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

Importing all the cleaned files

```
youtube_channels = pd.read_csv("/content/YTchannels.csv")
music_artists = pd.read_csv("/content/MusicArtists.csv")
youtube_videos = pd.read_csv("/content/YTvideos.csv")
songs = pd.read_csv("/content/Songs.csv")
videos_history = pd.read_csv("/content/videos_history.csv")
music_history = pd.read_csv("/content/music_history.csv")
youtube_history_2023 = pd.read_csv("/content/youtube_history_2023.csv")
```

Let's have some FUN!

YOUTUBE MUSIC

Top 10 Artists

```
music_artists.sort_values(by = 'freq', ascending=False)[['name', 'freq']].head(10)
```

	name	freq
18	Taylor Swift - Topic	989
12	Harry Styles - Topic	218
28	Prateek Kuhad - Topic	131
44	Louis Tomlinson - Topic	127
20	Olivia Rodrigo - Topic	114
209	Noah Kahan - Topic	106
57	5 Seconds of Summer - Topic	105
85	Arijit Singh - Topic	101
3	One Direction - Topic	96
36	The 1975 - Topic	88

Top Artist of Every Month

```
"""
from music_history
group by artist_name, month
count number of rows
order by count
pick artist_name correspoding to max count for each month
"""
music_history = pd.read_csv("/content/music_history.csv")
# Group by 'artist_name' and 'month', count rows, and sort by count in descending order
grouped_df = music_history.groupby(['name_of_channel', 'month']).size().reset_index(name='count').sort_values(by='count', ascen

# Select the top row for each month
result_df = grouped_df.groupby('month').first().reset_index()

print(result_df)
```

```
  month                 name_of_channel  count
0   Apr            Taylor Swift - Topic    120
1   Aug            Taylor Swift - Topic     33
2   Dec            Taylor Swift - Topic    103
3   Feb            Taylor Swift - Topic     36
4   Jan            Taylor Swift - Topic     78
5   Jul            Taylor Swift - Topic      9
6   Jun            Taylor Swift - Topic     33
7   Mar  Daisy Jones & The Six - Topic     44
```

```
    8    May             The 1975 - Topic     51
    9    Nov           Taylor Swift - Topic    259
    10   Oct           Taylor Swift - Topic    191
    11   Sep           Taylor Swift - Topic     69
```

Number of Different Artists I listened to

```
len(music_artists['name'].unique())
```

```
702
```

Top 10 Songs

```
songs.sort_values(by = 'freq', ascending=False)[['name_song', 'freq', 'artist_key']].head(10)
```

	name_song	freq	artist_key
1929	champagne problems	34	https://www.youtube.com/channel/UCPC0L1d253x-K...
939	Little Freak	29	https://www.youtube.com/channel/UCVacQ2t5GUZ2t...
380	Daylight	27	https://www.youtube.com/channel/UCPC0L1d253x-K...
1243	Paris	26	https://www.youtube.com/channel/UCQgUHOPJJrmzC...
1408	Satellite	26	https://www.youtube.com/channel/UCVacQ2t5GUZ2t...
338	Cornelia Street	24	https://www.youtube.com/channel/UCPC0L1d253x-K...
1101	Mystery of Love	21	https://www.youtube.com/channel/UC5sOhxfts379l...
848	Keep Driving	21	https://www.youtube.com/channel/UCVacQ2t5GUZ2t...
26	ADHOORE	21	https://www.youtube.com/channel/UCe223VU7Yb2pR...
1666	The Night We Met	20	https://www.youtube.com/channel/UCHIqmk90GKurd...

