

```
In [70]: from googleapiclient.discovery import build
import pandas as pd
import seaborn as sns
import warnings
warnings.filterwarnings('ignore')
api_key = 'AIzaSyAi_vhKwP_QXocATAIui5Cl9hjcGnc05yg'
channel_id = ['UCnz-ZXXER4j0vuED5trXfEA', #Tech TFQ
              'UCLLw7jmFsvfIVaUFsLs8mIQ', # Luke Barousse
              'UCiT9RITQ9PW6BhXK0y2jaeg', # Ken jee
              'UC7cs8q-gJRIgWj4A8OmCmXg', # Alex the analyst
              'UC2UXDak6o7rBm23k3Vv5dww', # Tina Huang
              'UCh9nVJoWXmFb7sLApWGcLPQ', # Codebasics
              'UCNU_lfiiWBdtULK0w6X0Dig' # Krish Naik
            ]
youtube = build('youtube','v3',developerKey=api_key)
```

Function to get channel stats

```
In [76]: def get_channel_stats(youtube,channel_ids):
all_data = []
request = youtube.channels().list(
    part='snippet,contentDetails,statistics',
    id='.'.join(channel_ids))
response = request.execute()

for i in range(len(response['items'])):
    data = dict(Channel_name = response ['items'] [i] ['snippet']
['title'],
                Subscribers = response ['items'] [i] ['statistics']
['subscriberCount'],
                Views = response ['items'] [i] ['statistics']
['viewCount'],
                Total_videos = response ['items'] [i] ['statistics']
['videoCount'],
                playlist_id = response ['items'] [i]
['contentDetails'] ['relatedPlaylists'] ['uploads']
                )
    all_data.append(data)
return all_data
channel_stats = get_channel_stats(youtube,channel_id)
channel_data = pd.DataFrame(channel_stats)
channel_data
```

```
Out[76]:
```

	Channel_name	Subscribers	Views	Total_videos	playlist_id
0	Alex The Analyst	827000	37347807	314	UU7cs8q-gJRIgWj4A8OmCmXg
1	techTFQ	315000	17440809	137	UUnz-ZXXER4j0vuED5trXfEA
2	Krish Naik	995000	101972269	1923	UUNU_lfiiWBdtULK0w6X0Dig
3	Ken Jee	261000	9068533	287	UUiT9RITQ9PW6BhXK0y2jaeg
4	Tina Huang	670000	31939564	229	UU2UXDak6o7rBm23k3Vv5dww
5	codebasics	1070000	92605909	902	UUh9nVJoWXmFb7sLApWGcLPQ
6	Luke Barousse	456000	22646282	158	UULLw7jmFsvfIVaUFsLs8mIQ

```
In [77]: channel_data.dtypes
```

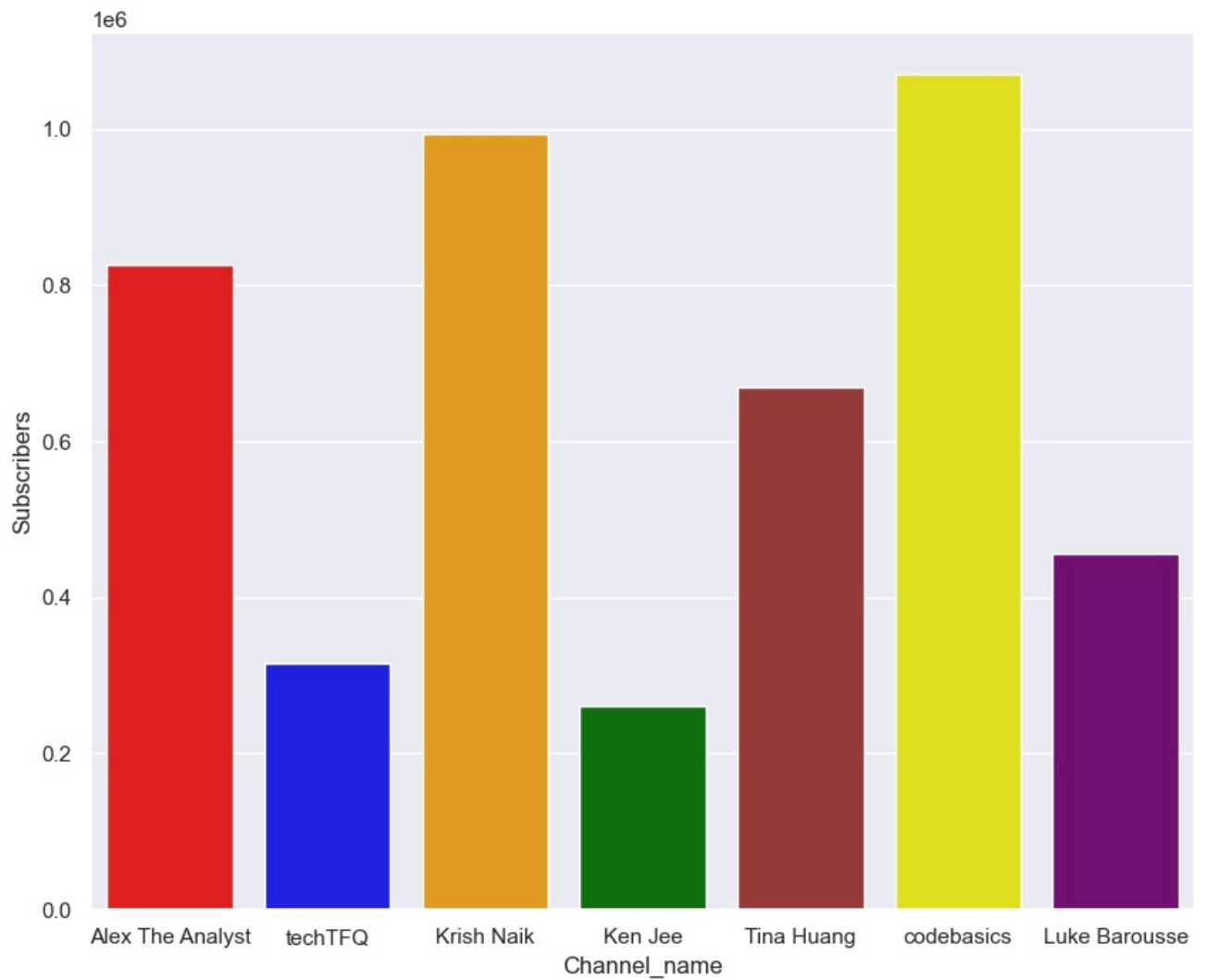
```
Out[77]: Channel_name    object
Subscribers    object
Views          object
Total_videos   object
playlist_id    object
dtype: object
```

```
In [78]: channel_data['Subscribers'] = channel_data['Subscribers'].astype(int)
channel_data['Views'] = channel_data['Views'].astype(int)
channel_data['Total_videos'] = channel_data['Total_videos'].astype(int)
channel_data.dtypes
```

