Netflix Dataset Analysis

Introduction:

This Dataset contains the information about the shows released on netflix. It contains all the data to shows i.e. country, genres, cast, irector, duration, rating and etc. The objective is to analuze th dataset and extract useful and meaningful insights from it.

1. Import Libraries

In [4]:
```
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

2. Load Dataset

In [6]:
```
df= pd.read_csv("C:/Users/DELL/Downloads/netflix_titles.csv")
df.head()
```

Out[6]:

	show_id	type	title	director	cast	country	date_added	release_year	ra
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	NaN	United States	September 25, 2021	2020	PG
1	s2	TV Show	Blood & Water	NaN	Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban...	South Africa	September 24, 2021	2021	
2	s3	TV Show	Ganglands	Julien Leclercq	Sami Bouajila, Tracy Gotoas, Samuel Jouy, Nabi...	NaN	September 24, 2021	2021	
3	s4	TV Show	Jailbirds New Orleans	NaN	NaN	NaN	September 24, 2021	2021	
4	s5	TV Show	Kota Factory	NaN	Mayur More, Jitendra Kumar, Ranjan Raj, Alam K...	India	September 24, 2021	2021	

3. Explore Data

In [8]:
```
print("Shape: ", df.shape)
print("Columns: ", df.columns)
df.info()
```

```
Shape:  (8807, 12)
Columns:  Index(['show_id', 'type', 'title', 'director', 'cast', 'country',
'date_added',
       'release_year', 'rating', 'duration', 'listed_in', 'description'],
      dtype='object')
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 8807 entries, 0 to 8806
Data columns (total 12 columns):
 #   Column        Non-Null Count  Dtype
---  ------        --------------  -----
 0   show_id       8807 non-null   object
 1   type          8807 non-null   object
 2   title         8807 non-null   object
 3   director      6173 non-null   object
 4   cast          7982 non-null   object
 5   country       7976 non-null   object
 6   date_added    8797 non-null   object
 7   release_year  8807 non-null   int64
 8   rating        8803 non-null   object
 9   duration      8804 non-null   object
 10  listed_in     8807 non-null   object
 11  description   8807 non-null   object
dtypes: int64(1), object(11)
memory usage: 825.8+ KB
```

4. Null Values

In [10]:
```
df.isnull().sum()
```

Out[10]:
```
show_id            0
type               0
title              0
director        2634
cast             825
country          831
date_added        10
release_year       0
rating             4
duration           3
listed_in          0
description        0
dtype: int64
```

Data Overview:

- Dataset size: rows=8807, columns=12
- Missing values: director=2634, cast=825, country= 831, date_added=10, rating=4, duration=

5. Clean the Data

In [13]:
```
df['country']=df['country'].fillna('Unknown') #for country analysis
```

In [14]:
```
# Step 1: Strip leading/trailing spaces from all date strings
#df['date_added']=df['date_added'].astype(str).str.strip()
# Step 2: Now convert to datetime
#df['date_added']=pd.to_datetime(df['date_added'], errors='coerce')