Number of Different Songs I listened to

```
print(len(songs['name_song'].unique()))
print(len(songs))
```

```
2067
2067
```

Total Number of Songs I listened to

```
sum(songs['freq'])
```

```
5338
```

Number of Minutes I listened to Music

```
songs['duration_x_freq'] = songs['duration']*songs['freq']
total_mins = round(sum(songs['duration_x_freq']))
hours, mins = total_mins//60, total_mins%60
days, hours1 = hours//24, hours%24
print(f"I listened to music for \n{total_mins} minutes that is \n{hours} Hours & {mins} minutes that is \n{days} Days, {hours1
```

```
I listened to music for
20974 minutes that is
349 Hours & 34 minutes that is
14 Days, 13 Hours & 34 minutes that is
HALF A MONTH OF 2023!
```

Number of Minutes I listened to Taylor Swift

```
merged_df = pd.merge(songs, music_artists, left_on='artist_key', right_on='url')
# result_df = merged_df.groupby('url')['duration_x_freq'].sum()
# result_df

target_name = 'Taylor Swift - Topic'
# Filter the merged DataFrame based on the specified 'name'
filtered_df = merged_df[merged_df['name'] == target_name]

# Calculate the sum of 'duration_x_freq' for the filtered entries
sum_duration_x_freq = filtered_df['duration_x_freq'].sum()

total_mins = round(sum_duration_x_freq)
hours, mins = total_mins//60, total_mins%60
days, hours1 = hours//24, hours%24
print(f"I listened to Taylor Swift for \n{total_mins} minutes that is \n{hours} Hours & {mins} minutes that is \n{days} Days,
```

```
I listened to Taylor Swift for
4044 minutes that is
67 Hours & 24 minutes that is
2 Days, 19 Hours & 24 minutes!
```

My Top 10 Taylor Swift Songs

```
print(len(filtered_df[['name_song', 'freq_x', 'name']]))
filtered_df[['name_song', 'freq_x', 'name']].sort_values(by = 'freq_x', ascending=False).head(10)
```

```
185
```

	name_song	freq_x	name
148	champagne problems	34	Taylor Swift - Topic
43	Daylight	27	Taylor Swift - Topic
38	Cornelia Street	24	Taylor Swift - Topic
9	"Slut!" (Taylor's Version) (From The Vault)	20	Taylor Swift - Topic
177	right where you left me (bonus track)	20	Taylor Swift - Topic
140	You're On Your Own, Kid	18	Taylor Swift - Topic
57	Getaway Car	17	Taylor Swift - Topic
142	august	17	Taylor Swift - Topic
106	Say Don't Go (Taylor's Version) (From The Vault)	16	Taylor Swift - Topic
136	Would've, Could've, Should've	15	Taylor Swift - Topic

Champagne Probrems FR

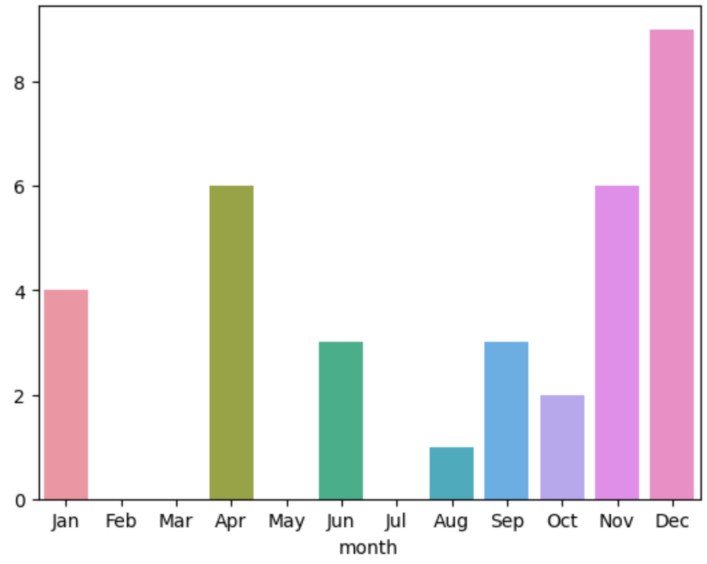
```
music_history.loc[(music_history['name_of_video'] == 'champagne problems') & (music_history['month'] == 'Jan'), ['name_of_vide
```

	name_of_video	date	month	day
2172	champagne problems	12 Jan 2023	Jan	12
2014	champagne problems	20 Jan 2023	Jan	20
1974	champagne problems	27 Jan 2023	Jan	27
1936	champagne problems	29 Jan 2023	Jan	29

