



Shoes Data set

Inventario de un tienda
de zapatos

Modulo 4
Python

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Primer paso

```
import math  
import pandas as pd  
import seaborn as sns  
import matplotlib.pyplot as plt
```

Importar las librerías correspondientes

Las librerías de Python son una herramienta fundamental para consolidar la formación de todo programador web. ¿Sabías que los programas desarrollados con Python son los más importantes en el mundo digital? Así es, Python es uno de los lenguajes de programación más usados del momento y muchas empresas necesitan contar con él.

Segundo paso

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

Analizamos el dataset en python con “df”

Un DataFrame es una estructura de datos con dos dimensiones en el cual se puede guardar datos de distintos tipos (como caractéres, enteros, valores de punto flotante, factores y más) en columnas. Es similar a una hoja de cálculo o una tabla de SQL o el data.

	InvoiceNo	Date	Country	ProductID	Shop	Gender	Size (US)	Size (Europe)	Size (UK)	UnitPrice	Discount	SalePrice
0	52389	1/1/2014	United Kingdom	2152	UK2	Male	11.0	44	10.5	\$159.00	0%	\$159.00
1	52390	1/1/2014	United States	2230	US15	Male	11.5	44-45	11.0	\$199.00	20%	\$159.20
2	52391	1/1/2014	Canada	2160	CAN7	Male	9.5	42-43	9.0	\$149.00	20%	\$119.20
3	52392	1/1/2014	United States	2234	US6	Female	9.5	40	7.5	\$159.00	0%	\$159.00
4	52393	1/1/2014	United Kingdom	2222	UK4	Female	9.0	39-40	7.0	\$159.00	0%	\$159.00
...
14962	65773	12/31/2016	United Kingdom	2154	UK2	Male	9.5	42-43	9.0	\$139.00	0%	\$139.00
14963	65774	12/31/2016	United States	2181	US12	Female	12.0	42-43	10.0	\$149.00	0%	\$149.00
14964	65775	12/31/2016	Canada	2203	CAN6	Male	10.5	43-44	10.0	\$179.00	30%	\$125.30
14965	65776	12/31/2016	Germany	2231	GER1	Female	9.5	40	7.5	\$199.00	0%	\$199.00
14966	65777	12/31/2016	Germany	2156	GER1	Female	6.5	37	4.5	\$139.00	10%	\$125.10

Limpiar datos.

```
df['Date'] =  
    pd.to_datetime(df['Date'])  
df['Year'] = df['Date'].dt.year  
df['Day'] = df['Date'].dt.day  
df['Month'] = df['Date'].dt.month
```

Data Cleaning

En nuestro conjunto de datos tenemos la columna Date, esta columna representa la fecha en la cual se registro la venta. Si queremos agrupar por año, por mes, deberíamos de separar en otras columnas que, es lo que haremos.

Quitar el símbolo de precio

```
df['SalePrice'] = df['SalePrice'].apply(lambda x:  
    float(x[2:]))  
df['UnitPrice'] = df['UnitPrice'].apply(lambda x:  
    float(x[2:])))
```

Tener el precio con el signo dolar no nos sirve ya que deberíamos de tenerlo en un punto flotante el cual nos permitirá realizar cálculos. Seleccionando el valor después del signo dolár, nos permite obtener la parte numérica.

Analisis estadistico

```
categorical_variables = ['Country', 'ProductID', 'Shop', 'Gender', 'Size (US)',  
'Discount', 'Year', 'Month']  
numerical_variables = ['UnitPrice', 'SalePrice']
```

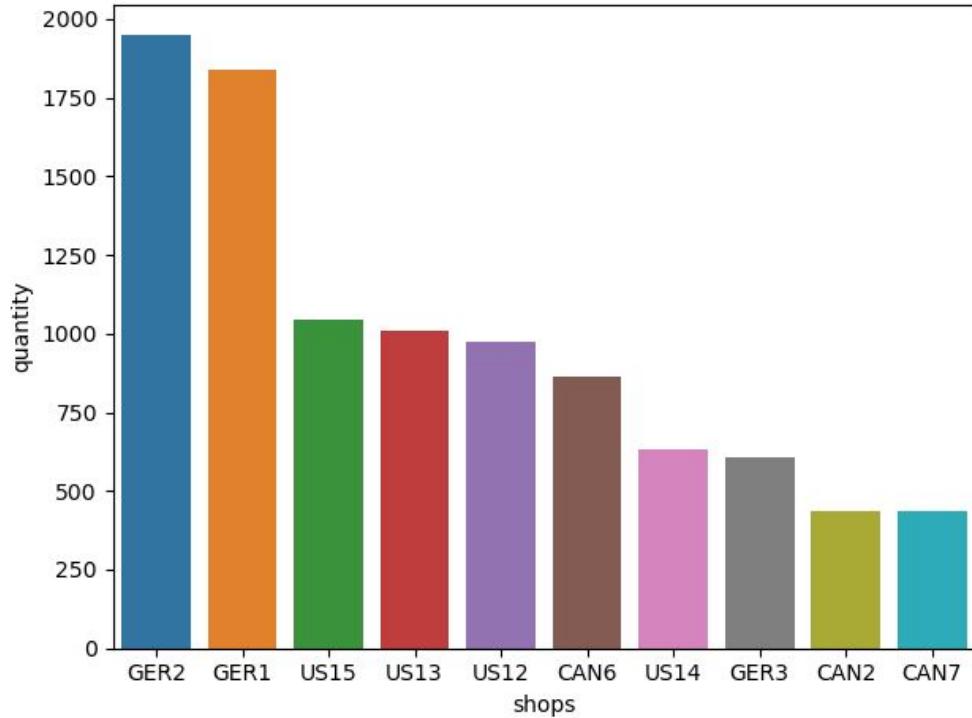
Categorizar las variables categóricas y numéricas