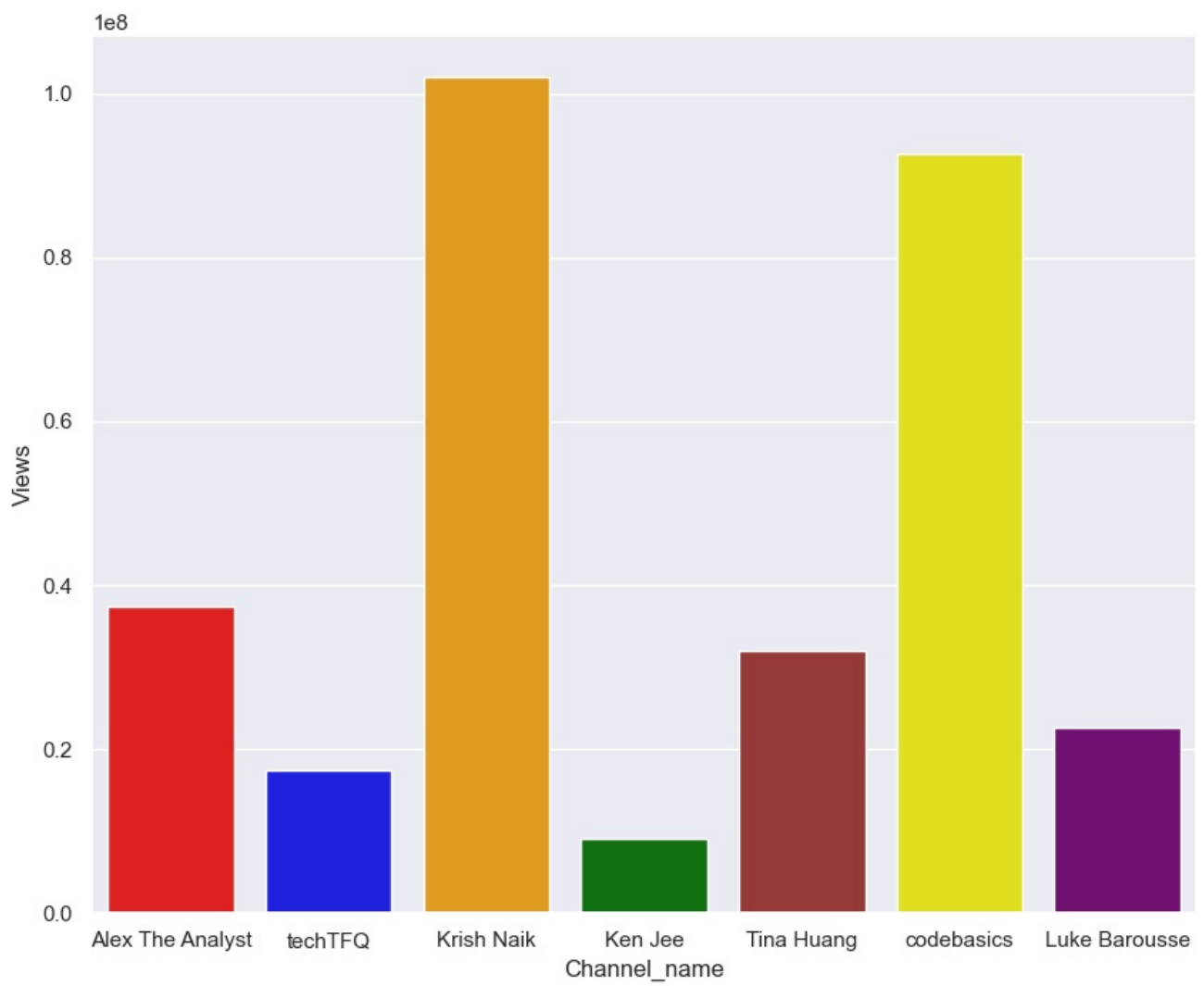
```
Out[78]: Channel_name    object
Subscribers    int32
Views          int32
Total_videos   int32
playlist_id    object
dtype: object
```

```
In [81]: sns.set(rc = {'figure.figsize':(10,8)})
```