I first listened to Champagne problems in 2023 on 'January 12'

```
result_df = music_history.loc[(music_history['name_of_video'] == 'champagne problems'), ['name_of_video', 'date', 'month', 'da
print(result_df)# index and values (series)
to_plot = pd.DataFrame(result_df)

custom_order = ['Jan', 'Feb', 'Mar', 'Apr', 'May', 'Jun', 'Jul', 'Aug', 'Sep', 'Oct', 'Nov', 'Dec']
sns.barplot(x = result_df.index, y = result_df, order = custom_order)
plt.show()
```

```
month
Apr    6
Aug    1
Dec    9
Jan    4
Jun    3
Nov    6
Oct    2
Sep    3
dtype: int64
```



How many times did I listen to All Too Well?

```
all_too_wells = songs[songs['name_song'].str.contains('All too Well', case=False)]
all_too_wells[['name_song', 'freq']]
```

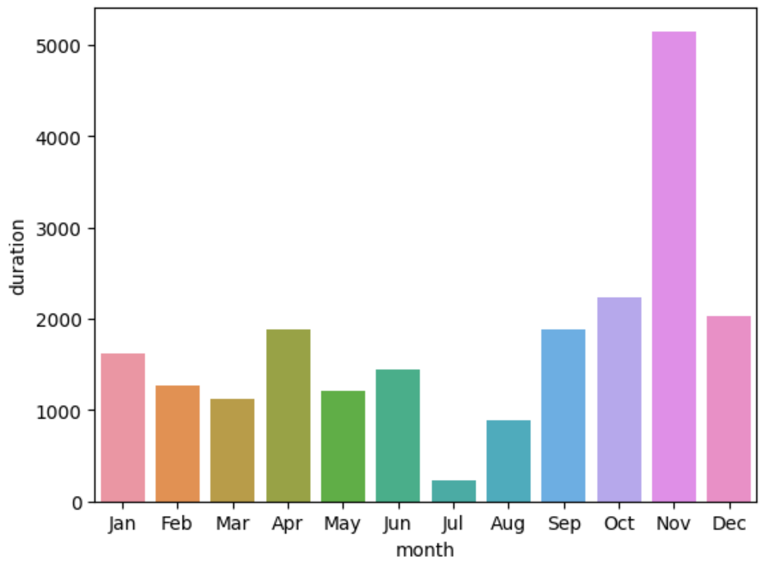
	name_song	freq
81	All Too Well	3
82	All Too Well (10 Minute Version) (Taylor's Ver...	15
83	All Too Well (10 Minute Version) (Taylor's Ver...	1
84	All Too Well (Sad Girl Autumn Version) - Recor...	11
85	All Too Well (Taylor's Version)	2

```
print("I listened to ATW TMV TV 27 times!! 🤡")
```

```
I listened to ATW TMV TV 27 times!! 🤡
```

Consumption over the months

```
"""
select month, sum(duration)
from
music_history left join songs on url_of_song
group by month
"""
# print(len(music_history))
music_history = pd.read_csv('/content/music_history.csv')
merged_df = pd.merge(music_history, songs, left_on='name_of_video', right_on='name_song', how='left')
# print(len(merged_df))

# Group by 'month' and calculate the sum of 'duration_x_freq'
result_df = merged_df.groupby('month')['duration'].sum().reset_index()
# print(sum(result_df['duration']))
# print(result_df.sort_values(by = 'duration', ascending=False))
# merged_df.sort_values(by = 'name_of_video')
custom_order = ['Jan', 'Feb', 'Mar', 'Apr', 'May', 'Jun', 'Jul', 'Aug', 'Sep', 'Oct', 'Nov', 'Dec']
sns.barplot(x = 'month', y= 'duration', data = result_df, order = custom_order)
plt.show()
```



```
result_df
```

	month	duration
0	Apr	1890.400000
1	Aug	891.216667
2	Dec	2027.866667
3	Feb	1262.316667
4	Jan	1626.383333
5	Jul	228.200000
6	Jun	1446.116667
7	Mar	1128.983333
8	May	1204.650000
9	Nov	5150.200000
10	Oct	2231.516667
11	Sep	1886.150000