#we can also drop the rows with null values in "date_added_ column as they
df.dropna(subset=['date_added'], inplace=True)
```

In [15]:
```
df['rating']=df['rating'].fillna('Unknown')
df['duration']=df['duration'].fillna('Unknown')
#these fields can later be used for filtering or grouping
```

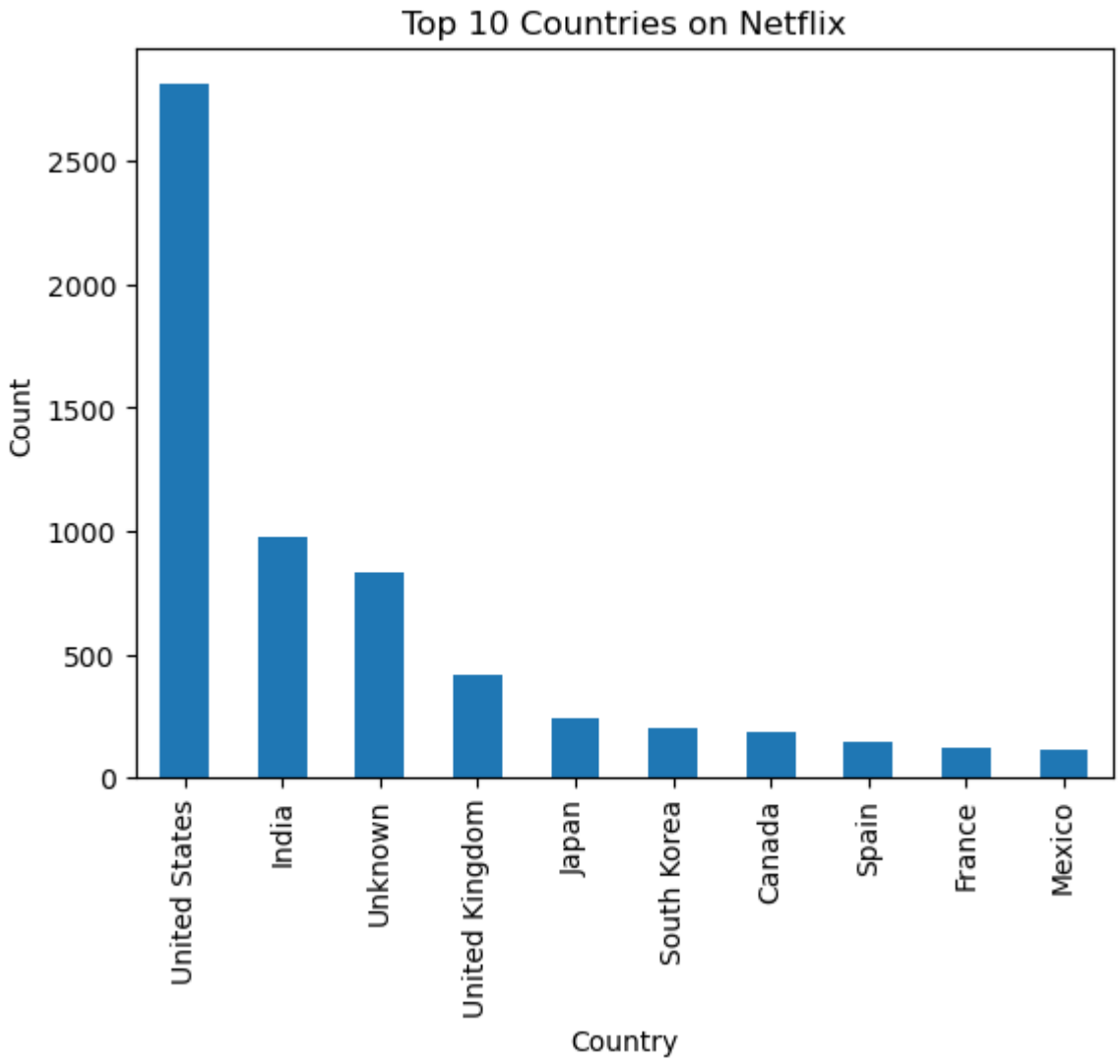
In [23]:
```
df['date_added'] = pd.to_datetime(df['date_added'], errors='coerce')
df['year_added']=df['date_added'].dt.year
#this column will be used for time trends
```

In [25]:
```
df.isnull().sum()
```

Out[25]:
```
show_id            0
type               0
title              0
director        2624
cast             825
country            0