Para el posterior analisis

Tiendas con mas ventas

```
frequency_shops = df['Shop'].value_counts().head(10)
df_frequency_shops = pd.DataFrame({'shops': frequency_shops.index.tolist(),
'quantity': frequency_shops.tolist()})
sns.barplot(x='shops', y='quantity', data=df_frequency_shops)
plt.show()
```

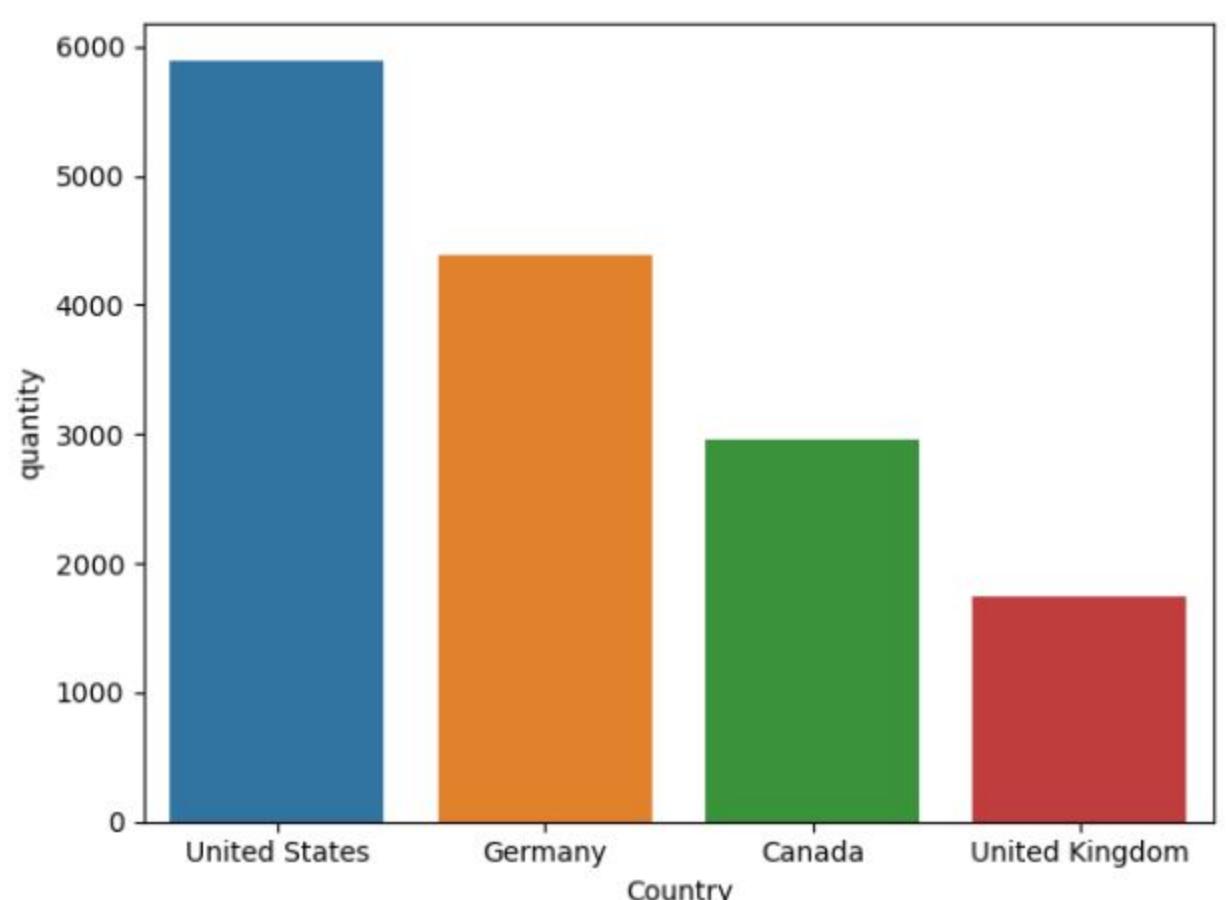
En nuestra empresa de zapatillas tenemos diferentes sedes los cuáles están representadas por el código de la tienda ejemplo: UK2, US15, etc. Veamos las 10 primeras tiendas que más venden zapatillas indistintamente del género, país u otra variable. En el gráfico podemos observar que las tiendas GER2 y GER1 son las tiendas que más ventas realizan, en base al código de la tienda podemos inferir que son alemanas.



