

# UNIDAD 4 - PROYECTO: ANÁLISIS DE SENTIMIENTOS Y PREDICCIÓN.

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## PRESENTACIÓN.

El siguiente proyecto consiste en emplear el análisis de sentimientos para tratar de predecir las calificaciones de una serie.

El dataset es sobre las calificaciones que recibió la adaptación al "live-action" el anime "OnePiece".

El dataset contiene las reseñas que se recibieron en la plataforma de Netflix, el dataset contiene información como:

- Título.
- Reseña.
- Fecha.
- Calificación.

## ETAPA 1: ANÁLISIS EXPLORATORIO DE LOS DATOS.

Paso 1. Importe las librerías necesarias (pandas, numpy, seaborn, nltk, etc...)

Paso 2. Cargue y muestre información del dataset; muestre información estadística de las columnas numéricas.

Paso 3. Identifique los datos nulos: muestre las filas que contienen datos nulos (no se deben tratar aún).

Paso 4. Muestre la distribución de la columna "Rating", haga un análisis de la distribución.

Paso 5. Identifique si alguna de las columnas se puede convertir en categórica.

```
In [1]: # Paso 1: Importar las librerías necesarias
import pandas as pd
import numpy as np
import seaborn as sns
import nltk
from sklearn.model_selection import train_test_split
from sklearn.neighbors import KNeighborsClassifier
from sklearn.svm import SVC
from sklearn.ensemble import RandomForestClassifier
from sklearn.metrics import accuracy_score, mean_squared_error
from nltk.corpus import stopwords
from nltk.stem import WordNetLemmatizer
from nltk.tokenize import word_tokenize
from nltk.sentiment import SentimentIntensityAnalyzer

nltk.download('punkt')
nltk.download('stopwords')
nltk.download('wordnet')
nltk.download('vader_lexicon')
```

```
[nltk_data] Downloading package punkt to
[nltk_data] C:\Users\Coco\AppData\Roaming\nltk_data...
[nltk_data] Package punkt is already up-to-date!
[nltk_data] Downloading package stopwords to
[nltk_data] C:\Users\Coco\AppData\Roaming\nltk_data...
[nltk_data] Package stopwords is already up-to-date!
[nltk_data] Downloading package wordnet to
[nltk_data] C:\Users\Coco\AppData\Roaming\nltk_data...
[nltk_data] Package wordnet is already up-to-date!
[nltk_data] Downloading package vader_lexicon to
[nltk_data] C:\Users\Coco\AppData\Roaming\nltk_data...
[nltk_data] Package vader_lexicon is already up-to-date!
```

```
Out[1]: True
```

```
In [3]: # Cargar el dataset
```

```
df = pd.read_csv('reviews.csv')

# Muestra la cabecera del dataset
df.head()
```

```
Out[3]:
```

	Title	Review	Date	Rating
0	Never seen the anime and still enjoyed it	I have to admit that I've never watched any of...	4 September 2023	8.0
1	Not My Kind of Show. But This I Loved.	I'm a 60yo man & old school like the The Marin...	4 September 2023	9.0
2	I'm Shocked By How Good This Is...	Every live action anime that I've briefly seen...	1 September 2023	9.0
3	See Netflix?? You CAN do it...	This is bar none one of the best live-action a...	4 September 2023	10.0
4	WE WANT SEASON 2	Being a one piece fan myself, I was a bit inse...	31 August 2023	10.0

```
In [4]: # Muestra información estadística de las columnas numéricas
df.describe()
```

```
Out[4]:
```

	Rating
count	870.000000
mean	8.517241
std	2.268826
min	1.000000
25%	8.000000
50%	9.000000
75%	10.000000
max	10.000000

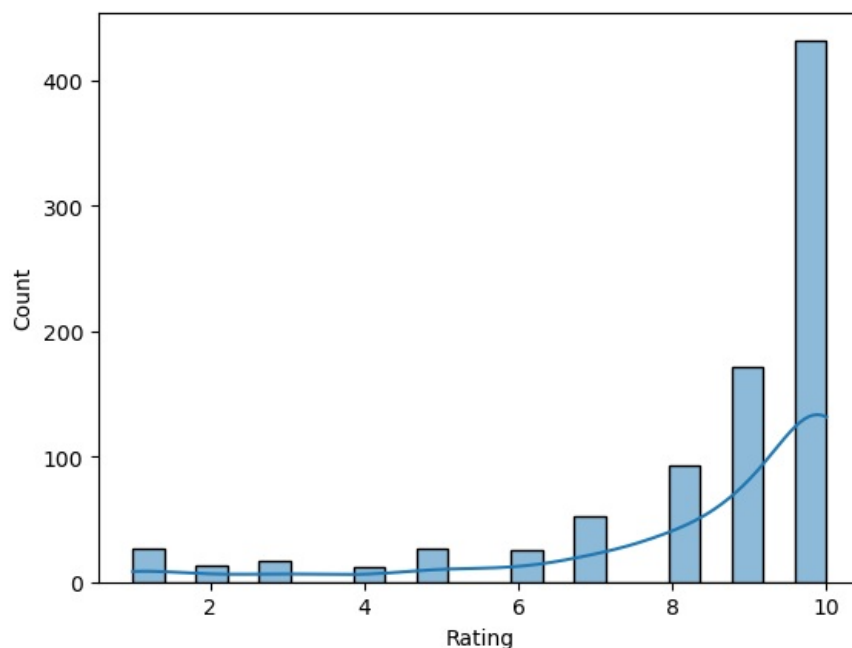
```
In [5]: # Muestra las filas que contienen datos nulos
df[df.isnull().any(axis=1)]
```

```
Out[5]:
```

	Title	Review	Date	Rating
143	I didn't expect much, but I absolutely love it.	I admit, when I write reviews it's usually whe...	25 September 2023	NaN
145	Thank you for heading this, Oda!	Fun fact: Eiichiro Oda, the creator of the man...	12 September 2023	NaN
447	DIFFERENT MEDIA MEANS DIFFERENT STORYTELLING A...	Just because there are many scenes in the mang...	1 September 2023	NaN
500	I'm not sure about rating yet!	I like the characters so far except Sanji's ha...	4 September 2023	NaN
520	Great adaptation!	One Piece somehow managed to pull it off: a le...	8 September 2023	NaN
540	My disappointment is immeasurable	As a life long fan of One Piece I don't know w...	31 August 2023	NaN
569	A must watch	If you browse there are series with more actio...	2 September 2023	NaN
782	Emily Rudd's hair as Nami	Everything went so right with casting and thei...	1 September 2023	NaN

```
In [6]: # Muestra la distribución de la columna "Rating"
sns.histplot(df['Rating'], kde=True)
```

```
Out[6]: <Axes: xlabel='Rating', ylabel='Count'>
```



