YT Top 5000 Channels Analysis

In [2]:

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
%matplotlib inline
import warnings
warnings.filterwarnings("ignore")
```

In [3]:

```
df = pd.read_csv("top-5000-youtube-channels.csv")
df.head(2)
```

Out[3]:

	Rank	Grade	Channel name	Video Uploads	Subscribers	Video views
0	1st	A++	Zee TV	82757	18752951	20869786591
1	2nd	A++	T-Series	12661	61196302	47548839843

1. Display first 5 rows of this dataset

In [4]:

```
df.head(5)
```

Out[4]:

	Rank	Grade	Channel name	Video Uploads	Subscribers	Video views
0	1st	A++	Zee TV	82757	18752951	20869786591
1	2nd	A++	T-Series	12661	61196302	47548839843

	Rank	Grade	Channel name	Video Uploads	Subscribers	Video views
2	3rd	A++	Cocomelon - Nursery Rhymes	373	19238251	9793305082
3	4th	A++	SET India	27323	31180559	22675948293
4	5th	A++	WWE	36756	32852346	26273668433

2. Display last 5 rows of this dataset

In [5]:

```
df.tail(5)
```

Out[5]:

	Rank	Grade	Channel name	Video Uploads	Subscribers	Video views
4995	4,996th	B+	Uras Benlioğlu	706	2072942	441202795
4996	4,997th	B+	HI-TECH MUSIC LTD	797	1055091	377331722
4997	4,998th	B+	Mastersaint	110	3265735	311758426
4998	4,999th	B+	Bruce McIntosh	3475	32990	14563764
4999	5,000th	B+	SehatAQUA	254	21172	73312511

3. Find Shape of Our Dataset (Number of Rows And Number of Columns)

In [6]:

```
print(f"Rows = {df.shape[0]} and Columns = {df.shape[1]}")
```

```
Rows = 5000 and Columns = 6
```

4. Get Information About Our Dataset Like Total Number Rows, Total Number of Columns, Datatypes of Each Column

In [7]:

```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 5000 entries, 0 to 4999
Data columns (total 6 columns):
 #   Column          Non-Null Count  Dtype 
---  ------          --------------  ----- 
 0   Rank            5000 non-null   object
 1   Grade           5000 non-null   object
 2   Channel name    5000 non-null   object
 3   Video Uploads   5000 non-null   object
 4   Subscribers     5000 non-null   object
 5   Video views     5000 non-null   int64 
dtypes: int64(1), object(5)
memory usage: 234.5+ KB
```

5. Get Overall Statistics About The Dataframe

In [8]:

```
df.describe()   # Im getting only 1 column but there are 3 columns which are numeric
```

Out[8]:

	Video views
count	5.000000e+03
mean	1.071449e+09
std	2.003844e+09

	Video views
std	2.003844e+09
min	7.500000e+01
25%	1.862329e+08
50%	4.820548e+08
75%	1.124368e+09
max	4.754884e+10

6. Data Cleaning (Replace '--' to NaN)

In [10]:

```
df[df["Video Uploads"]=="--"]
```

Out[10]:

	Rank	Grade	Channel name	Video Uploads	Subscribers	Video views
267	268th		MidnightXChannel	--	--	190256974
517	518th		Dusama Pets TV	--	--	91601494
2323	2,324th		Random	--	12275	17897584
3072	3,073rd		Boram Tube Toy Shcool [보람튜브...	--	726527	205555289
3247	3,248th		atheer sultan	--	--	79663674
4898	4,899th		ExzoticSlice	--	99785	9745292

In [12]:

```
df["Video Uploads"] = df["Video Uploads"].replace("--",np.nan)
```

In [16]:

```
df["Subscribers"] = df["Subscribers"].replace("--",np.nan, regex=True)
```

7. Check Null Values In The Dataset

In [17]:

```
df.isnull().sum()   # Video Uploads has 6 and Subscribers has 387 null values
```

Out[17]:

```
Rank               0
Grade              0
Channel name       0
Video Uploads      6
Subscribers      387
Video views        0
dtype: int64
```

In [19]:

```
df.dropna(axis=0, inplace=True)
```

In [20]:

```
df.isnull().sum()
```

Out[20]:

```
Rank             0
Grade            0
Channel name     0
Video Uploads    0
Subscribers      0
Video views      0
```

```
dtype: int64
```

8. Data Cleaning [Video Uploads & Subscribers]

In [21]:

```
df["Video Uploads"] = df["Video Uploads"].astype("int64")
```

In [22]:

```
df["Subscribers"] = df["Subscribers"].astype("int64")
```

In [23]:

```
df.dtypes     # clear
```

Out[23]:

```
Rank                object
Grade               object
Channel name        object
Video Uploads        int64
Subscribers          int64
Video views          int64
dtype: object
```

9. Find Average Views For Each Channel

In [25]:

```
round(df["Video views"].mean())
```

Out[25]:

```
1138403081
```

10. Find Out Top Five Channels With Maximum Number of Video Uploads

In [26]:

```
df[["Channel name", "Video Uploads" ]].sort_values("Video Uploads", ascending=False).hea
d(5)
```

Out[26]:

	Channel name	Video Uploads
3453	AP Archive	422326
1149	YTN NEWS	355996
2223	SBS Drama	335521
323	GMA News	269065
2956	MLB	267649

11. Find Correlation Matrix

In [30]:

```
df.corr()
```

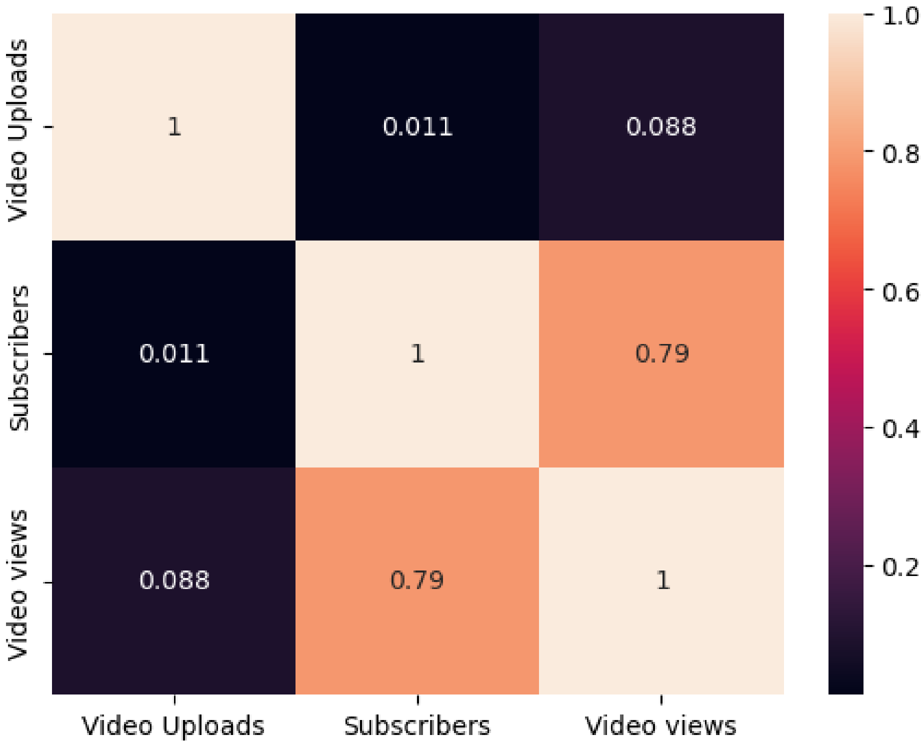
Out[30]:

	Video Uploads	Subscribers	Video views
Video Uploads	1.000000	0.011362	0.087830

	Video Uploads	Subscribers	Video views
Subscribers	0.011362	1.000000	0.791241
Video views	0.087830	0.791241	1.000000

In [31]:

```
sns.heatmap(df.corr(), annot=True)
plt.show()     # Subsribers and Video Views has higher correlation
```



12. Which Grade Has A Maximum Number of Video Uploads?

In [36]:

```
df.groupby("Grade")["Video Uploads"].sum().sort_values(ascending=False).head(1)
```

Out[36]:

```
Grade
B+     8536620
Name: Video Uploads, dtype: int64
```

13. Which Grade Has The Highest Average Views?

In [34]:

```
df.groupby("Grade")["Video views"].mean().sort_values(ascending=False)
```

Out[34]:

```
Grade
A++     2.119909e+10
A+      6.168742e+09
A       2.497973e+09
A-      1.102450e+09
B+      5.551838e+08
Name: Video views, dtype: float64
```

14. Which Grade Has The Highest Number of Subscribers?

In [38]:

```
df.groupby("Grade")["Subscribers"].mean().sort_values(ascending=False)
```

Out[38]:

```
Grade
A++     2.228176e+07
A+      1.172695e+07
A       5.107136e+06
A-      2.798520e+06
B+      1.535208e+06
Name: Subscribers, dtype: float64
```

15. Which Grade Has The Highest Video Views?

In [39]:

```
df.groupby("Grade")["Video views"].mean().sort_values(ascending=False)
```

Out[39]:

```
Grade
A++     2.119909e+10
A+      6.168742e+09
A       2.497973e+09
A-      1.102450e+09
B+      5.551838e+08
Name: Video views, dtype: float64
```