Frecuencias de las variables categóricas

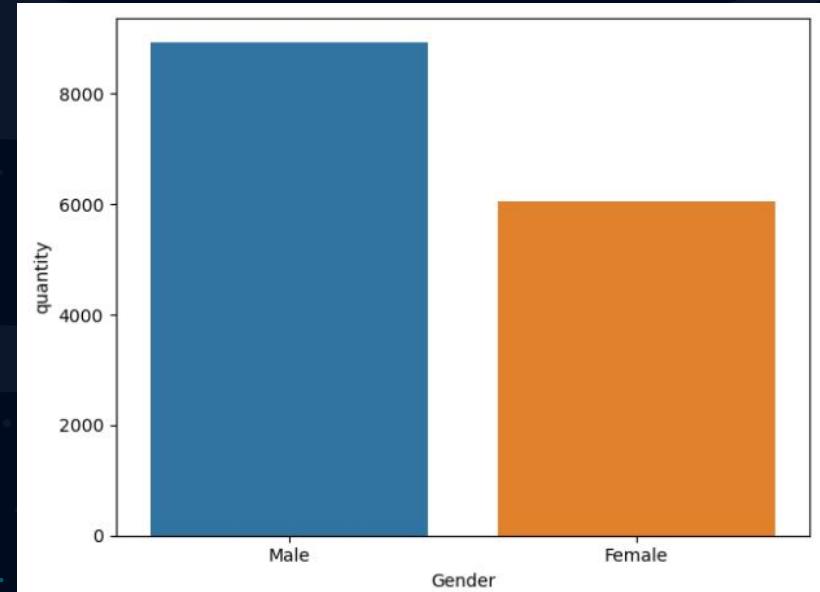
```
for cat_variable in categorical_variables:  
    frequency = df[cat_variable].value_counts()  
    df_frequency = pd.DataFrame({cat_variable:  
        frequency.index.tolist(), 'quantity': frequency.tolist()})  
    sns.barplot(x=cat_variable, y='quantity', data=df_frequency)  
plt.show()
```

Realizaremos un recorrido por nuestras variables categóricas, realizaremos el conteo de las frecuencias utilizando la función `value_counts()`, crearemos un dataframe para poder utilizar la función `barplot()` de seaborn.



Quién compra más?

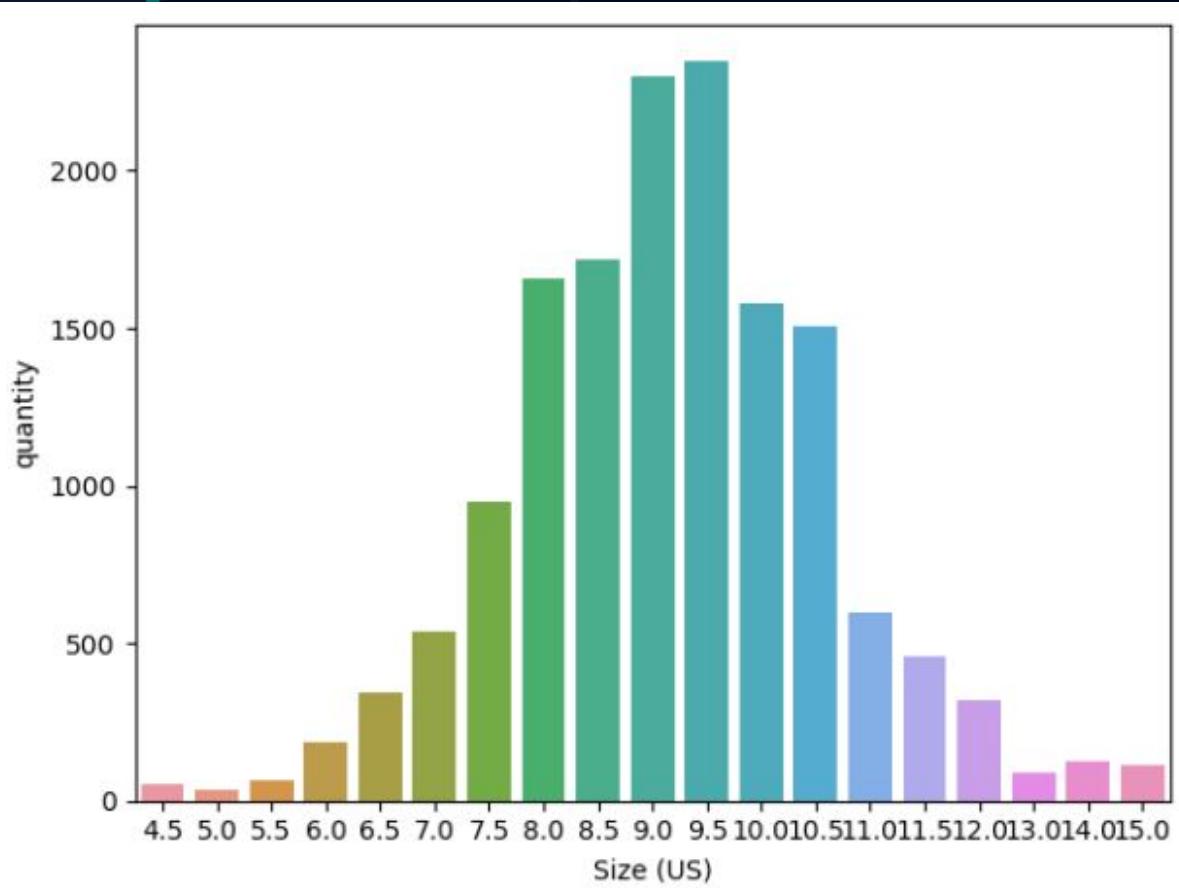
```
grouped = df[(df['Year'] != 2014) & (df['Gender'] == 'Male') &  
             (df['Country'] == 'United States')]\  
         .groupby(['Size (US)', 'Year',  
                  'Month']).size().unstack(level=0).fillna(value=0)  
  
means = []  
standard_errors = []  
for column in grouped.columns:  
    means.append(grouped[column].mean())  
    standard_errors.append(grouped[column].sem())
```