La mayoría de las calificaciones están en el extremo superior del rango, con una calificación de 10 siendo la más común. Esto se

evidencia por el pico más alto en el histograma y la línea de densidad del kernel en el valor de 10. Las calificaciones más bajas (alrededor de 4) son mucho menos comunes, como lo demuestra la altura más baja de las barras del histograma en estos valores. La línea de densidad del kernel sugiere que la distribución de las calificaciones es sesgada hacia la izquierda, lo que indica que las calificaciones más altas son más frecuentes que las más bajas.

```
In [7]: # Obtén una lista de todas las columnas excepto 'Review'
columnas = [col for col in df.columns if col != 'Review']

# Recorre cada columna y muestra los valores únicos
for col in columnas:
    print(f"Valores únicos en la columna '{col}':")
    print(df[col].unique())
    print("\n")
```

```
Valores únicos en la columna 'Title':
['Never seen the anime and still enjoyed it'
'Not My Kind of Show. But This I Loved.'
'I'm Shocked By How Good This Is...' 'See Netflix?? You CAN do it...'
'WE WANT SEASON 2' 'Wow! Just Big Wow!!'
'Not an anime fan, but this a fun adventure!'
'Netflix can make something great' 'Refreshingly Fun'
'Best show of the year!!'
'I was hesitant to start, but then couldn't stop'
'The live action curse breaker' 'Already looking forward to next season'
'Campy, silly, and so much fun' "Guys It's Really Gooood ¯"
'Are you kidding me?'
'A fever dream One Piece but still very One Piece in its core'
'People need to stop comparing...'
'Being a pirate is the best thing!You have the wind in your back, the salty sea air, your loyal crew by your side.You never know what's in the horizon.Its all about being free!'
'What a surprise!!' 'Perfect'
'Glad I missed work to watch this 8 hour epic that breaks the mold'
'WE ARE ONE' 'One of the Most Creative & Original Shows EVER. A++++'
'A new genre is born' 'In disbelief' 'Good Adaptation'
'DEFINITELY RECOMMEND' 'What an absolute frenetic joy this show is'
'Magnificent Tv Series driven by awesome character 😊😊! !'
'Sets the standard for live-action adaptations of manga and anime by staying true to the spirit of its beloved source material'
'Netflix's One Piece: A Good Production That's Not My Style'
'Not bad not perfect' 'An amazing live adaptation for One Piece'
'a surprise' "I'm conflicted...." 'beautiful.' 'Almost'
'"The might of my Fishman Karate"' 'Highly Entertaining'
'"I\'m Monkey D. Luffy. And I will be King of the Pirates."'
'unexpectedly good' 'It feels like One Piece'
'Better than feared with still some room for improvement'
'Terrible consume design, so so acting'
'Best live action adaptation of anime finally curse broken'
'Live action adaptation done right!'
'From the Perspective of a LONG time One Piece fan'
'I have not been disappointed' "With a good script, you can't go wrong"
'Very good adaptation' "It's not perfect but it's not terrible either"
'An explosion of utter joy and fun!'
'It's good and visually pleasing but the story ..."
'Undeniably One Piece, but Poorly Told' 'Way better than I expected'
'Now I want to watch the Anime.' 'A different kind of pirate'
'The One Piece Is Real!'
'One of the best live action, but still a live action'
'For a live adaptation great work but it isn't for me"
'Impressive adaptation'
'Power rangers of the caribbean - A show made for kids'
'It's not an original anime, but..." 'Loved it'
'For an anime live action, it's above standards"
'One Giant Piece Of TRASH' 'LIVE ACTION JUSTICE!!!!!!!!'
'"Take the original and make it your own" done right!'
'I felt a little kid again after watching this show'
'Best Netflix Live Action' 'a dishonored anime , ridiculous at best'
'Not that bad but could have been better'
'only from a visual standpoint not as bad as i expected but still 5/10'
'It's a decent show, but very overrated in my opinion"
'I'm Shocked On How That Was Good!' 'What is this? And why do I like it?'
'A great adaptation of a beloved franchise'
'An oasis in the desert, a breath of fresh air'
'It was better than I expected!!' 'Surprisingly Good'
'Enjoyed by somebody who has never watched the anime'
'Keep it going we need a Season 2'
'Anime Live action curse broken !!? THIS IS AMAZING!!'
'Unbelievably Engaging'
'Most Fun I've Had On Netflix Since Stranger Things Season 1"
'Very bad adaption. I can't understand the good rating"
'A fantastic adaptation' '1 episode in'
'one piece live action is amazing'
'Romance Dawn almost PERFECT! Near accurate casting'
'An Authentic One Piece Experience'
'A revolutionary production and step towards Anime live action'
'I'm actually pleasantly surprised" 'Great Netflix series in a long time'
'As both and avid anime and live action movie fan, this might birth a new genre.'
'The Legend Begins?' "This is how it's done!"
```

'The Must-Watch Series of the Year: One Piece on Netflix Delivers an Unforgettable Cinematic Experience'  
 'How.is.it.this.good???' 'Sit back, relax, enjoy'  
 'How do I like this so much???'  
 'Never have I ever seen so many bot reviews of a program'  
 'Feelgood Fun and so much that's good' 'Absolutely fantastic!'  
 'First episode was ok' 'Masterpiece' 'It's much better than expected !!!'  
 'Miraculous Casting' 'Thank You Netflix !'  
 'Yes folks, it's good. They did it.' 'A MUST WATCH!'  
 'Weird,Wild and Wonderful...'  
 'Another wasted opportunity - yet the best live-action adaption so far.'  
 'Childish in a bad way, and so cringe'  
 'Oda's vision, Mackenyu's performance' 'Woah woah woah'  
 'Whats with the Stupid Negative Reviews?'  
 'Absolutely unbelievably Wonderful' 'Gum Gum nooo cringeeee'  
 'THIS DIDN'T DISAPPOINT AS A FAN' 'Netflix is good now? Again?'  
 'One Piece: A Perfect Adaptation' 'Didn't see that coming'  
 'Loving this!!!' 'Pleasant surprise!'  
 'Thank you Netflix and please stay the course.'  
 'The best anime adaptations that I have seen'  
 'Incredibly fun and well produced! (And finally breaks the anime curse!)'  
 'So good!'  
 'Disappointing..Stop Making Adaptations of such beautiful Manga and Anime.'  
 'Fantastic show'  
 'Watched this show on Netflix before the anime, and now I want to watch the anime!'  
 'One piece is the goat in everywhere'  
 'Great intro to One Piece for newcomers' 'Close to perfection' 'Amazing!'  
 'It has no business being this good' 'Not an anime fan'  
 'This show shouldn't have worked' 'Somehow, they adapted it perfectly'  
 'Love it'  
 'The ones who like this are full of die hard nostalgia, or have never seen one piece'  
 'I didn't expect much, but I absolutely love it.'  
 'Well acted clichés, and wonderful manga-styled crazyness'  
 'Thank you for heading this, Oda!' 'It is entertaining'  
 'A Heartfelt Martial-Artsy Ode To The Original - Season 1 Review'  
 'An Objective Review' 'I'm not a manga or anime fan, but I liked it...'  
 'Delightful Wholesome Fun' 'Almost; good start to begin though'  
 'What is the big deal?' 'Yo Row Heave Ho'  
 'I didn't love it but don't hate it... completely' 'Don't be fooled'  
 'A great Adaptation' 'I wish they had cast a French actor for Sanji'  
 'Why is this rated only 8.5'  
 'A One Piece Live Action Review - By a One Piece Animanga Enjoyer'  
 'I was really surprised. Good choice of actors, nice sets and a cool adaption of the anime. I hope for a second season'  
 'Really enjoyed it!' 'Cast'  
 'A legitimately good live-action adaptation with a lot of heart, respect to the source material, and surprisingly pleasant changes'  
 'I was wrong' '3rd times is the charm for Netflix' 'Really good and fun'  
 'Wellp. Guess I gotta read the manga now.' 'Most faithful.'  
 'Never saw anime but this is great' 'IM SO HAPPY ABOUT THIS'  
 'They nailed it' 'One Piece Translated Well'  
 'Successful adaption, enjoyable to watch but has some bad directing.'  
 'Real life Monkey D Luffy' 'We need to be honest.'  
 'I really really solid adaptation.' 'Strong Adaption'  
 'Incredibly entertaining!' 'Surprisingly Entertaining but...'  
 'I didn't expect that....'  
 'After 36 Years on Earth I think I'll never get to see a decent Anime Adaptation'  
 'The Curse is Broken' 'I admit I went in skeptical'  
 'An Attempt poorly Attempt this is no curse breaker'  
 'Up to this point, my preferred TV series following Game of Thrones and Vikings.'  
 'I enjoyed it'  
 'Pretty good casting, with a bit too great cost of compressing the story into live-action.'  
 'Wow the best live action ever and it did not disappoint!'  
 'A fantastic story about living out your dreams no matter what it takes!'  
 'I'm a huge fan, so take this with a grain of salt'  
 'First live action that was truly good' 'One Piece review'  
 'This ain't it' 'The Perfect Blend - A True One Piece Experience!'  
 'I Fell in love with One Piece once again'  
 'WOW! Finally a good anime adaptation!!'  
 'Looks good, feels good, is good 9.5/10' 'Finally it works!!!'  
 'THE ONE PIECE IS REAL!!!' 'Give chance to your dream : A wonderful show'  
 'My favorite of all time' 'I loved it!' 'Relive Your Childhood'  
 'Loved It!' 'First Live Action Adaptation I've Thoroughly Enjoyed'  
 'Important plot and scenes not included. Characters don't resemble the originals. The conversations are just lame and somewhat cringe.'  
 'Best thing since stranger things well done Netty!' 'PERFECT!'  
 'Very entertaining, with a stellar cast!!!!!!'  
 'BEST LIVE ACTION ANIME ADAPTATION SO FAR'  
 'SEASON 2 NEEDS TO BE PUT OUT!!!' 'THE BEST LIVE ACTION ADAPTATION!'  
 'Went in with the lowest expectations and I'm blown away'  
 'Beautiful adaption of an anime, I never felt comfortable with'  
 'As a long time fan of the series, this is amazing. (spoiler free)'  
 'Blown away' 'Best anime adaption so far' 'This was not what I expected'  
 'End of the live action curse.' 'I'm Furious!!' 'HOLLY MOLLY!!'  
 'An awesome first season' 'This is EPIC '  
 'mixed bag. some parts are extremely excellent, some not as much'  
 'Not great. I really wanted to like it.'  
 'The Best Live Adaptation I Have Seen' 'Set sail for on piece' 'Selena'  
 'Addictive!!' 'The did it!!' 'So fun!' 'LOVED IT'  
 'Hoist the sails & kiss the gunners daughter' 'Blow Away'