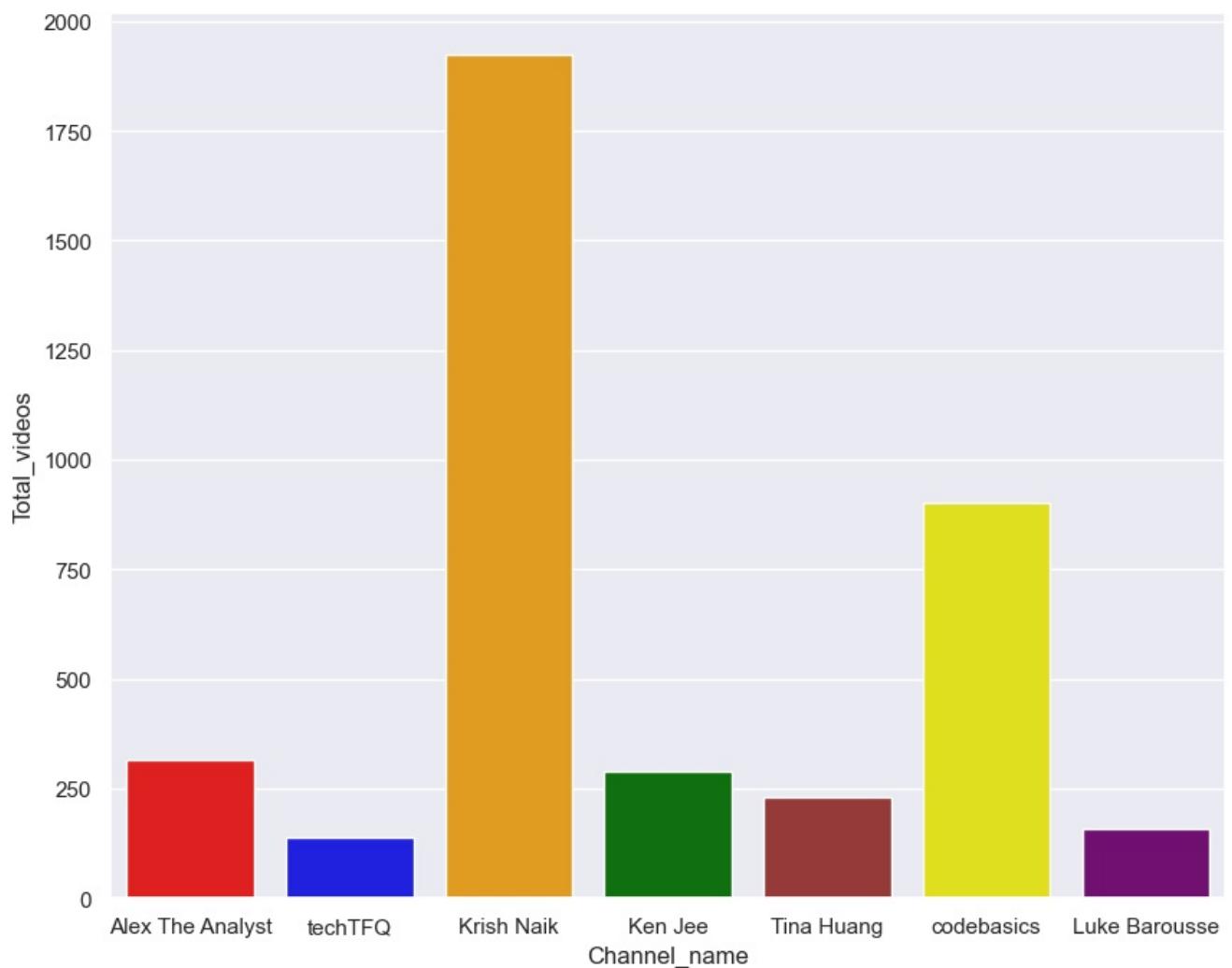
```
colors = ['red', 'blue', 'orange', 'green', 'brown', 'yellow', 'purple']
ax = sns.barplot(x='Channel_name', y='Subscribers', data=channel_data, palette=colors)
```



```
In [82]: ax = sns.barplot(x='Channel_name', y='Views', data = channel_data,palette=colors )
```



```
In [83]: ax = sns.barplot(x='Channel_name', y='Total_videos', data = channel_data ,palette=colors)
```



Function to get video ID's

In [84]: channel_data

Out[84]:

	Channel_name	Subscribers	Views	Total_videos	playlist_id
0	Alex The Analyst	827000	37347807	314	UU7cs8q-gJRIGwj4A8OmCmXg
1	techTFQ	315000	17440809	137	UUUnz-ZXXER4jOvuED5trXfEA
2	Krish Naik	995000	101972269	1923	UUNU_lfiiWBdtULKOW6X0Dig
3	Ken Jee	261000	9068533	287	UUiT9RITQ9PW6BhXK0y2jaeg
4	Tina Huang	670000	31939564	229	UU2UXDak6o7rBm23k3Vv5dww
5	codebasics	1070000	92605909	902	UUh9nVJoWXmFb7sLApWGcLPQ
6	Luke Barousse	456000	22646282	158	UULLw7jmFsvfIVaUFsLs8mIQ

Here we're doing scraping for Codebasics Youtube Channel

In [101]: # playlist_id

```
CB_playlist_id = channel_data.loc[channel_data['Channel_name'] == 'codebasics', 'playlist_id'].iloc[0]
CB_playlist_id
```

Out[101]: 'UUh9nVJoWXmFb7sLApWGcLPQ'

In [107]:

```
def get_video_ids(youtube, CB_playlist_id):
    request = youtube.playlistItems().list(part='contentDetails', playlistId = CB_playlist_id, maxResults = 50)
    response = request.execute()
    video_ids = []
    for i in range(len(response['items'])):
        video_ids.append(response['items'][i]['contentDetails']['videoId'])
    next_page_token = response.get('nextPageToken')
    more_pages = True
    while more_pages:
        if next_page_token is None:
            more_pages = False
```

```

        else:
            request = youtube.playlistItems().list(part='contentDetails',playlistId = CB_playlist_id,maxResults
            response = request.execute()
            for i in range(len(response['items'])):
                video_ids.append(response['items'][i]['contentDetails']['videoId'])
                next_page_token = response.get('nextPageToken')
            return video_ids
CB_video_ids = get_video_ids(youtube,CB_playlist_id)
CB_video_ids