Distribución normal de las ventas

```
d = {'means': means, 'std_error': standard_errors}
df_calculations = pd.DataFrame(data=d, index=grouped.columns)

df_calculations['error_margin'] = df_calculations['std_error'].apply(lambda x: x * 2.07)
df_calculations['low_margin'] = df_calculations.apply(lambda x: x['means'] -
x['error_margin'], axis=1)
df_calculations['up_margin'] = df_calculations.apply(lambda x: x['means'] +
x['error_margin'], axis=1)
df_calculations['math_round_up'] = df_calculations.apply(lambda x:
math.ceil(x['up_margin']), axis=1)
```



Gracias

#NoMeRepruebe:c

Data set:

<https://medium.com/@benjachods/estad%C3%ADstica-con-python-proyecto-real-empresa-de-zapatillas-b8ece598384e>

Proyecto original en Github:

https://github.com/Benjacho/youtube-projects/blob/master/statistics_python_shoes_store/script.py

Bonus

jeje

```
• def conversor(tipo_pesos,valor_dolar):  
    pesos = float (input("¿Qué cantidad desea convertir a pesos " + tipo_pesos + "?"))  
    dolares = pesos/valor_dolar  
    dolares = str(round(dolares,3))  
    print(f"Tienes ", dolares, "dolares en total.")
```

```
menu = """
```

```
• Bienvenido al coverstor de monedas a dolares 
```

```
• Elije una opcion
```

```
1 - Pesos colombianos-
```

```
2 - Pesos argentinos
```

```
3 - Pesos mexicanos
```

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

```
opcion = int(input(menu))

if opcion == 1:
    conversor("Colombianos", 3875)

elif opcion == 2:
    conversor("Argentinos", 65)

elif opcion == 3:
    conversor("Mexicanos", 24)

else:
    print("Escriba una opcion valida")
```



“La ciencia no es perfecta, con frecuencia se utiliza mal, no es más que una herramienta, pero es la mejor herramienta que tenemos: se corrige a sí misma, está siempre evolucionando y se puede aplicar a todo. Con esta herramienta conquistamos lo imposible.”

Carl Sagan

Principales Conceptos

Cosmogonia

Conjunto de apreciaciones culturales expresadas en relatos, que describen la forma en la que una civilización entiende el universo.

Cosmología

Ciencia que estudia el origen, evolución y destino del universo





México - Méxihco

metztli= luna

xictli= ombligo o centro

-co= sufijo de lugar

Quetzalcoatl y el conejo en la Luna



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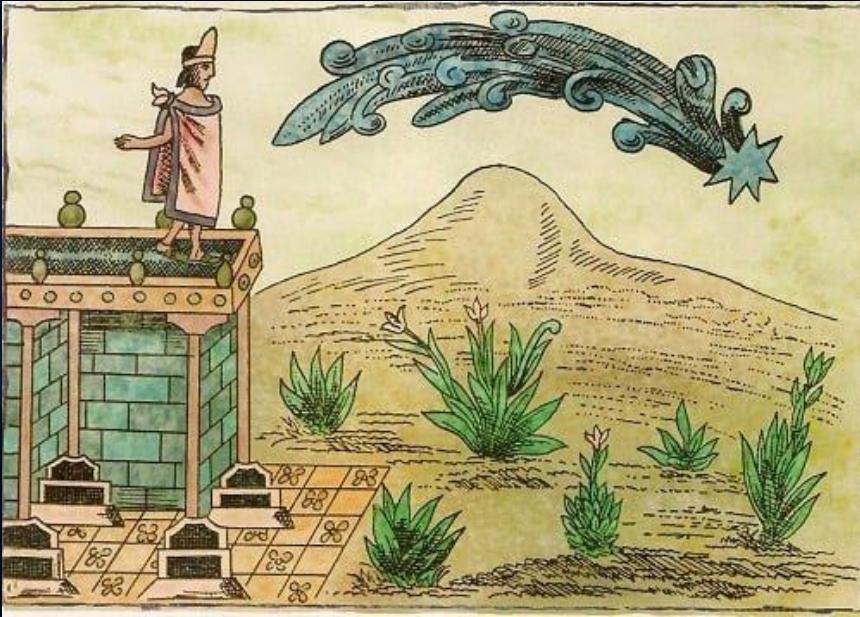
El tlacuache, conejo, al pulque y la luna