'It just gets better from here'  
 'Give this a shot!! The love for one piece is real'  
 'Netflix put in the work this time to bring One Piece to life and it shows.'  
 'New to One Piece' 'I couldn't stand the Anime' 'A Pirate Saga'  
 'A way for non-anime watchers' 'Perfect Casting, Superb Execution'  
 'Adventure starts now' 'In a World of Horrible Live Action Anime...'  
 'Now this is good stuff' 'Im so happy' 'A fun show' 'so far so good'  
 'Wow. I can't believe how enjoyable this is.' 'One piece live action'  
 'Awesome!!!!' 'HATERS WILL ALWAYS HATE' 'This Was So Good!' 'They did it'  
 'WE ARE....WAITING FOR SEASON 2!' 'One Piece is real!'  
 'Absolutely a treasure!' 'A Fantastic Unique Show' 'Kaisoku o ore WA'  
 'Best live action anime adaptation' 'First Live Action That's Amazing!'  
 'They got it right!!!!' 'Very entertaining. Good watch!'  
 'What felt natural in anime feels forced here' 'You can't stop watching'  
 'Unacceptable for something I pay' 'Absolutely nailed it!'  
 'Faithful to the first 45 episodes of the anime.'  
 'another Netflix Failure' 'Unexpectedly pleasant' 'Well...'  
 'The real Romance Dawn!' 'Good' 'What A Show!' 'Butchered...'  
 'The best anime adaptation to the real human world'  
 'Goofy and exciting adventure. Lots to love'  
 'A surprisingly well-done adaptation' 'Don't miss this legendary voyage.'  
 'Live action curse breaker'  
 'This is so far the best live adaptation of an anime' 'Fantastic!'  
 'Not the funny One Piece but a Serious one.'  
 'As a manga and anime adaptation, it is alright'  
 'A series with a lot of heart' 'AMAZING ADAPTATION OF THE ANIME!!'  
 'A pleasant surprise' 'The actors understood the assignment!'  
 'a spectacular adaptation' 'It's just not OP' 'Wow..' 'Best Show In 2023'  
 'Really good!' 'Very well executed. Worth watching.'  
 'Exceeded expectations!' 'The best Manga/anime adaptation of all time'  
 'Cringe Overload' 'Meh!' 'Cringe overload' 'Surprisingly decent'  
 'I'm mixed on this....'  
 'New interesting twist to the one piece story. (Spoiler Alert)'  
 'The first successful adaptation of an anime?'  
 'Wow love the show but ugh the Luffy actor '  
 'Haven't seen the anime yet this was fun"  
 'Finally a great manga adaptation' 'Masterpiece!!' 'They nailed it!!'  
 'amazing show, can be even better'  
 'Way better than it had a right to be, especially from Netflix'  
 'How I started watching One piece from 2012'  
 'It's name is One Piece and it's gonna be Number One"  
 'Insane adaptation, loved it!'  
 'Thank you to the creators who did it right' 'It lacks behind'  
 'This. Is. Amazing.' 'As a Manga/Anime Fan....'  
 'First Time Watching Anything Relating to One Piece.' 'Having fun'  
 'Great anime adaption' 'Masterpiece + creativity'  
 'Messed up a bit but better than any other live action out there'  
 'Best anime live action definitely must watch for everyone'  
 'What is that?' 'A great anime adaption!'  
 'Disappointment in the way of story telling and changes in the live action'  
 'I got a huge craving to watch the anime (again)after this amazing show'  
 'Ok but flawed' 'Very poor' 'My one piece review'  
 'Far exceeded my expectations' 'How is this 8.5?'  
 'Exceeded all my expectations' 'Not as expected' 'Fresh and exciting'  
 'A Legendary Journey Continues: One Piece Season 1 (2023)'  
 'Perfect live action' 'Don't try to compare it to the anime version'  
 'Best in the world' 'Story line'  
 'Fantastic introduction into Live action one piece'  
 'Didn't sit well with me' 'THIS IS AN ANIME ADAPTATION DONE WELL'  
 'The best Live action of the Century '  
 'Netflix live anime normally suck.. BUT' 'PLEASE GIVE US SEASON 2'  
 'Easily one of the best live action adaptations of an anime/manga'  
 'Nice sailing' 'Honestly I was expecting it to be a dumpster fire but...'  
 'Ad adaptation that made me really happy'  
 'It's just a beginning of a new era of young pirates"  
 'Great story, smooth flow, interesting characters!' 'Just great'  
 'Set Sail for Adventure: 'One Piece' (2023) Delivers Yet Again"  
 'Most actors did great, director could done much better'  
 'Not worth 10 but what a great adaptation !'  
 'ONE PIECE LIVE ADAPTATION IS A SUCCESS' 'Just go and watch the anime.'  
 'Better than expected' 'Unexpected Surprises'  
 'One piece / Eichiro Oda did it again' 'Great series!!!!'  
 'I was skeptical but they nailed it.'  
 'I rank shows by ok,good,great /More seasons please'  
 'Excellent. Can't wait for season 2"  
 'They nearly Achieved the Impossible: Turning Fan Expectations into Reality'  
 'Fresh Uplifting story that will inspire you'  
 'Never gave the anime a try, but thank God I gave this one a try!!'  
 'Surprisingly good' 'Flawed but still well-done'  
 'Makes a fan of 15 years happy' 'Actual perfection' 'GOAT' 'Nice adapt?'  
 'See, you can deliver awesome stuff Netflix!'  
 'perfect, so entertaining..Netflix give me more seasons' 'Awestruck'  
 'Captured a right balance' 'Never heard for One piece'  
 'Everything about this is soo nostalgia'  
 'I can't believe how good this is' 'I did not like it'  
 'A worthy live action transposition of a manga'  
 'Buggy the clown is better in every way!'  
 'Basically the Movie adaptation of a Big Novel, but in a good way.'  
 'Live Action Curse Broken with this 10/10'