Top 10 days (by minutes)

```
"""
select month, sum(duration)
from
music_history left join songs on name_of_song
group by date
"""
# print(len(music_history))
music_history = pd.read_csv("/content/music_history.csv")
merged_df = pd.merge(music_history, songs, left_on='name_of_video', right_on='name_song', how='left')
# print(len(merged_df))

# Group by 'month' and calculate the sum of 'duration_x_freq'
result_df = merged_df.groupby('date')['duration'].sum().reset_index()
# print(sum(result_df['duration']))
result_df.sort_values(by = 'duration', ascending=False).head(10)
# merged_df.sort_values(by = 'name_of_video')
# sns.barplot(x = 'month', y= 'duration', data = result_df, order = custom_order)
# plt.show()
```

	date	duration
206	7 Nov 2023	854.433333
29	12 Oct 2023	314.816667
221	9 Nov 2023	313.383333
35	13 Nov 2023	300.916667
20	11 Oct 2023	277.050000
99	21 Nov 2023	267.933333
214	8 Nov 2023	258.400000
132	26 May 2023	254.050000
13	10 Nov 2023	252.000000
150	28 Mar 2023	236.066667

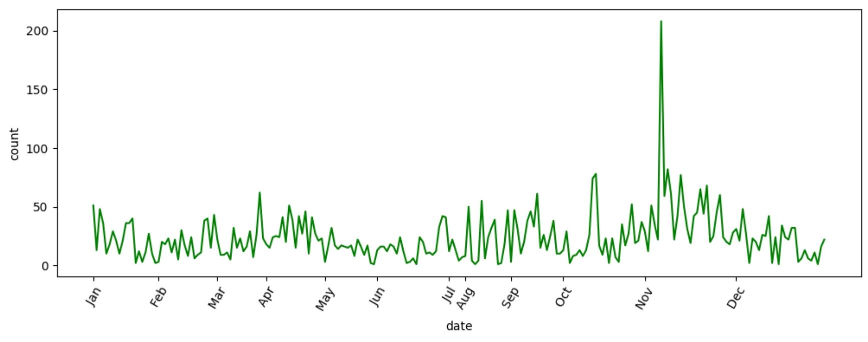
Listening trend over the year

```
# Define a mapping dictionary from month names to numbers
month_name_to_number = {
    'Jan': 1,
    'Feb': 2,
    'Mar': 3,
    'Apr': 4,
    'May': 5,
    'Jun': 6,
    'Jul': 7,
    'Aug': 8,
    'Sept': 9,
    'Sep': 9,
    'Oct': 10,
    'Nov': 11,
    'Dec': 12
}

# Use the map function to replace month names with numbers
music_history = pd.read_csv("/content/music_history.csv")
music_history['month'] = music_history['month'].map(month_name_to_number)
```

```
date = '7 Nov 2023'
date[-8:-5]
```

```
'Nov'
```

```
plt.figure(figsize=(12,4))
aggregated = music_history[['date', 'month', 'day', 'source']].sort_values(by = ['month', 'day']).groupby('date', as_index=Fal
aggregated

# sns.set_style(rc = {'axes.facecolor': 'white'})
sns.lineplot(data = aggregated, x = 'date', y = 'count', color = 'green')
locs, labels = plt.xticks()
locations = []
labs = []
for i in range(len(locs)):
  if str(labels[i])[-11:-7] in labs:
    continue
  elif str(labels[i])[-11:-7] != "Sept":
    labs.append(str(labels[i])[-11:-7])
    locations.append(locs[i])

plt.xticks(locations, labs, rotation=60)
# print(labs)
plt.show()
# aggregated.sort_values(by = ['month', 'day'])[['date', 'name_of_video', 'name_of_channel']].head(5)
```



```
#save plot with transparent background
# plt.savefig('my_plot.png', transparent=True)
```

```
# merged_df[merged_df['date'] == '7 Nov 2023'].sort_values(by = ['AM/PM' ,'hour', 'minute', 'second'], ascending = [True, True,
```

YOUTUBE VIDEOS

Number of Channeles I viewed videos from

```
len(youtube_channels['name'].unique())
```

```
488
```