Coyolxauhqui y los 400 surianos



La divulgación de la ciencia





Gracias



01

ABOUT US

Here you can
describe the topic
of the section

02

MARKET ANALYSIS

Here you can
describe the topic
of the section

03

STRATEGY

Here you can
describe the topic
of the section

04

CONTENT PLAN

Here you can
describe the topic
of the section

05

BUDGET

Here you can
describe the topic
of the section

06

KPI OVERVIEW

Here you can
describe the topic
of the section



ABOUT THE TOPIC

- Mercury is the closest planet to the Sun and the smallest planet in the Solar System. Its name has nothing to do with the liquid metal



01

ABOUT US

You can enter a subtitle here if
you need it

CONTENTS OF THIS TEMPLATE

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OUR HISTORY

2000

Despite being red,
Mars is cold



2005

Saturn is a
gas giant and
has rings



2010

Venus has
a beautiful
name



2015

Pluto is now
considered a
dwarf planet



2020

Ceres is in
the main
asteroid belt



WHAT SETS US APART?

- Here you can state one of your qualities
- Here you can state one of your qualities
- Here you can state one of your qualities
- Here you can state one of your qualities
- Here you can state one of your qualities



“

This is a quote, words full of wisdom that someone important said and can make the reader get inspired

”

—Someone Famous

A PICTURE IS WORTH
A THOUSAND
WORDS



AUDIENCE DEMOGRAPHICS

WHERE?



Worldwide

WHO?



Families



Companies



Schools



Media

WHEN?

MAR. 28

8:30-9:30 PM

TOP SOCIAL NETWORKING SITES



40%

Despite being red,
Mars is a cold place



80%

Venus is the second
planet from the Sun



60%

Saturn is a gas giant
and has several rings

TOP SOCIAL NETWORKING SITES



45%

Despite being red,
Mars is a cold place



55%

Venus is the second
planet from the Sun



65%

Saturn is a gas giant
and has several rings



85%

Ceres is in the main
asteroid belt

BUYER PERSONA

INTERESTS & PERSONALITY

Travel
Social Media
Sports

Kind
Curious
Funny

AGE	GENDER	STUDIES	LOCATION
25 - 35	Female	Degree in biology	Barcelona
JOB	INCOME RANGE	MARITAL STATUS	HOBBIES
Teacher	\$2000/month	Single	Books and music

ANALYZING THE DIFFICULTIES

JOB TASKS

Jupiter is a gas giant and the biggest planet in the Solar System

TELEVISION

Neptune is the fourth-largest planet in the Solar System

PUBLIC PLACES

Venus has a beautiful name and is the second planet from the Sun

HOME LIGHTS

Pluto used to be the ninth planet from the Sun, but is now a dwarf planet

THESE ARE OURS GOALS

GOAL 1

Mercury is the
closest planet
to the Sun

GOAL 2

Pluto is now a
dwarf planet

GOAL 3

Mars is a
cold place

THIS IS OUR STRATEGY

STEP 1

- Neptune is the farthest planet



STEP 2

- Jupiter is the biggest planet



STEP 3

- Venus has a beautiful name



STEP 4

- Mercury is the closest planet



STEP 5

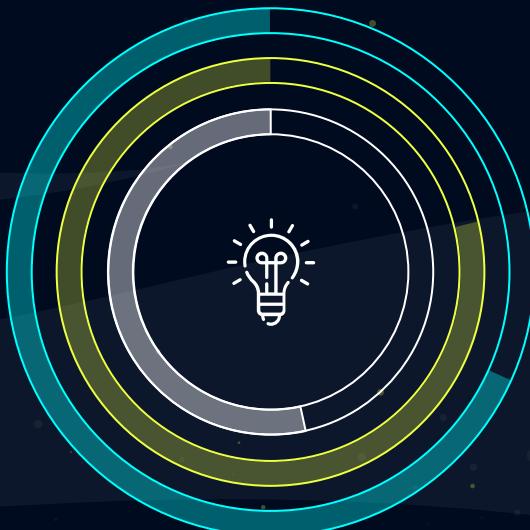
- Mars is actually a cold place



OUR AREAS OF EXPERTISE

MERCURY

Mercury is the closest planet to the Sun



NEPTUNE

It's the farthest planet from the Sun

VENUS

Venus is the second planet from the Sun

WHAT WE ARE GOING TO CREATE?

Multimedia Content

- Explain here the content you are going to create
- Explain here the content you are going to create
- Explain here the content you are going to create
- Explain here the content you are going to create



WHAT TONE ARE WE GOING TO USE?