"The One Piece, IS REAL, We Just, Haven't Found It Yet"  
 "It's the best anime adaptation ever...yet it can be improved."  
 'Absolutely amazing. It pays attention to getting the spirit of the characters right, and getting a good story  
 . Its written by people who love the story and the fans for once!'  
 'Wish I could erase my One Piece memories for this live action'  
 "Can say that this is the best live-action adaption I've seen. Not 100%, but decent"  
 'The Best Live action Ever made' 'A disappointing adaptation'  
 'Never read the Manga or watched the animated...' 'GOOD JOB NETFLIX!!'  
 "Wow, I'm shocked." "It's a Pirate's Life for Me!" 'Definitely 10/10 !!'  
 'Absolute masterpiece' 'Everything I wished for... and more' 'Amazing'  
 'The show missed the essence of what is actually One Piece'  
 'WAY better than expected' 'Heartfelt adventure' 'A good try!'  
 'Loved it!' "A Fun Show, Can't Wait for Netflix to Cancel It"  
 "It weren't unfounded hopes" 'Not bad not good' 'They finally did it!!'  
 "Fatihful adaptation of Oda's beloved story"  
 'Surprisingly this very well adapted & true to story'  
 'Much more than expected.' 'Wow'  
 'The best anime to live adaptation to be seen so far'  
 'Treated with respect, but missed essential details, still fun'  
 'Surprisingly Decent for a Live Action Manga Adaption'  
 'This is NOT One Piece' 'SEASON 2 ELIGABLE'  
 "A Sincere and Skilfully Crafted Adaptation of 'One Piece"  
 "Best Netflix series I've watched so far this year"  
 'Fan of 23 years and still enjoyed it!'  
 'Love it bring back great memories' "THE BEST SHOW I'VE EVER SEEN"  
 'A Pleasant Surprise!'  
 '"Never Watched Anime Before, But This Series Got Me Thinking"  
 'Pretty good. Best anime live action made so far.'  
 'Monumental achievement' 'One piece never disappoints me'  
 'GREAT! But Could Be better'  
 "I don't watch anime, but I will probably watch this all the time."  
 'It got interesting with each episodes'  
 'When Author is passionate enough.'  
 'Thought it was impossible Dragon Ball Evolution, but they did it.'  
 'Love this show.' 'Above my expectations !!!'  
 'Must Watch for non Anime Watchers'  
 'A big One Piece fan for more than 20 years' 'ONE PIECE LIVE ACTION'  
 'Amazing live-action take on the anime!'  
 'Short Review from a Die hard fan of One Piece.'  
 "A Heartfelt Voyage: 'Nostalgia and New Nuance'" 'EMBARRASSING'  
 'Almost as good as the anime' 'A good start' 'WOW'  
 'DIFFERENT MEDIA MEANS DIFFERENT STORYTELLING APPROACHES.'  
 'Pros and cons of op live action' 'A Good Live Action Adaptation.'  
 'I was worried watching trailer but its amazing' 'Awesome adaptation.'  
 'It broke all haters of One piece' 'Best TV Show in 2023 and One Piece'  
 "Don't fulfill expectations for anime viewers."  
 'Oh my gosh I wish there were more episodes.' 'MY FIRST ANIME SERIES'  
 'Wow a great adaptation, cgi, storyline, feels but decent acting'  
 'The story drags and is nothing special' 'It was worth the wait!'  
 'First good live action!!! Even for non anime fans!!!'  
 'Brilliantly beautiful'  
 'Captivating New Live-Action One Piece Series Delivers Thrills and Surprises'  
 'Surprisingly good!'  
 'As someone who watched the original series for 1070 episodes,'  
 "Don't even like One Piece but this was pretty fine"  
 'Meet my expectations' 'I cannot believe how good this is'  
 "It deserves all the praise, whether you're a One Piece fan or not!"  
 'Well shot live action free for all.'  
 'A TV show for adults that never grew up.' 'Pure Joy & Nostalgia'  
 'I loved it.' "Overall really good but it's rushing through the story"  
 "i don't understand" 'READ MANGA' 'Worst and best alternative'  
 'Loved almost all of it ,but the two things I hated drove me nuts!'  
 'A fun adventure' 'The best live action manga adaptation'  
 'I was hoping for something perfect....' 'I binged this' 'Good but Corny'  
 'one garbage not one piece' 'Its great'  
 'Not best one piece adaption but this is one of the best series of Netflix'  
 'This feels like a Love Letter'  
 "This was the best anime live adaptation I've watch"  
 "I've never seen a single One Piece episode . . ." 'AMAZING'  
 'What an incredible show' 'may be a 10 in future'  
 "There's so much to enjoy" 'Just no'  
 'Save your time, watch paint dry instead.' 'Amazing.'  
 'As a long time fan, loved it!' 'The first good Anime adaptation!'  
 'One missing piece of the live action puzzle'  
 'One piece live action is.....' "I'm not sure about rating yet!"  
 'THE BEST anime adaptation so far' 'On a second thought.. I vote 10'  
 'Not Nearly As Good As the Original, Story and Script Wise'  
 'Cereo read this' 'Fire.'  
 'Visually Stunning, A Big Visual Treat, An Excellent Adaptation of Anime world'  
 'One Piece Live Action is a Remarkable Adaptation that Surpasses Expectations'  
 'Absolutely amazing' 'Live-Action Pirate Adventure That Sets Sail'  
 'One Piece is FINALLY good' "This is a Hit! Let's go Season 2!"  
 'I am really surprised! ☺' 'Pleasantly Surprised' 'Close to the original'  
 'It does not capture the 1,000+ Anime version'  
 "Where's the One Piece we know and love" "I'll stick with the anime"  
 'The greatest anime adaptation of all time.' 'Better than expected.'  
 'Great adaptation!' 'Great adaption, not sure it could be better really'  
 'Very very good' "It's a great live action" 'Worth every second!'  
 'Astonishing'