```

```

Out[107... ['_PsRT3WkLuk',
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```

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'BBPoInS0i0Y',
'Ejrq3yB2DIQ',
'pP91kLR5cnE',
'PsoKq0p5meU',
'YJKEqaaSGDs',
'BAoV5_qVKco',
'M4ztKyNkDIM']

Function to get video details

```
In [110] def get_video_details(youtube, CB_video_ids):
all_video_stats = []
for i in range(0, len(CB_video_ids), 50):
    request = youtube.videos().list(
        part='snippet,statistics',
        id=', '.join(CB_video_ids[i:i+50]))
    response = request.execute()
    for video in response['items']:
        video_stats = dict(Title = video['snippet']['title'], Published_date = video['snippet']['publishedAt',
['likeCount'], Favourites = video['statistics']['favoriteCount'])
        all_video_stats.append(video_stats)
    return all_video_stats
CB_video_details = get_video_details(youtube, CB_video_ids)
CB_video_data = pd.DataFrame(CB_video_details)
CB_video_data
```

```
Out[110]
```

		Title	Published_date	Views	Likes	Favourites
0	AI Product Manager: Core Skill & Took Skill	2024-07-29T12:30:32Z	1043	141	0	
1	Attention Hiring Managers!	2024-07-26T12:30:25Z	2820	189	0	
2	Average salary of a Data Analyst #codebasics #...	2024-07-24T12:30:32Z	4707	297	0	
3	AI Product Manager	2024-07-23T12:30:04Z	7859	608	0	
4	Career Gap to Interview #codebasics #data #dat...	2024-07-22T12:30:01Z	3712	152	0	
...	
897	Python Tutorial - 5. Lists	2015-12-20T23:01:51Z	35236	323	0	
898	Python Tutorial - 4. Strings	2015-12-20T22:34:19Z	28738	321	0	
899	Python Tutorial - 3. Numbers	2015-12-20T02:54:56Z	32606	326	0	
900	Python Tutorial - 2. Variables	2015-12-20T02:11:10Z	42843	335	0	
901	Python Tutorial - 1. Install python on windows	2015-12-20T01:21:07Z	48331	383	0	

902 rows × 5 columns

```
In [111] CB_video_data.dtypes
```

```
Out[111] Title          object
Published_date      object
Views              object
Likes              object
Favourites          object
dtype: object
```

```
In [113] CB_video_data['Published_date'] = pd.to_datetime(CB_video_data['Published_date']).dt.date
CB_video_data['Views'] = CB_video_data['Views'].astype(int)
CB_video_data['Likes'] = CB_video_data['Likes'].astype(int)
CB_video_data['Favourites'] = CB_video_data['Favourites'].astype(int)
CB_video_data.dtypes
```

```
Out[113] Title          object
Published_date      object
Views              int32
Likes              int32
Favourites          int32
dtype: object
```

```
In [114] CB_video_data.head(5)
```

```
Out[114]
```

		Title	Published_date	Views	Likes	Favourites
0	AI Product Manager: Core Skill & Took Skill	2024-07-29	1043	141	0	
1	Attention Hiring Managers!	2024-07-26	2820	189	0	
2	Average salary of a Data Analyst #codebasics #...	2024-07-24	4707	297	0	
3	AI Product Manager	2024-07-23	7859	608	0	
4	Career Gap to Interview #codebasics #data #dat...	2024-07-22	3712	152	0	

```
In [115] CB_top10_videos = CB_video_data.sort_values(by='Views', ascending=False).head(10)
CB_top10_videos
```

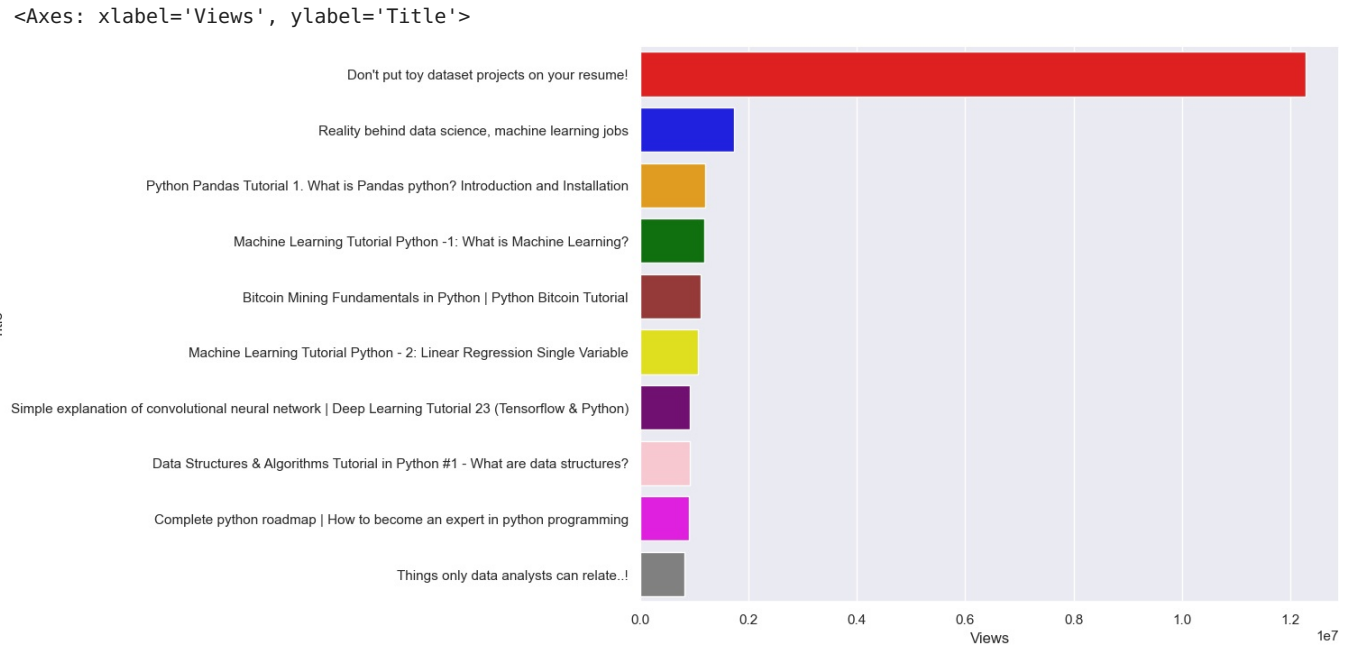

Out[115..

	Title	Published_date	Views	Likes	Favourites
76	Don't put toy dataset projects on your resume!	2024-03-22	12286169	273014	0
431	Reality behind data science, machine learning ...	2022-02-16	1735731	75248	0
830	Python Pandas Tutorial 1. What is Pandas pytho...	2017-01-21	1191578	13318	0
799	Machine Learning Tutorial Python -1: What is M...	2018-06-30	1184412	13002	0
579	Bitcoin Mining Fundamentals in Python Python...	2021-01-03	1109911	31839	0
798	Machine Learning Tutorial Python - 2: Linear R...	2018-07-01	1066175	13758	0
636	Simple explanation of convolutional neural net...	2020-10-14	918015	20230	0
734	Data Structures & Algorithms Tutorial in Pytho...	2020-03-07	907834	14691	0
650	Complete python roadmap How to become an exp...	2020-09-13	901843	30879	0
22	Things only data analysts can relate..!	2024-06-20	813729	21405	0

In [127..