Mercury is the closest planet to the Sun and the smallest one in the Solar System—it's only a bit larger than the Moon. The planet's name has nothing to do with the liquid metal, since Mercury was named after the Roman messenger god



WHAT PLATFORMS ARE WE GOING TO USE?



YOUTUBE

Neptune is the farthest planet from the Sun



INSTAGRAM

Despite being red, Mars is a cold place

FACEBOOK

Venus is the second planet from the Sun



TWITTER

Saturn is composed of hydrogen and helium



CONTENT SHARING PLAN

	MON	TUE	WED	THU	FRI
FACEBOOK	2 posts	-	1 post	-	2 posts
YOUTUBE	1 video	-	-	1 video	-
INSTAGRAM	1 story	1 post	1 story	1 story	1 post
TWITTER	-	2 posts	-	2 posts	-

CALENDAR

ACTION 1

Mars is actually
a cold place

01	02	03	04	05	06	07
08	09	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				

ACTION 2

Saturn has
several rings

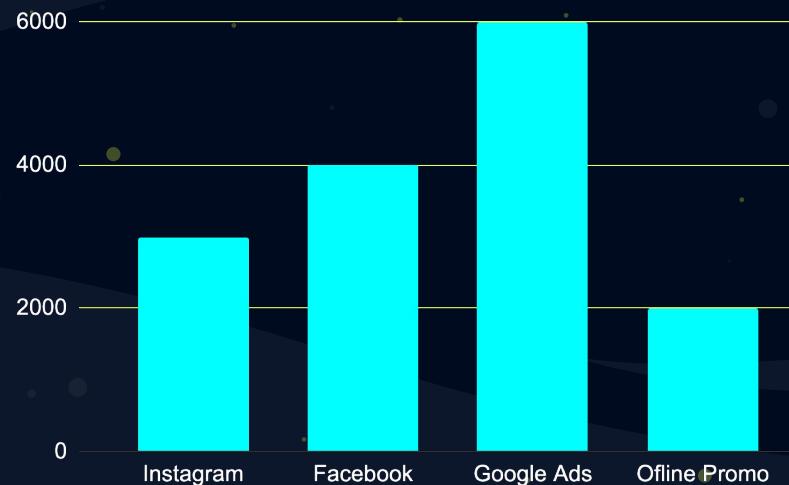
ACTION 3

Pluto is now a
dwarf planet

THE DAY

Earth is where
we live on

BUDGET



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change the data and paste the new graph here

4,498,300

Big numbers catch your audience's attention

KPI OVERVIEW



133,000
New followers

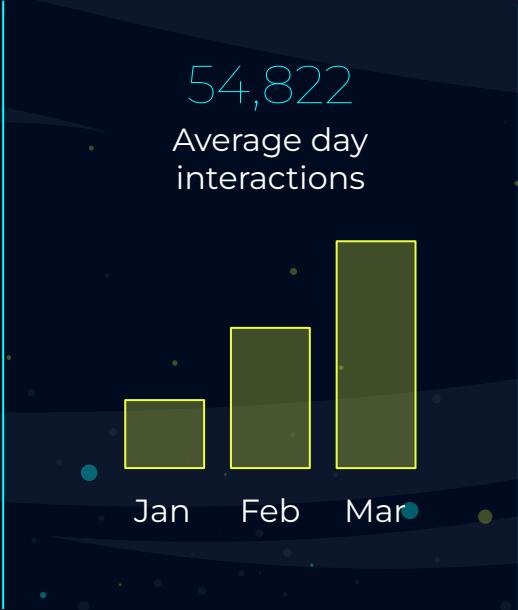


\$2,596
Savings



458,000
Interactions

54,822
Average day
interactions



102,000
Followers
involved



KPI OVERVIEW



2,000,789

Video views



5,100,000

Use of hashtag



2,100,000

Photos with hashtag



200,000

Post share count

OUR TEAM

HELENA JAMES

You can replace the image on
the screen with your own



JENNA DOE

You can replace the image on
the screen with your own

THANKS!

Do you have any question?