'It has been long time since I've watched a show this good.'  
 'Loving it so far' 'Definitely the Best of its Genre.'  
 'LACK OF COMEDY MOMENTS'  
 'SUPERB, Best Anime Live Action Adapt Hands Down!'  
 'this is not one piece' 'Wow, love it!'  
 'One piece broke the live action curse'  
 'The script appears to have been written by someone who may not be familiar with One Piece'  
 'Incredible achievement, great TV' 'Netflix did a netflix again'  
 'More please!' 'Wonderful world of One Piece'  
 'Girls Can Beat Boys But No Woman Can Beat A Man ''  
 'My disappointment is immeasurable' 'This One was a Master Piece!'  
 'This is everything I hoped for' 'I like it'  
 'One of the best Live-Action adaption out here!'  
 'Tears in my eyes peace in my heart' 'A great way to show OP'  
 'Enjoyable but' 'An adaptation worthy of the legacy'  
 'Got my wife intoo anime thanks' 'Fantastic' 'Perfection'  
 'The perfect show' 'A well produced live action adaptation' 'GORGEOUS'  
 'ONE WORD #AWESOME' "Good, but there are some changes I don't understand"  
 'The best live-action anime adaptation to date.'  
 'Grrat, and worth watching but ...'  
 'Loved watching the old storyline in a different way' 'Good show'  
 'Bad casting, worse everything but a nice story'  
 'Everything I hoped for and more.' 'What we needed!'  
 'Huge One Piece fan but im caught up' 'Incredible'  
 'A bet that need not be hedged'  
 'The First Perfected Live Action Adaptation'  
 'Faithful adaptation of the beloved manga and anime series.'  
 'A must watch' "Very excited for what's to come!!!"  
 'First thing first It is not ONE PIECE its disappointment for me felt very bad'  
 'ITS 10/10 BEST!'  
 'One Piece Live Action.A Swashbuckling Success That Does the Manga Proud'  
 "Don't sleep on it!"  
 "Almost better than the original and that's saying something."  
 'Everything is just bad' 'Never saw the original. Sooo....'  
 'disappointing' 'Best live action adapt of anime' 'S1 EP 1-4'  
 'Decent fantasy action-comedy stands on its own'  
 'Best live action adaptation of an anime ever' 'Where to begin'  
 'One Piece Is Masterpiece.'  
 'This was damn enjoyable as a massive fan of One piece' 'YES!!!!'  
 'NO ONE MEANS NO ONE' 'I know it should be a nine but hear me out'  
 'Actors are an example of perfect casting'  
 'Good Adaptation that Can Make Itself Better'  
 'A True Blue Anime Adaptation' 'Best of the best'  
 "Terrible! I don't understand all these positive comments and the hype"  
 'What an amazing show!!!'  
 'A good watch for long time fans, but an ultimately unsatisfying and unsustainable telling of the story.'  
 'Pretty good for a live action' 'Everything I could have wanted'  
 'They Actually Pulled It Off'  
 "Watched the anime and I'm obsessed with the live action" 'Excellent!'  
 'Not the Cartoon, but not bad...'  
 'Not for me, but definitely give it a chance! (If you like any part of the show, check out the anime!)'  
 'IT WAS PEAK' 'Above average'  
 'The Live Action Anime that breaks the Curse!!!' 'Color me surprised.'  
 'We want Season 2'  
 'My favourite fantasy world brought to life blowing my expectations away'  
 'Wow!' 'Butchering a masterpiece' 'absolutely love it'  
 'The "Drums of liberation" from curse of failed live actions??!'  
 'I got what I expected' 'Amazing Job!'  
 'A new excitement of great adventure' 'Worth the watch'  
 'Silly and childish'  
 "Netflix's One Piece Live-Action: Navigating the Grand Line of Adaptations - A 7.5/10 review."  
 'It should not be adapted for TV.'  
 'Kudos to the entire team behind this adaptation'  
 "You have to watch this show as it's own thing."  
 'The best Live Action Adaptation of Anime'  
 'The show is great and well made. Few casting choices are terrible.'  
 'BIG One Piece fan - way better than I expected'  
 "It's like watching a One Piece love letter retold by fans."  
 'Must watch.' 'best fantasy adventure superb' 'Worth a try!'  
 'One Piece?' 'This show was so good!!!' 'My thoughts'  
 'An adaptation that shows respect towards the original material while still being its own thing'  
 'Surprising good!!! Have been an one piece fan for 20 years!!!'  
 'No Doubt One In A Billion...One Piece' 'One Piece Live Action'  
 'This is amazing' 'Blown away!' 'Damn good in its own way'  
 'NEEDS A SEASON 2' 'LOVE IT'  
 'It is a fantastic watch for Fans and Non-fans alike!'  
 'The best live action anime rendition ever made.'  
 'The Mandalorian of Anime Live Action Anime' '...' 'Worth your time!'  
 "Look like One Piece but it's not One Piece." 'ok so far'  
 "My goshhhh! I'm crying! The Masterpiece!!!"  
 'Anime live actions can be good' 'Just Perfect Creation' 'Thank you!'  
 'Thank you One Piece' 'Awesome Adaptation' 'Uninvolving'  
 'BEST LIVE ACTION EVER' 'WOW SO GOOD!!!!'  
 "Best anime adaptation but can't quite reach the original"  
 'Perfect balance between new and old' 'NO ONE MESSES WITH MY FRIENDS!!!!'  
 'Unexpected satisfaction'  
 'My personal opinion of the beautiful series One Piece'  
 'Never laugh this hard over a year.it cure my depression just like anime<3thank you oda, one piece staff and actors.'

