

▼ Actividad - Librería pandas

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```
import pandas as pd
import numpy as np
```

Entregar: Archivo PDF de la actividad, así como el archivo .ipynb en tu repositorio. **Nota:** Recuerda habrá una penalización de **50** puntos si la actividad fue entregada fuera de la fecha límite.

1. Subir el archivo `netflix_titles.csv` que se encuentra en el repositorio de la clase y cargalos en un `DataFrame`.

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

```
print(df)
```

```

      show_id  type      title \
0          s1  TV Show          3%
1          s2  Movie          7:19
2          s3  Movie          23:59
3          s4  Movie           9
4          s5  Movie          21
...      ...      ...
7782  s7783  Movie          Zozo
7783  s7784  Movie          Zubaan
7784  s7785  Movie          Zulu Man in Japan
7785  s7786  TV Show          Zumbo's Just Desserts
7786  s7787  Movie  ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS

      director      cast \
0          NaN  João Miguel, Bianca Comparato, Michel Gomes, R...
1  Jorge Michel Grau  Demián Bichir, Héctor Bonilla, Oscar Serrano, ...
2      Gilbert Chan  Tedd Chan, Stella Chung, Henley Hii, Lawrence ...
3      Shane Acker  Elijah Wood, John C. Reilly, Jennifer Connelly...
4  Robert Luketic  Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...
...      ...      ...
7782      Josef Fares  Imad Creidi, Antoinette Turk, Elias Gergi, Car...
7783      Mozez Singh  Vicky Kaushal, Sarah-Jane Dias, Raaghav Chanan...
7784          NaN      Nasty C
7785          NaN  Adriano Zumbo, Rachel Khoo
7786      Sam Dunn          NaN

      country      date_added \
0      Brazil  August 14, 2020
1      Mexico  December 23, 2016
2      Singapore  December 20, 2018
3      United States  November 16, 2017
4      United States  January 1, 2020
...      ...      ...
7782  Sweden, Czech Republic, United Kingdom, Denmar...  October 19, 2020
7783          India      March 2, 2019
7784          NaN  September 25, 2020
7785      Australia  October 31, 2020
7786  United Kingdom, Canada, United States  March 1, 2020

      release_year rating  duration \
0          2020  TV-MA  4 Seasons
1          2016  TV-MA    93 min
2          2011      R    78 min
3          2009  PG-13    80 min
4          2008  PG-13   123 min
...      ...      ...
7782      2005  TV-MA    99 min
7783      2015  TV-14   111 min
7784      2019  TV-MA    44 min
7785      2019  TV-PG    1 Season
7786      2019  TV-MA    90 min

      listed_in \
0  International TV Shows, TV Dramas, TV Sci-Fi &...
1          Dramas, International Movies
2      Horror Movies, International Movies
```

```
3 Action & Adventure, Independent Movies, Sci-Fi...
4 Dramas
```

2. Desplegar las primeras 5 líneas del DataFrame .

```
df.head(n=5)
```

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	2020	TV-MA	4 Seasons	International TV Shows, TV Dramas, TV Sci-Fi &...	In a future where the elite inhabit an island ...
1	s2	Movie	7:19	Jorge Michel Grau	Demian Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	2016	TV-MA	93 min	Dramas, International Movies	After a devastating earthquake hits Mexico Cit...
2	s3	Movie	23:59	Gilbert Chan	Tedd Chan, Stella Chung, Henley Hii, Lawrence	Singapore	December 20, 2018	2011	R	78 min	Horror Movies, International Movies	When an army recruit is found dead, his fellow...

3. Implementa una función que despliegue el primer renglon de un DataFrame .

```
def the_first(df):
    return df.iloc[0]

the_first(df)

show_id          s1
type            TV Show
title           3%
director        NaN
cast      João Miguel, Bianca Comparato, Michel Gomes, R...
country         Brazil
date_added      August 14, 2020
release_year    2020
rating          TV-MA
duration        4 Seasons
listed_in      International TV Shows, TV Dramas, TV Sci-Fi &...
description     In a future where the elite inhabit an island ...
Name: 0, dtype: object
```

4. Implementa una función que regrese el número de registros en el DataFrame .

```
def row_number(df):
    return df.shape[0]

row_number(df)

7787
```

5. Implementa una función que despliega las películas con un release_year determinado.