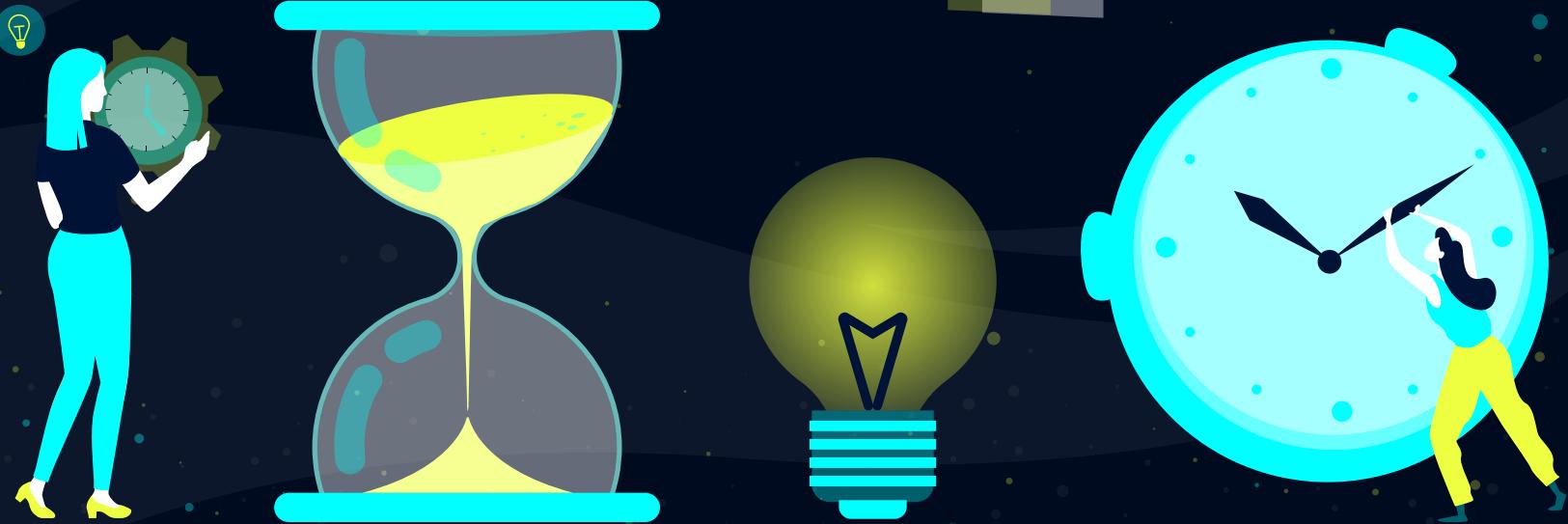
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- Flat travel background
- Galaxy background
- Variety of time objects and a man landing page
- Time management concept for landing page

PHOTOS:

- Eco concept with hands holding light bulbs
- Portrait of a young blonde woman looking at camera
- Medium shot woman with book smiling at camera