'Must watch Adventure!' 'I watched One Piece in my early days'  
 'Masterpiece manga' 'LOVE EVERY SECOND!' '100% SUCCESS LA seen so far.'  
 'Has its flaws, but still a lot of fun!'  
 'Mixed Bag...A waste of opportunity mostly.'  
 'All we need is next Session,'  
 "It's really beautiful and I suggest you see it"  
 'Excellent - please more!!!'  
 "I've had an incredible experience with the One Piece Live Action adaptation."  
 'Absolutely perfect! So happy see the straw hats in real life'  
 'PEAK FICTION' 'It is as real as it could be.' 'Very good!'  
 'Breaking the Anime Adaptation Curse' 'Overall, Major Success!'  
 "It's fine...." 'Onepiece all time best' 'The series had EIGHT episodes!'  
 'Really fantastic' 'Excellent adaptation'  
 'Breathtaking and soon to be most watched live action adaption world wide'  
 'Finally people who never gave animes a chance will get what they were missing'  
 'This is better then what I expected' 'Writing sucks' 'Great New Content'  
 'Beat My Overall Expectations of the show'  
 "This is not one piece You yet fail again at something u can't even fail at"  
 'Great to watch film' 'Faithful, but different' 'Help to the top rating'  
 'Awesome' 'Finally!!!!' 'An open door.' 'Sadly I rejected the anime'  
 'The curse is broken' 'Great Adaptation For Everybody'  
 'A very honest review and a very one-sided beef with Quina'  
 'A Fair Attempt with Flat Emotions and Missing Charm'  
 'Speechless! We need a Season 2.'  
 'A show for everyone! Rooting for a second season' 'Yyy'  
 'A must watch for all ages' 'Great adaptation from the anime!'  
 'Long Time Fan - 10 Stars!' 'Costume, Hair and Make-Up could be better'  
 'Gomu Gomu nooooo....Sucks!' 'Bad acting !!' 'One piece brought to life'  
 'THIS IS A PURE MASTERPIECE' 'AWESOME, SUGOIII!!!!'  
 'Strawhat Pirate Crew!'  
 'A big step forward for live action anime adaptations, but as a huge fan left me wanting.'  
 'A Masterpiece in Adaptation!' 'Highly recommend very well done '  
 'Its not trying to appease to the anime heads.... And thats good'  
 'compared to the animated version' 'They did justice with the manga'  
 'Nothing like anime'  
 "They did their best... but unfortunately it can't compete with the anime"  
 "Netflix's LIVE ACTION One Piece BREAKS The Cycle"  
 'The live adaptation is so good' 'The beat adaptation to date.' 'Best'  
 'PEAK LIVE ACTION' 'One Piece Review - Niaz'  
 'This is over my expectation.' 'Made me a dreamer again!!'  
 'A slightly better than usual, but still disappointing live-action adaptation'  
 'It could have been worse'  
 'I just dont understand how anyone can think this is good.'  
 'One Piece is the hardest anime to adapt into live action but IT BREAKS THE L.A. CURSE!'  
 'Diving into Nostalgia: A Profound Critique of an Adaptation' 'Minkavio'  
 'Just as it should be' 'Disappointing'  
 'Perspective of someone who has seen the anime and read the manga'  
 'Welcome to the grand line!' 'I am surprised on how good they made it'  
 'The first Review I Write'  
 "ESPECIALLY FOR A LIVE ACTION Wasn't expecting it to be this good!!!"  
 'a very good show' 'A good adaption but got many flaws'  
 'THE BEST ANIME LIVE ACTION EVER!!!' 'Bad Writing, Clunky Actions'  
 'Succes at last' 'One of the doubter' 'wow'  
 'Must watch series I never watch any adaptation like this before'  
 'Very good adaptation!' 'Respectful try, but lacks emotion'  
 'First successful live action adaptation'  
 '10/10 Everything You Could Ask For'  
 'How I went from sceptical to big fan of the series'  
 'The best manga adaptation' 'Its amazing and needs more episodes'  
 'Fun adventure' 'Charmed and humbeled' 'Horrible adaptation' 'Magical!'  
 'I need more episodes!'  
 'Great Adaptation of animanga and also a great standalone TV show'  
 'Season two please' 'Basic' 'THE GOAT ODA DID NOT DISSAPOINT'  
 'Spectacular' 'in awe' "Didn't expect it to be this good"  
 'A new medium for Oda to play around with in his amazing world of One Piece!'  
 'For beginners' 'very good adaptation'  
 'Best thing netflix produced since stranger things!'  
 'Best tv series ever!! Good Job Netflix One Piece'  
 'AS AN ANIME FAN, THIS IS ON FIRE !' 'Great show but it has its flaws'  
 'Great Adaptation' 'I hope' 'It was awesome.' "Emily Rudd's hair as Nami"  
 "it's a worthy adaptation of a beloved manga series" "J'adore .. Merci"  
 "Delightful and fun from a non-fan's perspective"  
 "Good but not up to mark ,still happy ,it's worth watching" 'Goosebumps'  
 'Cant Wait for season 2' 'Hoping for S2' 'It was for good overall'  
 'Very entertaining' 'Amazing adaptation' 'AMAAZZZING'  
 'Fun, we laughed, and beautiful photography'  
 "It's not exact but didn't have to be" 'Best anime to live adaption'  
 'For Those Unfamiliar with the Manga or Anime: A Cautionary Note on Watching the Live Action'  
 'Best live action made of anime' 'So much better' 'Great adaptation!!'  
 'You will be happy if your a one piece fan' 'A SORRY ATTEMPT!'  
 'NOT ONE PIECE BUT A MASTER-PIECE' 'Fun time for new and old fans'  
 "A 'Shattered' One Piece Adaptation"  
 'Not bad, but not the one piece we know' 'Its not bad'  
 'Nailed the expectation' 'Every Anime Fan should watch this!'  
 'My Thoughts on One Piece Netflix adaptation' 'Great show!'  
 'Best series.' 'Terrible'  
 'An attempt to make a live adaptation of the greatest story ever told'  
 'SO WORTH THE HYPE!!!'  
 'You can definitely tell Oda is executive producer.'



'Honest review from a die-hard One Piece fan, since last 12+ years.'

'Best show ever!' 'Officially my favorite show on Netflix'

'Best live action ever made from a mediocre anime'

'I know they tried... But Damn...' 'Meh but fun to watch.'

'It was the best anime adaptation of all time. The best of the worst.'

'Great, but Luffy 'Inaki' could be better' 'Why do people like this?'

'Want season 2 of one piece live action' 'The One Piece is Real'

'Not what was I expected' 'Great Job!' 'Amazing sets and locations'

'Everything is good except netflix changed some major things which can't be taken by me'

'The best anime live action series ever' 'astonishing' 'Well done'

'Series should have to continue'

'Exceeds my expectations as a manga/anime follower'

'Can not believe it. What a journey.' 'From Fans to the Fans'

'Best show of the year? NOPE!'

"Never followed this Animanga before, after watching this live action series I'm ready to become the new nakama."

'As a long time One Piece reader I just LOVE this show' 'One piece!!!!'

'Revived the love inside' "Don't watch this is you love the anime"

'SEASON 2 PLEASE' "Can't wait for season 2"

"This good is very good And that's okay." "YOU WON'T REGRET IT"

"Don't compare 2d with 3d"

'I am anime fan I watch also one piece anime all episode but this adaptation live action not perfect but good adaptation I love it ♥ awesome adaptation'

'Brilliant' 'Inaki as Luffy, I had my doubts' 'Best anime adaptation'

'Speechless.' 'Great work for beginning!' 'Just amazing'

"Can't wait to see season 2" 'BEST live action ever!!!'

'It has Heart & Soul of One Piece'

'Respectful, enchanting, plenty of room to grow' 'THE ONE PIECE IS REAL'

'Actually entertaining' 'Breaking the curse?'

'Entertaining & fun! Story is a bit different from the manga tho'

'The story is good, but only main character, others is bad casting'

'Really well done' 'Awesome show!!' 'SO MUCH FUN!!'

'Great anime adaptation' 'ANIME & MANGA'S FIRST LIVE ACTION SUCCESS'

'Amazing journey through Arlong park ark' 'Very good'

'Most faithful and high quality adaptation since Lord of the Rings'

'Me and my son loving it! The best entertaining and exciting show of the year!'

'A very good adaptation to the famous anime' 'This wonderful thing...'

'Best adaptation so far']

Valores únicos en la columna 'Date':

```
[ '4 September 2023' '1 September 2023' '31 August 2023'
  '11 September 2023' '16 September 2023' '6 September 2023'
  '2 September 2023' '1 October 2023' '5 September 2023' '7 September 2023'
  '10 September 2023' '9 September 2023' '14 September 2023'
  '24 September 2023' '3 October 2023' '5 October 2023' '22 September 2023'
  '26 September 2023' '3 September 2023' '29 September 2023'
  '17 September 2023' '18 September 2023' '12 September 2023'
  '27 September 2023' '15 September 2023' '8 September 2023'
  '20 September 2023' '21 September 2023' '25 September 2023'
  '13 September 2023' '23 September 2023' '4 October 2023'
  '30 September 2023' '19 September 2023' '8 October 2023'
  '28 September 2023' '2 October 2023' '9 October 2023' '7 October 2023'
  '6 October 2023']
```

Valores únicos en la columna 'Rating':

```
[ 8. 9. 10. 7. 6. 5. 2. 1. 4. 3. nan]
```

No se va a categorizar nada

## ETAPA 2: ANÁLISIS DE SENTIMIENTOS.

Paso 1. Muestre las primeras 10 filas del dataset con las columnas "Rating" y "Review", haga un análisis rápido de esa información.