```
def released_year(year):
    return df.loc[df['release_year'] == year]

year_query = 2020
released_year(year_query)
```

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
0	s1	TV Show	3%	NaN	João Miguel, Bianca Comparato, Michel Gomes, R...	Brazil	August 14, 2020	2020	TV-MA	4 Seasons	International TV Shows, TV Dramas, TV Sci-Fi &...	In a future where the elite inhabit an island ...
24	s25	TV Show	SAINT SEIYA: Knights of the Zodiac	NaN	Bryson Baugus, Emily Neves, Blake Shepard, Pat...	Japan	January 23, 2020	2020	TV-14	2 Seasons	Anime Series, International TV Shows	Seiya and the Knights of the Zodiac rise again...
26	s27	TV Show	(Un)Well	NaN	NaN	United States	August 12, 2020	2020	TV-MA	1 Season	Reality TV	This docuseries takes a deep dive into the luc...
27	s28	Movie	#Alive	Cho Il	Yoo Ah-in, Park Shin-hye	South Korea	September 8, 2020	2020	TV-MA	99 min	Horror Movies, International Movies, Thrillers	As a grisly virus rampages a city, a lone man ...
29	s30	TV Show	#blackAF	NaN	Kenya Barris, Rashida Jones, Iman ...	United States	April 17, 2020	2020	TV-MA	1 Season	TV Comedies	Kenya Barris and his family navigate

6. Implementa una función que despliegue las películas que son de un país determinado.

```
def origin_country(country):
    df.c = df[df['country']==country]
    return df.c

country_query = 'Mexico'
origin_country(country_query)
```

```
<ipython-input-22-aefe19a83a4a>:2: UserWarning: Pandas doesn't allow columns to be created via a new attribute name - see https://pandas.pydata.org/pandas-docs/stable/10min/10min_tips.html#no-attribute-access
df.c = df[df['country']=='country']
```

show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
---------	------	-------	----------	------	---------	------------	--------------	--------	----------	-----------	-------------

7. Crea un nuevo DataFrame que sólo contenga las columnas type, title, country y release_year.

```
1          SZ  MOVIE      1.19  MICHEL  Ronilla  MEXICO      23 2016      2010  TV-MA  95 min  International  Earthquake
sala = df[['type', 'title', 'country', 'release_year']]
```

8. Despliega, cuantos tipos de producciones (type) se hicieron por país determinado (country).

```
12         S13  Show      1994  Enrique  NaN  Mexico      2010      2019  TV-MA  1 Season  Docuseries,  Interviews
producciones = sala.groupby(['country', 'type'])['title'].count()
print(producciones)
```

country	type	
Argentina	Movie	34
	TV Show	16
Argentina, Brazil, France, Poland, Germany, Denmark	Movie	1
Argentina, Chile	Movie	1
Argentina, Chile, Peru	Movie	1
Venezuela	Movie	1
Venezuela, Colombia	Movie	1
Vietnam	Movie	5
West Germany	Movie	1
Zimbabwe	Movie	1
Name: title, Length: 773, dtype: int64		
378	S37Q Movie	THE BEST Alex Díaz MEX Mexico January 20, 2020 TV-MA 51 min Stand-up Fernandez

9. Implementa la función que genera el cuadrado de un número.

```
...         ...         ...         ...         ...         ...         ...         ...         ...         ...         ...         ...
def square(x):
    return np.square(x)
...         ...         Show      1994  Enrique  NaN  Mexico      2010      2019  TV-MA  1 Season  Docuseries,  Interviews
```

10. Usando el método apply, genera el cuadrado de todos los valores del siguiente DataFrame .

Crime TV										A pure and
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```
df2 = pd.DataFrame({'A': [1, 2, 3, 5, 6], 'B': [10, 20, 30, 40, 50]})
df2
```

	A	B
0	1	10
1	2	20
2	3	30
3	5	40
4	6	50

```
df2.apply(lambda x: x**2)
```

	A	B
0	1	100
1	4	400
2	9	900
3	25	1600
4	36	2500

```
df2.apply(lambda x: square(x))
```

	A	B
0	1	100
1	4	400
2	9	900
3	25	1600
4	36	2500