```
colors = ['red' , 'blue' , 'orange' , 'green' , 'brown' , 'yellow' , 'purple' , 'pink' , 'magenta' , 'grey']
sns.barplot(x='Views',y='Title',data=CB_top10_videos, palette=colors)
```

Out[127..



In [128..

```
CB_video_data
```

Out[128..

	Title	Published_date	Views	Likes	Favourites
0	AI Product Manager: Core Skill & Took Skill	2024-07-29	1043	141	0
1	Attention Hiring Managers!	2024-07-26	2820	189	0
2	Average salary of a Data Analyst #codebasics #...	2024-07-24	4707	297	0
3	AI Product Manager	2024-07-23	7859	608	0
4	Career Gap to Interview #codebasics #data #dat...	2024-07-22	3712	152	0
...
897	Python Tutorial - 5. Lists	2015-12-20	35236	323	0
898	Python Tutorial - 4. Strings	2015-12-20	28738	321	0
899	Python Tutorial - 3. Numbers	2015-12-20	32606	326	0
900	Python Tutorial - 2. Variables	2015-12-20	42843	335	0
901	Python Tutorial - 1. Install python on windows	2015-12-20	48331	383	0

902 rows × 5 columns

In [129..

```
CB_video_data['Month'] = pd.to_datetime(CB_video_data['Published_date']).dt.strftime('%b')
CB_videos_per_month = CB_video_data.groupby('Month',as_index=False).size()
CB_videos_per_month
```

Out[129..

	Month	size
0	Apr	58
1	Aug	72
2	Dec	96
3	Feb	60
4	Jan	81
5	Jul	70
6	Jun	70
7	Mar	60
8	May	99
9	Nov	81
10	Oct	67
11	Sep	88

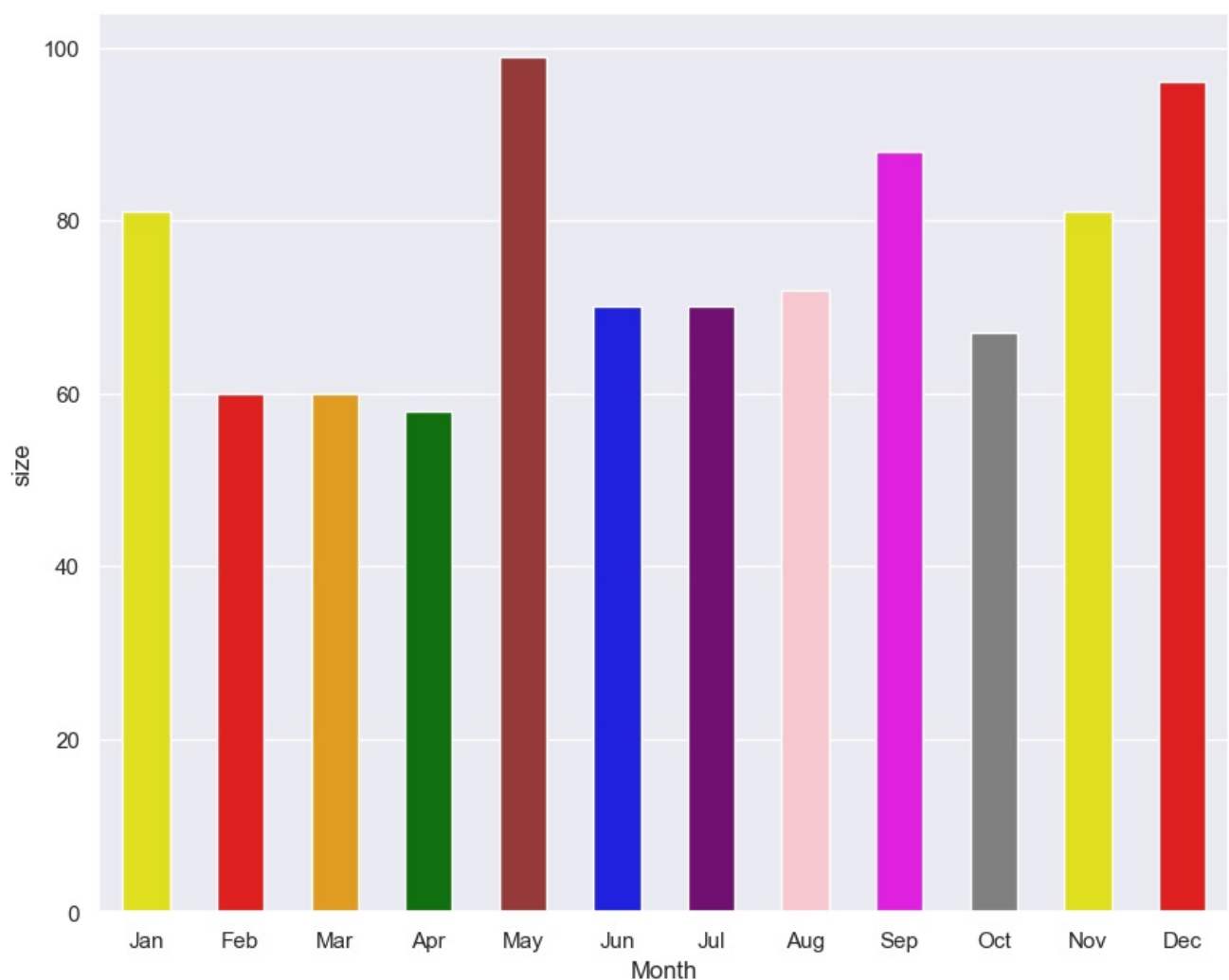
```
In [130.. sort_order = ['Jan', 'Feb', 'Mar', 'Apr', 'May', 'Jun', 'Jul', 'Aug', 'Sep', 'Oct', 'Nov', 'Dec']
CB_videos_per_month.index = pd.CategoricalIndex(CB_videos_per_month['Month'],
categories=sort_order, ordered=True)
CB_videos_per_month = CB_videos_per_month.sort_index()
CB_videos_per_month
```

Out[130..

	Month	size
	Month	
	Jan	81
	Feb	60
	Mar	60
	Apr	58
	May	99
	Jun	70
	Jul	70
	Aug	72
	Sep	88
	Oct	67
	Nov	81
	Dec	96