Paso 2. Haga una función que se encargue del pre-procesamiento:

- Genere los tokens.
- Filtre las palabras de parada.
- Obtenga el lema de las palabras y guárdelo en una lista.
- Retorne la lista en forma de una cadena, para ello debe unir los elementos de la lista mediante un espacio.

Paso 3. Aplique la función creada para obtener el lema de las columnas "Review" y "Title", guárde el resultado en nuevas columnas dentro del dataframe original (por ejemplo: "ReviewText", "TitleText").

Paso 4. Haga una función para obtener el sentimiento de las palabras, para ello puede utilizar el `SentimentIntensityAnalyzer()` y su función `"polarity_scores()"`. Al final debe retornar el puntaje de sentimiento.

Paso 5. Aplique la función creada para obtener el sentimiento en las columnas creadas en el paso 3, guarde el resultado en un par de columnas nuevas (por ejemplo: `"ReviewSentiment"`, `"TitleSentiment"`).

Paso 6. Prepare un dataframe con las columnas originales + las columnas creadas previamente, tendrían que haber 8 columnas, 3 de ellas deben ser numéricas (incluyendo `"Rating"`).

```
In [8]: # Paso 1: Muestra las primeras 10 filas del dataset con las columnas "Rating" y "Review"
df[['Rating', 'Review']].head(10)
```

```
Out[8]:
```

	Rating	Review
0	8.0	I have to admit that I've never watched any of...
1	9.0	I'm a 60yo man & old school like the The Marin...
2	9.0	Every live action anime that I've briefly seen...
3	10.0	This is bar none one of the best live-action a...
4	10.0	Being a one piece fan myself, I was a bit inse...
5	10.0	GREAT ADAPTATION! As an old-school fan (since ...
6	9.0	My kids play and watch One Piece anime and lov...
7	10.0	I was so surprised that Netflix made something...
8	8.0	Parenthetically I don't know anything about th...
9	10.0	Initially I was apprehensive because of anime ...

```
In [9]: # Paso 2: Función de preprocesamiento
def preprocess(text):
    # Genera los tokens
    tokens = word_tokenize(text)

    # Filtre las palabras de parada
    stop_words = set(stopwords.words('english'))
    filtered_tokens = [token for token in tokens if token not in stop_words]

    # Obtenga el lema de las palabras y guárdelo en una lista
    lemmatizer = WordNetLemmatizer()
    lemmas = [lemmatizer.lemmatize(token) for token in filtered_tokens]

    # Retorne la lista en forma de una cadena
    return ' '.join(lemmas)
```

```
In [10]: # Paso 3: Aplica la función de preprocesamiento a las columnas "Review" y "Title"
df['ReviewText'] = df['Review'].apply(preprocess)
df['TitleText'] = df['Title'].apply(preprocess)
df[['ReviewText', 'TitleText']].head(10)
```

```
Out[10]:
```

	ReviewText	TitleText
0	I admit I 've never watched animated show One ...	Never seen anime still enjoyed
1	I 'm 60yo man & old school like The Marine Adm...	Not My Kind Show . But This I Loved .
2	Every live action anime I 've briefly seen not...	I 'm Shocked By How Good This Is ...
3	This bar none one best live-action adaption an...	See Netflix ? ? You CAN ...
4	Being one piece fan , I bit insecured starting...	WE WANT SEASON 2
5	GREAT ADAPTATION ! As old-school fan ( since 2...	Wow ! Just Big Wow ! !
6	My kid play watch One Piece anime love ! I n't...	Not anime fan , fun adventure !
7	I surprised Netflix made something incredible ...	Netflix make something great
8	Parenthetically I n't know anything source mat...	Refreshingly Fun
9	Initially I apprehensive anime adaptation prod...	Best show year ! !

```
In [11]: # Paso 4: Función para obtener el sentimiento de las palabras

def get_sentiment(text):
    sia = SentimentIntensityAnalyzer()
    sentiment = sia.polarity_scores(text)

    # Aplica una función de umbral a los puntajes de sentimiento
    return 1 if sentiment['compound'] > 0 else 0
```

```
In [12]: # Paso 5: Aplica la función de sentimiento a las columnas "ReviewText" y "TitleText"
df['ReviewSentiment'] = df['ReviewText'].apply(get_sentiment)
df['TitleSentiment'] = df['TitleText'].apply(get_sentiment)

In [13]: # Paso 6: Prepara un dataframe con las columnas originales + las columnas creadas previamente
final_df = df[['Title', 'Review', 'Rating', 'ReviewText', 'TitleText', 'ReviewSentiment', 'TitleSentiment', 'Date']]
final_df.head()
```

```
Out[13]:
```

	Title	Review	Rating	ReviewText	TitleText	ReviewSentiment	TitleSentiment	Date
0	Never seen the anime and still enjoyed it	I have to admit that I've never watched any of...	8.0	I admit I 've never watched animated show One ...	Never seen anime still enjoyed	1	1	September 2023
1	Not My Kind of Show. But This I Loved.	I'm a 60yo man & old school like the The Marin...	9.0	I 'm 60yo man & old school like The Marine Adm...	Not My Kind Show . But This I Loved .	1	1	September 2023
2	I'm Shocked By How Good This Is...	Every live action anime that I've briefly seen...	9.0	Every live action anime I 've briefly seen not...	I 'm Shocked By How Good This Is ...	1	1	September 2023
3	See Netflix?? You CAN do it...	This is bar none one of the best live-action a...	10.0	This bar none one best live-action adaption an...	See Netflix ? ? You CAN ...	1	0	September 2023
4	WE WANT SEASON 2	Being a one piece fan myself, I was a bit inse...	10.0	Being one piece fan , I bit insecure starting...	WE WANT SEASON 2	1	1	31 August 2023

## ETAPA 3: MACHINE LEARNING.

Paso 1. Asigne a la variable X las columnas numéricas menos "Rating"; asigne a la variable Y la columna "Rating", seleccione únicamente las filas sin datos nulos (no elimine ni trate las filas con datos nulos, esas se usarán para predecir)

Paso 2. Divida en una muestra de entrenamiento y en una muestra de pruebas, estratifique en base a la proporción de la variable objetivo. El tamaño de la muestra para entrenamiento debe ser del 85%. Asigne una semilla para poder reproducir los resultados.

Paso 3. Entrene los siguientes modelos:

- KNN para clasificación
- SVM para clasificación
- RandomForest para clasificación

Paso 4. Evalúe el rendimiento de los modelos (puede usar accuracy) creados en el paso previo, muestre las predicciones realizadas y compare con las etiquetas reales.

Paso 5. Debido a que este es un problema de clasificación, pero hay varias clases que son originalmente numéricas, se puede aplicar también una métrica de evaluación para regresión. Aplique el RMSE a las predicciones y las etiquetas reales, analice el resultado.

Paso 6. Utilice el modelo que se comportó mejor para predecir el "Rating" de las filas que tienen ese dato nulo, revise manualmente si la calificación predicha es consistente con el comentario en la reseña.