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Pana



Amico



Bro



Rafiki



Cuate

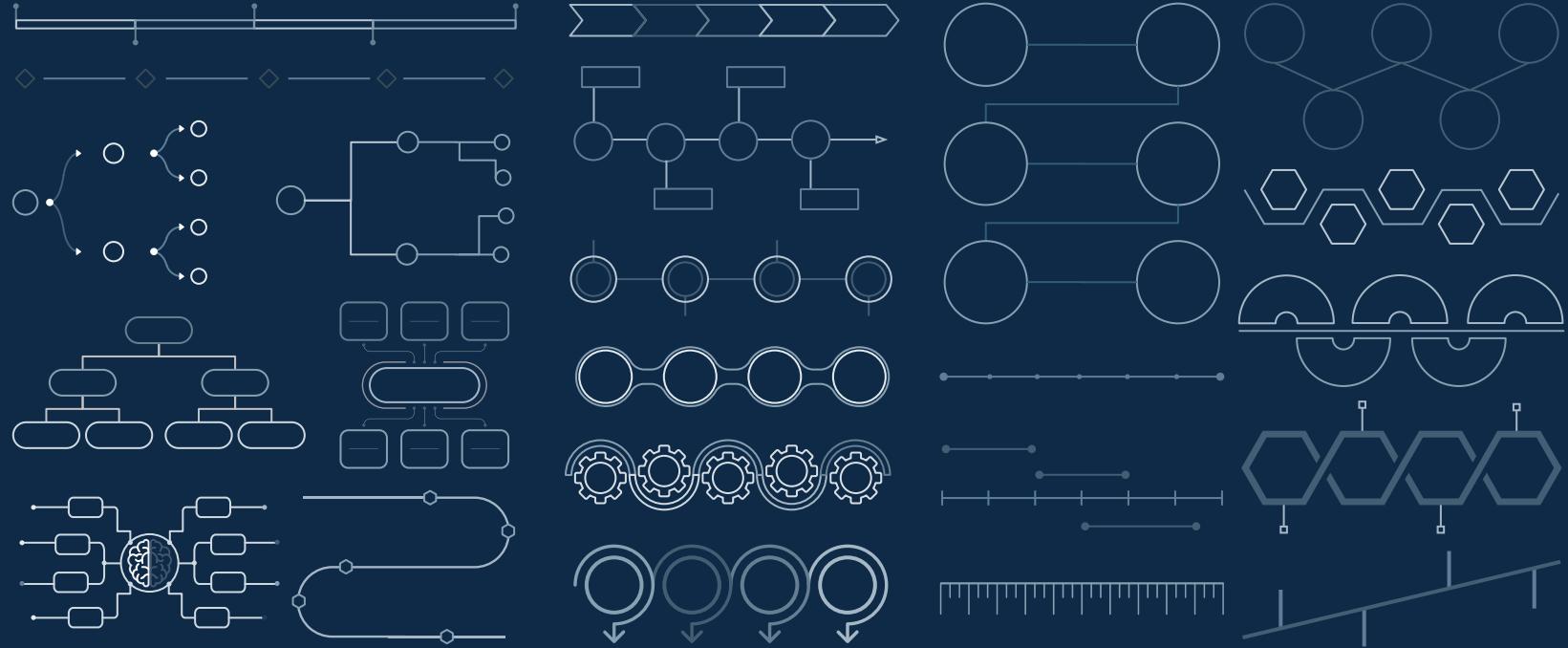
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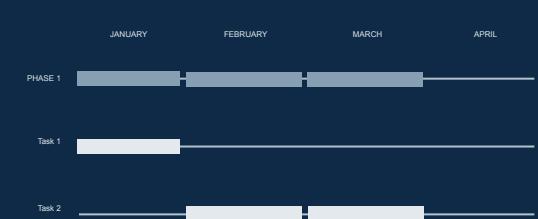
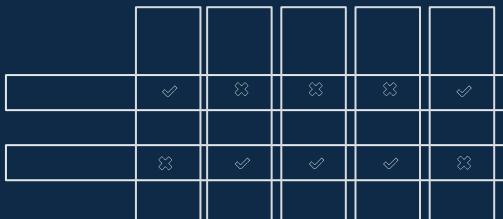
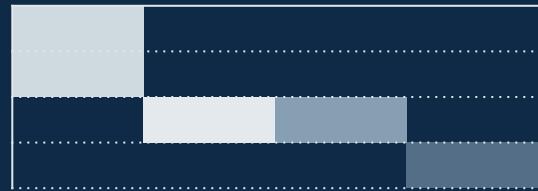
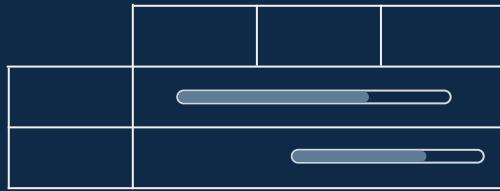
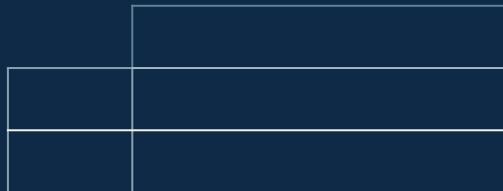
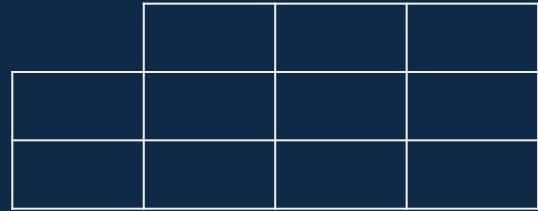
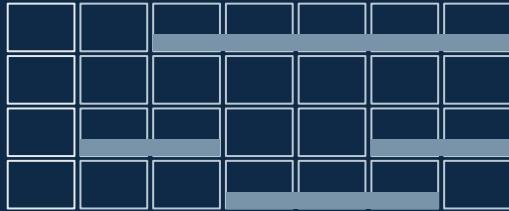
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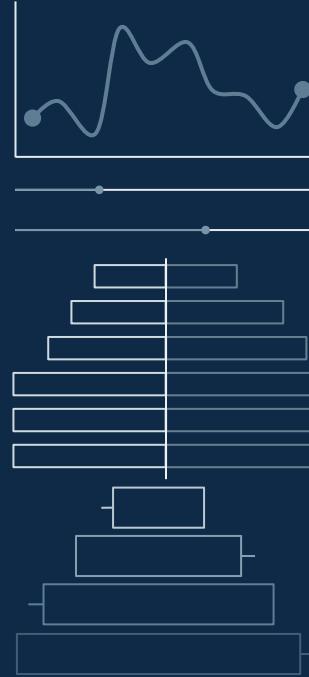
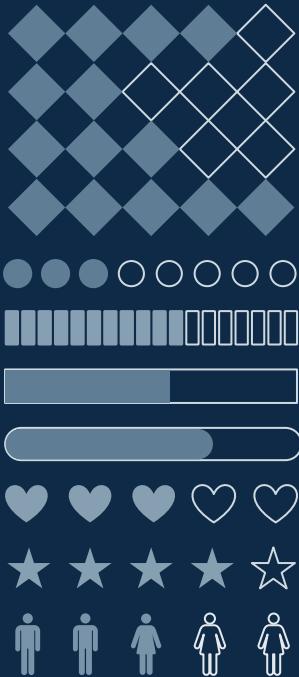
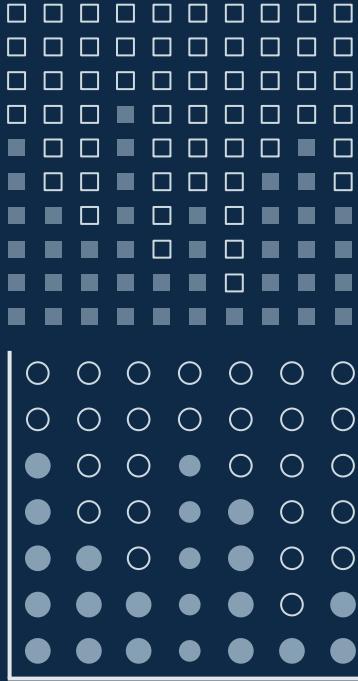












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