```
In [139.. colors = ['yellow', 'red', 'orange', 'green', 'brown', 'blue', 'purple', 'pink', 'magenta', 'grey']
sns.barplot(x='Month',y='size',data=CB_videos_per_month,width=0.5 ,palette=colors)
```

```
Out[139.. <Axes: xlabel='Month', ylabel='size'>
```



Here we're doing Scraping for Krish Naik Youtube Channel

```
In [140... # playlist_id
KN_playlist_id = channel_data.loc[channel_data['Channel_name'] == 'Krish Naik','playlist_id'].iloc[0]
KN_playlist_id
```

```
Out[140... 'UUNU_lfiiWBdtULK0w6X0Dig'
```

```
In [142... def get_video_ids(youtube, KN_playlist_id):
    request = youtube.playlistItems().list(part='contentDetails',playlistId = KN_playlist_id,maxResults = 50)
    response = request.execute()
    video_ids = []
    for i in range(len(response['items'])):
        video_ids.append(response['items'][i]['contentDetails']['videoId'])
    next_page_token = response.get('nextPageToken')
```

```

more_pages = True
while more_pages:
    if next_page_token is None:
        more_pages = False
    else:
        request = youtube.playlistItems().list(part='contentDetails',playlistId = KN_playlist_id,maxResults
        response = request.execute()
        for i in range(len(response['items'])):
            video_ids.append(response['items'][i]['contentDetails']['videoId'])
            next_page_token = response.get('nextPageToken')
        return video_ids
KN_video_ids = get_video_ids(youtube,KN_playlist_id)
KN_video_ids

```

```

Out[142]: ['hs0Jhs3_UCM',
'2d05lQRznp4',
'0eSuDlQ6msU',
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...]
```

Function to get video details

```
In [144... def get_KN_video_details(youtube, KN_video_ids):
    all_video_stats = []
    for i in range(0, len(KN_video_ids), 50):
        request = youtube.videos().list(part='snippet,statistics',id=','.join(KN_video_ids[i:i+50]))
        response = request.execute()
        for video in response['items']:
            video_stats = dict(Title = video['snippet']['title'], Published_date = video['snippet']['publishedAt'],
                                likeCount = video['statistics']['likeCount'], Favourites = video['statistics']['favoriteCount'])
            all_video_stats.append(video_stats)
    return all_video_stats
KN_video_details = get_video_details(youtube, KN_video_ids)
KN_video_data = pd.DataFrame(KN_video_details)
KN_video_data
```

```
Out[144... 
```

	Title	Published_date	Views	Likes	Favourites
0	Complete Session On Knowledge Graph and GraphD...	2024-07-27T18:32:10Z	8216	404	0
1	Live Crash Course On Graph Database With Langc...	2024-07-26T05:00:52Z	6545	186	0
2	Introducing Llama 3.1: Meta's most capable mod...	2024-07-24T04:29:03Z	16427	470	0
3	Hybrid Search RAG With Langchain And Pinecone ...	2024-07-16T04:50:35Z	17297	381	0
4	Udemy Course Announcement-Complete Generative ...	2024-07-10T10:31:27Z	16301	446	0
...
1837	Important libraries used in python Data Scienc...	2017-11-26T07:48:27Z	22380	194	0
1838	Anaconda installation with Packages- Machine L...	2017-11-26T06:16:34Z	79056	365	0
1839	What is Supervised Machine Learning- Machine L...	2017-11-26T04:50:08Z	38092	424	0
1840	What is Machine Learning in Data Science- Mach...	2017-11-25T12:27:20Z	156423	962	0
1841	Maeri unplugged by Krish and band	2014-06-01T07:20:59Z	6107	150	0

1842 rows × 5 columns

```
In [145... KN_video_data.dtypes
```

```
Out[145... Title          object
Published_date  object
Views          object
Likes          object
Favourites     object
dtype: object
```