Top 10 YouTube Channels

```
youtube_channels.loc[youtube_channels['name'] != 'name_chan' ,['name', 'freq']].sort_values(by = 'freq', ascending=False).head(
```

	name	freq
311	ActionKid	55
9	Tanmay Bhat	54
283	Strolling The City	50
7	Taylor Bell	41
322	TaylorSwiftVEVO	34
280	New Walker	25
242	Walking Commuter	22
50	HarryStylesVEVO	20
292	THE TABLE	19
53	Singh in USA	17

Number of Videos I watched in 2023 (once)

```
len(youtube_videos)
```

```
1216
```

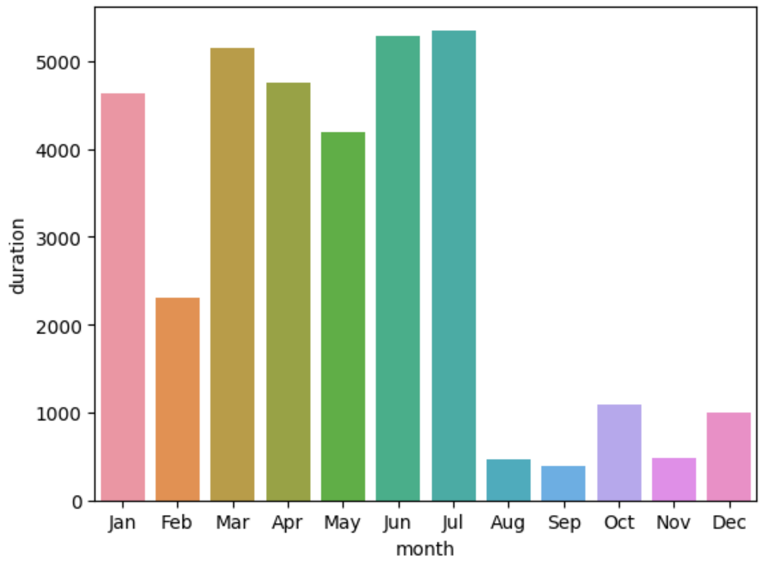
Number of Minutes I spent on YouTube

```
youtube_videos[['name_vid', 'duration', 'freq']].sort_values(by = 'duration', ascending=False).head(20)
# realistically, I did not watch 8 hour long videos to their entirity. So I'll cap the duration at 300 mins
youtube_videos = youtube_videos[youtube_videos['duration'] <= 300]
youtube_videos['duration_x_freq'] = youtube_videos['duration']*youtube_videos['freq']

total_mins = round(sum(youtube_videos['duration_x_freq']))
hours, mins = total_mins//60, total_mins%60
days, hours1 = hours//24, hours%24
print(f"I watched videos for \n{total_mins} minutes that is \n{hours} Hours & {mins} minutes that is \n{days} Days, {hours1} Hou
```

```
I watched videos for
35025 minutes that is
583 Hours & 45 minutes that is
24 Days, 7 Hours & 45 minutes that is
ALMOST ONE WHOLE MONTH OF 2023!
<ipython-input-59-9bdbd45fb4ce>:1: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row_indexer,col_indexer] = value instead

See the caveats in the documentation: https://pandas.pydata.org/pandas-docs/stable/user_guide/indexing.html#returning-a-view-versus
  youtube_videos['duration_x_freq'] = youtube_videos['duration']*youtube_videos['freq']
```

Watch Time over the months

```
merged_df = pd.merge(videos_history, youtube_videos, left_on='name_of_video', right_on='name_vid', how = 'left')
result_df = merged_df.groupby('month')['duration'].sum().reset_index()
custom_order = ['Jan', 'Feb', 'Mar', 'Apr', 'May', 'Jun', 'Jul', 'Aug', 'Sep', 'Oct', 'Nov', 'Dec']
sns.barplot(x = 'month', y= 'duration', data = result_df, order = custom_order)
plt.show()
```



```
result_df
```

	month	duration
0	Apr	4756.600000
1	Aug	469.350000
2	Dec	1006.216667
3	Feb	2310.333333
4	Jan	4631.400000
5	Jul	5352.200000