Paso 7. Escriba sus conclusiones al respecto.

```
In [14]: # Paso 1: Asigna a la variable X las columnas numéricas menos "Rating"; asigna a la variable y la columna "Rating"
df_no_nulls = final_df.dropna()
X = df_no_nulls[['ReviewSentiment', 'TitleSentiment']]
y = df_no_nulls['Rating']
```

```
In [15]: # Paso 2: Divide en una muestra de entrenamiento y en una muestra de pruebas
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.15, stratify=y, random_state=42)
```

```
In [16]: # Paso 3: Entrena los modelos
knn = KNeighborsClassifier()
knn.fit(X_train, y_train)

svm = SVC()
svm.fit(X_train, y_train)

rf = RandomForestClassifier()
rf.fit(X_train, y_train)
```

Out[16]: ▼ RandomForestClassifier

RandomForestClassifier()

```
In [17]: # Para el modelo KNN
y_pred_knn = knn.predict(X_test)
print("Predicciones realizadas por KNN:")
print(y_pred_knn[:10])
print("Etiquetas reales:")
print(y_test[:10])

# Para el modelo SVM
y_pred_svm = svm.predict(X_test)
print("Predicciones realizadas por SVM:")
print(y_pred_svm[:10])
print("Etiquetas reales:")
print(y_test[:10])

# Para el modelo RandomForest
y_pred_rf = rf.predict(X_test)
print("Predicciones realizadas por RandomForest:")
print(y_pred_rf[:10])
print("Etiquetas reales:")
print(y_test[:10])
```

Predicciones realizadas por KNN:  
[10. 10. 10. 10. 10. 1. 10. 10. 10. 10.]

Etiquetas reales:

444	7.0
762	2.0
725	10.0
815	10.0
738	10.0
474	4.0
871	9.0
526	10.0
590	9.0
250	10.0

Name: Rating, dtype: float64

Predicciones realizadas por SVM:  
[10. 10. 10. 10. 10. 1. 10. 10. 10. 10.]

Etiquetas reales:

444	7.0
762	2.0
725	10.0
815	10.0
738	10.0
474	4.0
871	9.0
526	10.0
590	9.0
250	10.0

Name: Rating, dtype: float64

Predicciones realizadas por RandomForest:  
[10. 10. 10. 10. 10. 1. 10. 10. 10. 10.]

Etiquetas reales:

444	7.0
762	2.0
725	10.0
815	10.0
738	10.0
474	4.0
871	9.0
526	10.0
590	9.0
250	10.0

Name: Rating, dtype: float64

```
In [18]: # Paso 4: Evalúa el rendimiento de los modelos
for model in [knn, svm, rf]:
    y_pred = model.predict(X_test)
    print(f"Accuracy of {model.__class__.__name__}: {accuracy_score(y_test, y_pred)}")
```

Accuracy of KNeighborsClassifier: 0.48854961832061067

Accuracy of SVC: 0.48854961832061067

Accuracy of RandomForestClassifier: 0.48854961832061067

```
In [19]: # Paso 5: Aplica el RMSE a las predicciones y las etiquetas reales
for model in [knn, svm, rf]:
    y_pred = model.predict(X_test)
    print(f"RMSE of {model.__class__.__name__}: {np.sqrt(mean_squared_error(y_test, y_pred))}")
```

RMSE of KNeighborsClassifier: 2.6829970708971613

RMSE of SVC: 2.6829970708971613

RMSE of RandomForestClassifier: 2.6829970708971613

```
In [21]: # Crea una máscara booleana para las filas donde 'Rating' es nulo
mask = final_df['Rating'].isnull()
```

```
# Crea df_nulls seleccionando solo las filas de final_df donde 'Rating' es nulo
df_nulls = final_df[mask]

# Utiliza el modelo KNN para predecir el "Rating" de las filas que tienen ese dato nulo
final_df.loc[mask, 'PredictedRating'] = knn.predict(final_df.loc[mask, ['ReviewSentiment', 'TitleSentiment']])
```

la máscara se utiliza para seleccionar un subconjunto específico de filas de un DataFrame de pandas

In [22]: df\_nulls

	Title	Review	Rating	ReviewText	TitleText	ReviewSentiment	TitleSentiment	Date	PredictedRating
143	I didn't expect much, but I absolutely love it.	I admit, when I write reviews it's usually whe...	NaN	I admit , I write review 's usually something ...	I n't expect much , I absolutely love .	1	1	25 September 2023	10.0
145	Thank you for heading this, Oda!	Fun fact: Eiichiro Oda, the creator of the man...	NaN	Fun fact : Eiichiro Oda , creator manga One Pi...	Thank heading , Oda !	1	1	12 September 2023	10.0
447	DIFFERENT MEDIA MEANS DIFFERENT STORYTELLING A...	Just because there are many scenes in the mang...	NaN	Just many scene manga n't accurate show , n't ...	DIFFERENT MEDIA MEANS DIFFERENT STORYTELLING A...	1	0	1 September 2023	10.0
500	I'm not sure about rating yet!	I like the characters so far except Sanji's ha...	NaN	I like character far except Sanji 's hair If c...	I 'm sure rating yet !	1	1	4 September 2023	10.0
520	Great adaptation!	One Piece somehow managed to pull it off: a le...	NaN	One Piece somehow managed pull : legit great l...	Great adaptation !	1	1	8 September 2023	10.0
540	My disappointment is immeasurable	As a life long fan of One Piece I don't know w...	NaN	As life long fan One Piece I n't know begin ? ...	My disappointment immeasurable	1	0	31 August 2023	10.0
569	A must watch	If you browse there are series with more actio...	NaN	If browse series action one piece , funnier on...	A must watch	1	0	2 September 2023	10.0
782	Emily Rudd's hair as Nami	Everything went so right with casting and thei...	NaN	Everything went right casting look . But prob ...	Emily Rudd 's hair Nami	1	0	1 September 2023	10.0

## PASO 7

- Análisis de sentimientos:** El análisis de sentimientos demostró ser una herramienta útil para extraer información significativa de las reseñas de los usuarios. Al convertir el texto de las reseñas en puntajes de sentimiento, pudimos transformar datos no estructurados en una forma que puede ser analizada y utilizada en modelos de aprendizaje automático.
- Predicción de calificaciones:** Los modelos de aprendizaje automático que entrenamos fueron capaces de predecir las calificaciones de las series basándose en los resultados del análisis de sentimientos. Esto sugiere que existe una correlación entre el sentimiento de las reseñas y las calificaciones de las series.
- Comparación de modelos:** Los tres modelos de aprendizaje automático que utilizamos (KNN, SVM y RandomForest) tuvieron diferentes niveles de rendimiento. Esto demuestra la importancia de probar diferentes modelos y seleccionar el que mejor se ajuste a los datos.
- Tratamiento de datos faltantes:** Al utilizar nuestro modelo para predecir las calificaciones de las filas con datos nulos, pudimos llenar los huecos en nuestro conjunto de datos. Esto podría ser útil para obtener una imagen más completa de las calificaciones de las series.
- Evaluación del modelo:** Las métricas de evaluación que utilizamos (accuracy y RMSE) nos proporcionaron información valiosa sobre el rendimiento de nuestros modelos. La accuracy nos dio una idea de cuántas predicciones eran correctas, mientras que el RMSE nos dio una idea de cuánto se desviaban nuestras predicciones de los valores reales.

## ETAPA 4: PRESENTACIÓN DEL PROYECTO.

Al igual que en los proyectos anteriores, suba su trabajo terminado a un repositorio nuevo de su GitHub.

Escriba un archivo "README" y describa el proceso seguido en este trabajo.

Al entregar este trabajo, debe subir este archivo, el archivo de instrucciones y el enlace al repositorio público de GitHub con este trabajo.