```
In [146... KN_video_data['Published_date'] = pd.to_datetime(KN_video_data['Published_date']).dt.date
KN_video_data['Views'] = KN_video_data['Views'].astype(int)
KN_video_data['Likes'] = KN_video_data['Likes'].astype(int)
KN_video_data['Favourites'] = KN_video_data['Favourites'].astype(int)
KN_video_data.dtypes
```

```
Out[146... Title          object
Published_date  object
Views          int32
Likes          int32
Favourites     int32
dtype: object
```

```
In [147... KN_video_data.head(5)
```


Out[147..

	Title	Published_date	Views	Likes	Favourites
0	Complete Session On Knowledge Graph and GraphD...	2024-07-27	8216	404	0
1	Live Crash Course On Graph Database With Langc...	2024-07-26	6545	186	0
2	Introducing Llama 3.1: Meta's most capable mod...	2024-07-24	16427	470	0
3	Hybrid Search RAG With Langchain And Pinecone ...	2024-07-16	17297	381	0
4	Udemy Course Announcement-Complete Generative ...	2024-07-10	16301	446	0

In [148..

```
KN_top10_videos = KN_video_data.sort_values(by='Views',ascending=False).head(10)
KN_top10_videos
```

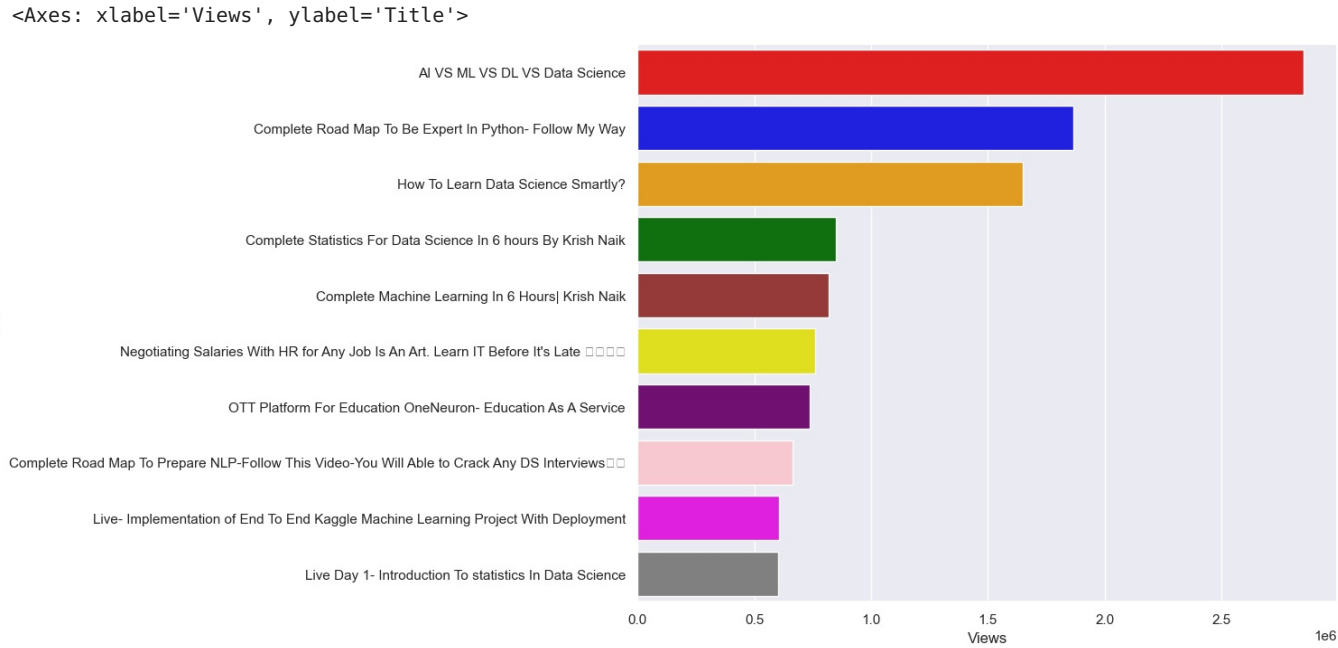
Out[148..

	Title	Published_date	Views	Likes	Favourites
1589	AI VS ML VS DL VS Data Science	2019-11-26	2851450	68430	0
1149	Complete Road Map To Be Expert In Python- Foll...	2020-09-18	1866068	20374	0
1707	How To Learn Data Science Smartly?	2019-08-22	1648781	52390	0
421	Complete Statistics For Data Science In 6 hour...	2022-06-19	847749	17660	0
442	Complete Machine Learning In 6 Hours Krish Naik	2022-05-28	816608	15169	0
1039	Negotiating Salaries With HR for Any Job Is An...	2020-12-30	759581	16697	0
585	OTT Platform For Education OneNeuron- Educatio...	2021-12-11	737228	986	0
1139	Complete Road Map To Prepare NLP-Follow This V...	2020-09-25	663142	4975	0
1254	Live- Implementation of End To End Kaggle Mach...	2020-06-30	606092	14090	0
541	Live Day 1- Introduction To statistics In Data...	2022-01-22	600703	15725	0

In [149..

```
colors = ['red' , 'blue' , 'orange' , 'green' , 'brown' , 'yellow' , 'purple' , 'pink' , 'magenta' , 'grey']
sns.barplot(x='Views',y='Title',data=KN_top10_videos,palette = colors)
```

Out[149..



In [150..

```
KN_video_data
```

Out[150...

	Title	Published_date	Views	Likes	Favourites
0	Complete Session On Knowledge Graph and GraphD...	2024-07-27	8216	404	0
1	Live Crash Course On Graph Database With Langc...	2024-07-26	6545	186	0
2	Introducing Llama 3.1: Meta's most capable mod...	2024-07-24	16427	470	0
3	Hybrid Search RAG With Langchain And Pinecone ...	2024-07-16	17297	381	0
4	Udemy Course Announcement-Complete Generative ...	2024-07-10	16301	446	0
...
1837	Important libraries used in python Data Scienc...	2017-11-26	22380	194	0
1838	Anaconda installation with Packages- Machine L...	2017-11-26	79056	365	0
1839	What is Supervised Machine Learning- Machine L...	2017-11-26	38092	424	0
1840	What is Machine Learning in Data Science- Mach...	2017-11-25	156423	962	0
1841	Maeri unplugged by Krish and band	2014-06-01	6107	150	0

1842 rows × 5 columns

In [151...

```
KN_video_data['Month'] = pd.to_datetime(KN_video_data['Published_date']).dt.strftime('%b')
KN_videos_per_month = KN_video_data.groupby('Month',as_index=False).size()
KN_videos_per_month
```

Out[151...

	Month	size
0	Apr	164
1	Aug	161
2	Dec	112
3	Feb	164
4	Jan	205
5	Jul	145
6	Jun	177
7	Mar	161
8	May	175
9	Nov	111
10	Oct	125
11	Sep	142

In [152...

```
KN_videos_per_month.index = pd.CategoricalIndex(KN_videos_per_month['Month'], categories=sort_order, ordered=True)
KN_videos_per_month = KN_videos_per_month.sort_index()
KN_videos_per_month
```

Out[152...

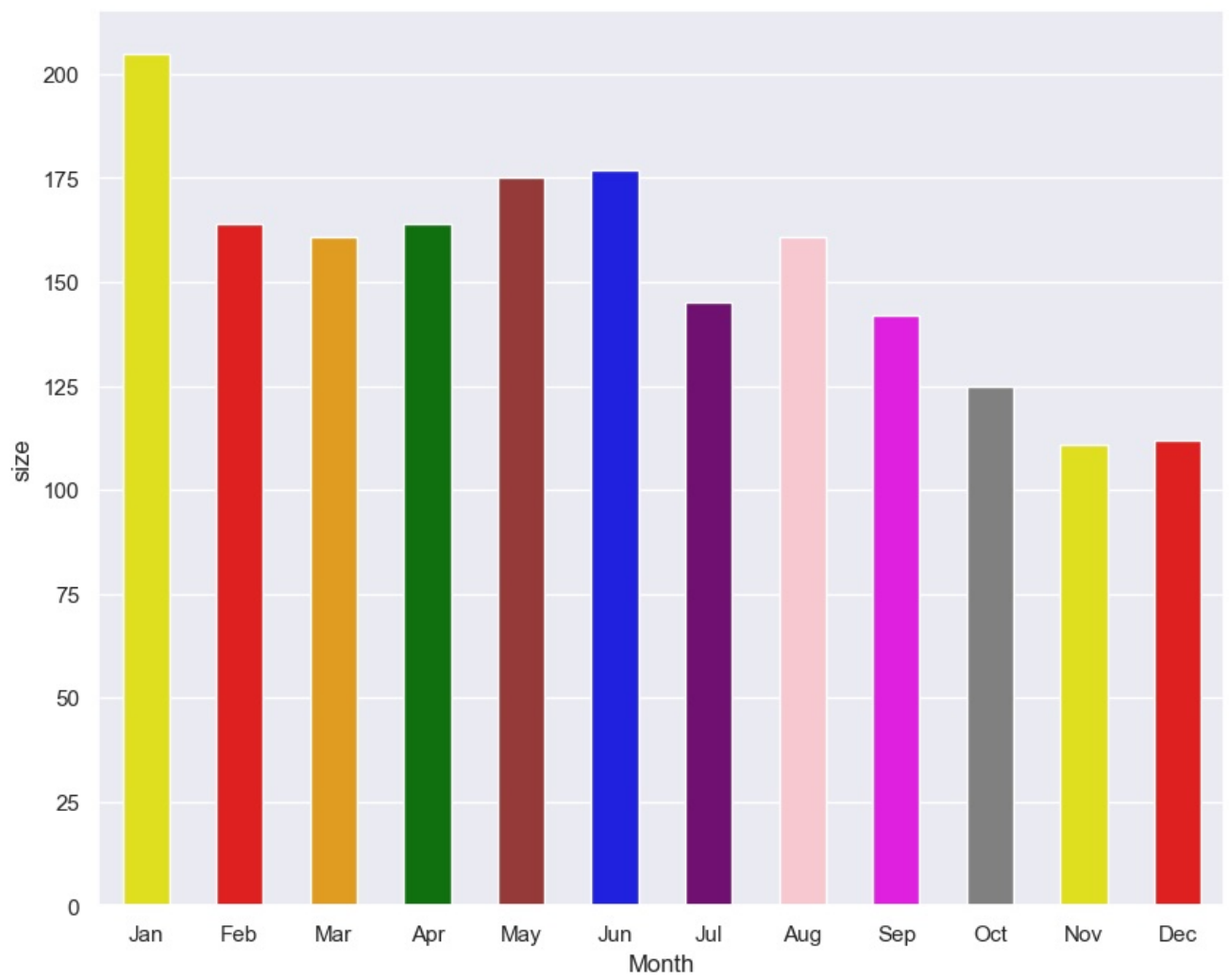
	Month	size
	Jan	205
	Feb	164
	Mar	161
	Apr	164
	May	175
	Jun	177
	Jul	145
	Aug	161
	Sep	142
	Oct	125
	Nov	111
	Dec	112

In [153...

```
colors = ['yellow', 'red', 'orange', 'green', 'brown', 'blue', 'purple', 'pink', 'magenta', 'grey']
sns.barplot(x='Month',y='size',data=KN_videos_per_month,width=0.5 ,palette=colors)
```

Out[153...

<Axes: xlabel='Month', ylabel='size'>



In []:

Loading [MathJax]/extensions/Safe.js