738	Movie	Louis C.K.: Hilarious	Louis C.K.	Louis C.K.	United States	September 16, 2016	2010	unknown
<b>3738</b>	s3739	Movie	Louis C.K.: Live at the Comedy Store	Louis C.K.	Louis C.K.	United States	August 15, 2016	2015	unknown
<b>4323</b>	s4324	Movie	My Honor Was Loyalty	Alessandro Pepe	Leone Frisa, Paolo Vaccarino, Francesco Miglio...	Italy	March 1, 2017	2015	unknown

```
In [10]: df1.at[67, 'director'] = 'Ava DuVernay'
```

```
In [11]: df1.loc[df1['cast'] == 'unknown']
```

	show_id	type	title	director	cast	country	date_added	release_year	rating
<b>12</b>	s13	TV Show	1994	Diego Enrique Osorno	unknown	Mexico	May 17, 2019	2019	TV
<b>25</b>	s26	Movie	(T)ERROR	Lytic R. Cabral, David Felix Sutcliffe	unknown	United States	June 30, 2016	2015	
<b>26</b>	s27	TV Show	(Un)Well	unknown	unknown	United States	August 12, 2020	2020	TV
<b>30</b>	s31	Movie	#cats_the_mewvie	Michael Margolis	unknown	Canada	February 5, 2020	2020	TV
<b>35</b>	s36	Movie	#Rucker50	Robert McCullough Jr.	unknown	United States	December 1, 2016	2016	TV
...	...	...	...	...	...	...	...	...	...
<b>7679</b>	s7680	Movie	WWII: Report from the Aleutians	John Huston	unknown	United States	March 31, 2017	1943	TV
<b>7686</b>	s7687	Movie	XV: Beyond the Tryline	Pierre Deschamps	unknown	United Kingdom	March 18, 2020	2016	TV
<b>7766</b>	s7767	TV Show	Zig & Sharko	unknown	unknown	France	December 1, 2017	2016	TV

	show_id	type	title	director	cast	country	date_added	release_year	ra
<b>7777</b>	s7778	TV Show	Zombie Dumb	unknown	unknown	unknown	July 1, 2019	2018	7
<b>7786</b>	s7787	Movie	ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS	Sam Dunn	unknown	United Kingdom, Canada, United States	March 1, 2020	2019	T

718 rows × 12 columns

```
In [12]: df2=df1.loc[df1['director'] =='unknown']
df2
```

	show_id	type	title	director	cast	country	date_added	release_year	rating	du
<b>0</b>	s1	TV Show	3%	unknown	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	2020	TV-MA	S
<b>11</b>	s12	TV Show	1983	unknown	Robert Więckiewicz, Maciej Musiał, Michalina O...	Poland, United States	November 30, 2018	2018	TV-MA	1
<b>16</b>	s17	TV Show	Feb-09	unknown	Shahd El Yaseen, Shaila Sabt, Hala, Hanadi Al-...	unknown	March 20, 2019	2018	TV-14	1
<b>19</b>	s20	Movie	'89	unknown	Lee Dixon, Ian Wright, Paul Merson	United Kingdom	May 16, 2018	2017	TV-PG	
<b>24</b>	s25	TV Show	SAINT SEIYA: Knights of the Zodiac	unknown	Bryson Baugus, Emily Neves, Blake Shepard, Pat...	Japan	January 23, 2020	2020	TV-14	S
...	...	...	...	...	...	...	...	...	...	
<b>7775</b>	s7776	TV Show	Zoids Wild	unknown	Kensho Ono, Takahiro Sakurai, Mikako Komatsu, ...	Japan	August 14, 2020	2018	TV-Y7	1
<b>7777</b>	s7778	TV Show	Zombie Dumb	unknown	unknown	unknown	July 1, 2019	2018	TV-Y7	S
<b>7779</b>	s7780	TV Show	Zona Rosa	unknown	Manu NNa, Ana Julia Yeyé, Ray Contreras, Pablo...	Mexico	November 26, 2019	2019	TV-MA	1

	show_id	type	title	director	cast	country	date_added	release_year	rating	du
7784	s7785	Movie	Zulu Man in Japan	unknown	Nasty C	unknown	September 25, 2020	2019	TV-MA	
7785	s7786	TV Show	Zumbo's Just Desserts	unknown	Adriano Zumbo, Rachel Khoo	Australia	October 31, 2020	2019	TV-PG	1

2388 rows × 12 columns

In [ ]:

In [ ]:

In [ ]:

In [ ]: