

Instituto Tecnológico y de Estudios Superiores de Monterrey

Campus, Querétaro



***Herramientas computacionales: el arte de la analítica
(Gpo 201)***

Actividad: Lectura de datos

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Fecha de entrega:

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SUBIR EL ARCHIVO

```
[4] from google.colab import files

uploaded = files.upload()

for fn in uploaded.keys():
    print('User uploaded file "{name}" with length {length} bytes'.format(
        name=fn, length=len(uploaded[fn])))
```

Choose Files netflix_titles.csv

- netflix_titles.csv(text/csv) - 3000491 bytes, last modified: 5/8/2022 - 100% done

Saving netflix_titles.csv to netflix_titles.csv
User uploaded file "netflix_titles.csv" with length 3000491 bytes

```
[5] import pandas as pd
import numpy as np
```

CARGARLO EN UN DATA FRAME

```
[6] df = pd.read_csv('netflix_titles.csv')
```

DESPLEGAR LAS PRIMERAS 5 LÍNEAS

```
[7] df.head(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	Demían 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	s4	Movie	9	Shane Acker	Elijah Wood, John C. Reilly, Jennifer Connelly...	United States	November 16, 2017	2009	PG-13	80 min	Action & Adventure, Independent Movies, Sci-Fi...	In a postapocalyptic world, rag-doll robots hi...
4	s5	Movie	21	Robert Luketic	Jim Sturgess, Kevin Spacey, Kate Bosworth, Aar...	United States	January 1, 2020	2008	PG-13	123 min	Dramas	A brilliant group of students become card-coun...

FUNCIÓN PARA DESPLEGAR EL PRIMER RENGLÓN DE EL DF

```
[8] def the_first():
    return df[0:1]

the_first()
```

	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 ...

FUNCIÓN QUE REGRESE EL NÚMERO DE REGISTROS EN EL DF

```
[9] def row_number():
    return len(df.index)

row_number()
```

7787

FUNCIÓN QUE DESPLIEGUE LAS PELÍCULAS CON UN "release_year" DETERMINADO

```
def released_year(year):  
    return df[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 Benson, Genn...	United States	April 17, 2020	2020	TV-MA	1 Season	TV Comedies	Kenya Barris and his family navigate relations...
...
7725	s7726	TV Show	You Cannot Hide	NaN	Blanca Soto, Eduardo Noriega, Iván Sánchez, Ma...	Mexico	October 1, 2020	2020	TV-MA	1 Season	Crime TV Shows, International TV Shows, Spanis...	A nurse and her daughter flee her husband's dr...
...	...	...	...	...	Mauricio Ochmann.	...	...	...	...	...	Comedies,	An ad creative and

FUNCIÓN QUE DESPLIEGUE LAS PELÍCULAS CON UN "country" DETERMINADO

```
[11] def origin_country(country):  
    return df[df.country == country]  
  
country_query = 'Mexico'  
origin_country(country_query)
```

	show_id	type	title	director	cast	country	date_added	release_year	rating	duration	listed_in	description
1	s2	Movie	7:19	Jorge Michel Grau	Demián Bichir, Héctor Bonilla, Oscar Serrano, ...	Mexico	December 23, 2016	2016	TV-MA	93 min	Dramas, International Movies	After a devastating earthquake hits Mexico Cit...
12	s13	TV Show	1994	Diego Enrique Osorno	NaN	Mexico	May 17, 2019	2019	TV-MA	1 Season	Crime TV Shows, Docuseries, International TV S...	Archival video and new interviews examine Mexi...
292	s293	Movie	Acapulco La vida va	Alfonso Serrano Maturino	Patricio Castillo, Sergio Bustamante, Alejandr...	Mexico	June 3, 2017	2016	TV-MA	89 min	Comedies, Dramas, International Movies	Three lifelong friends travel to Acapulco oste...
370	s371	Movie	Alan Saldaña: Mi vida de pobre	Raúl Campos, Jan Suter	Alan Saldaña	Mexico	August 4, 2017	2017	TV-MA	54 min	Stand-Up Comedy	Mexican comic Alan Saldaña has fun with every...
378	s379	Movie	Alex Fernández: The Best Comedian in the World	Alex Díaz	Alex Fernández	Mexico	January 23, 2020	2020	TV-MA	51 min	Stand-Up Comedy	Comic Alex Fernández performs his familiar aut...
...
7698	s7699	TV Show	Yankee	NaN	Pablo Lyle, Ana Layevska, Leonardo Daniel, Jav...	Mexico	June 14, 2019	2019	TV-MA	1 Season	Crime TV Shows, International TV Shows, Spanis...	On the run from the police, an Arizona man cro...
7725	s7726	TV Show	You Cannot	NaN	Blanca Soto, Eduardo Noriega, Iván Sánchez, Ma...	Mexico	October 1, 2020	2020	TV-MA	1 Season	Crime TV Shows, International TV Shows, Spanis...	A nurse and her daughter flee her husband's dr...

NUEVO DATAFRAME CON LAS COLUMNAS: "type", "title", "country" y "release_year"

```
[12] df2 = pd.DataFrame(df, columns = ['type', 'title', 'country', 'release_year'])
df2
```

	type	title	country	release_year
0	TV Show	3%	Brazil	2020
1	Movie	7:19	Mexico	2016
2	Movie	23:59	Singapore	2011
3	Movie	9	United States	2009
4	Movie	21	United States	2008
...
7782	Movie	Zozo	Sweden, Czech Republic, United Kingdom, Denmar...	2005
7783	Movie	Zubaan	India	2015
7784	Movie	Zulu Man in Japan	NaN	2019
7785	TV Show	Zumbo's Just Desserts	Australia	2019
7786	Movie	ZZ TOP: THAT LITTLE OL' BAND FROM TEXAS	United Kingdom, Canada, United States	2019

7787 rows x 4 columns

DESPLIEGA CUANTOS TIPOS DE PRODUCCIONES (type) SE HICIERON POR PAÍS DETERMINADO (country)

```
def types_for_country(_country):
    d_prov = df.loc[df.country == _country]
    return len(pd.unique(d_prov.type))

_country = 'Brazil'
types_for_country(_country)

2
```

FUNCIÓN QUE DESPLIEGUE EL CUADRADO DE UN NÚMERO

```
[14] def square(x):
    return x*x

square(8)

64
```

GENERE EL CUADRADO DE TODOS LOS VALORES DEL SIGUIENTE DATAFRAME USANDO "apply"

```
[15] df3 = pd.DataFrame({'A': [1, 2, 3, 5, 6], 'B': [10, 20, 30, 40, 50]})
df3
```

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

```
df3.apply(square)
```

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