date_added        88
release_year       0
rating             0
duration           0
listed_in          0
description        0
year_added        88
dtype: int64
```

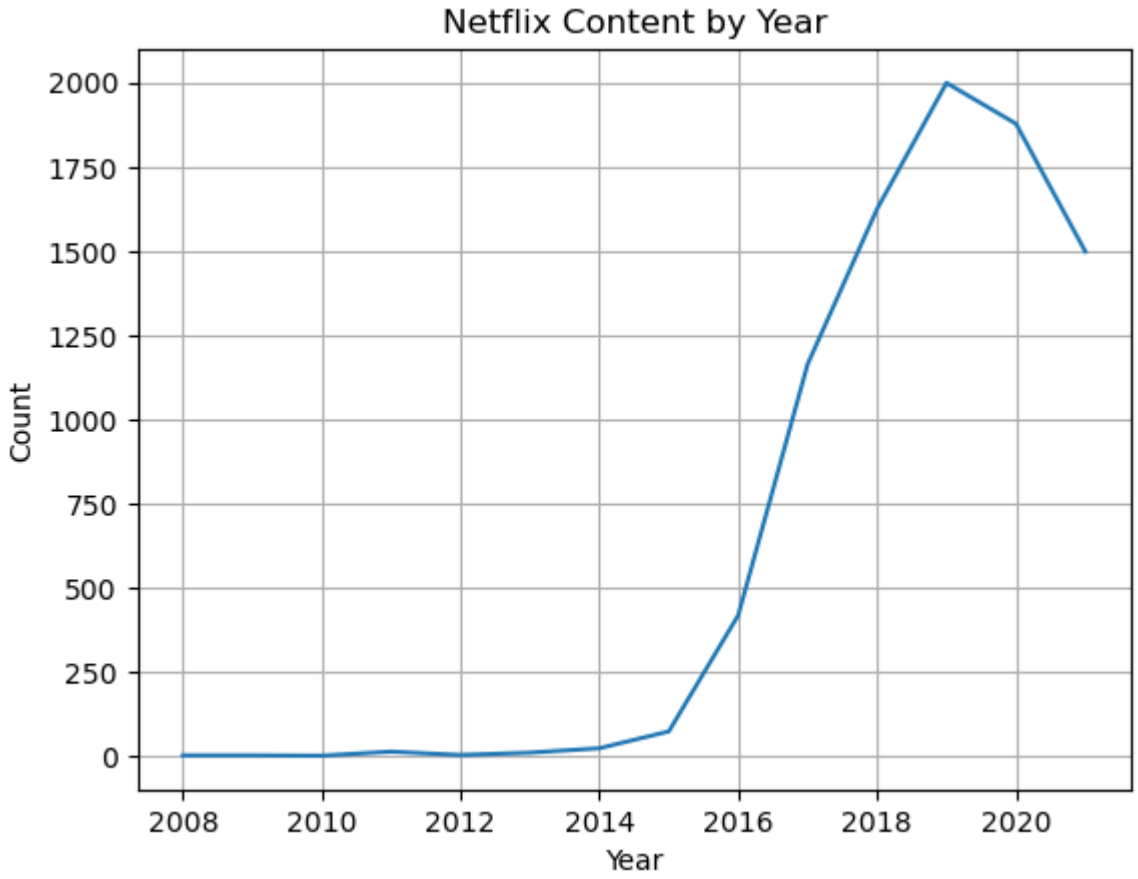
6. EDA + Visualization

In [28]:
```
#1. Top 10 countries with most content
df['country'].value_counts().head(10).plot(kind='bar', title='Top 10 Coun
plt.xlabel("Country")
plt.ylabel("Count")
plt.show()
```



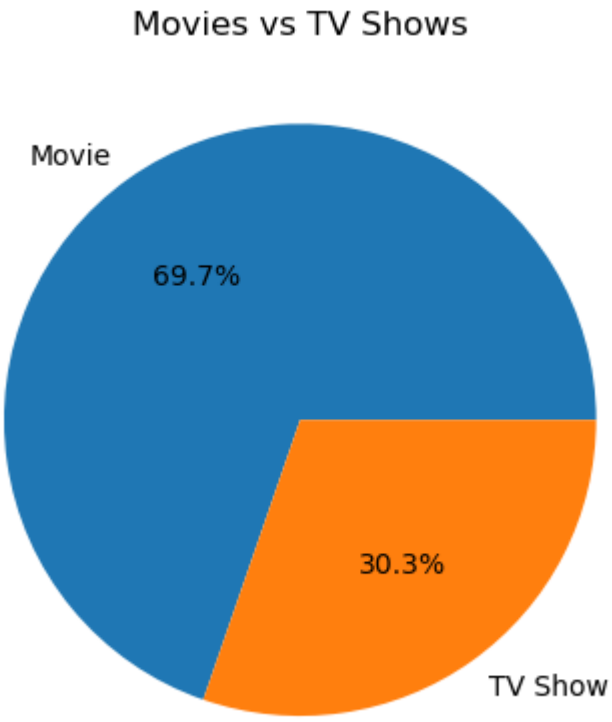
Insight: USA has most content followed by India

In [31]:
```
#2. Content Added by Year
df['year_added'].value_counts().sort_index().plot(kind='line', title='Net
plt.xlabel("Year")
plt.ylabel("Count")
plt.grid()
plt.show()
```



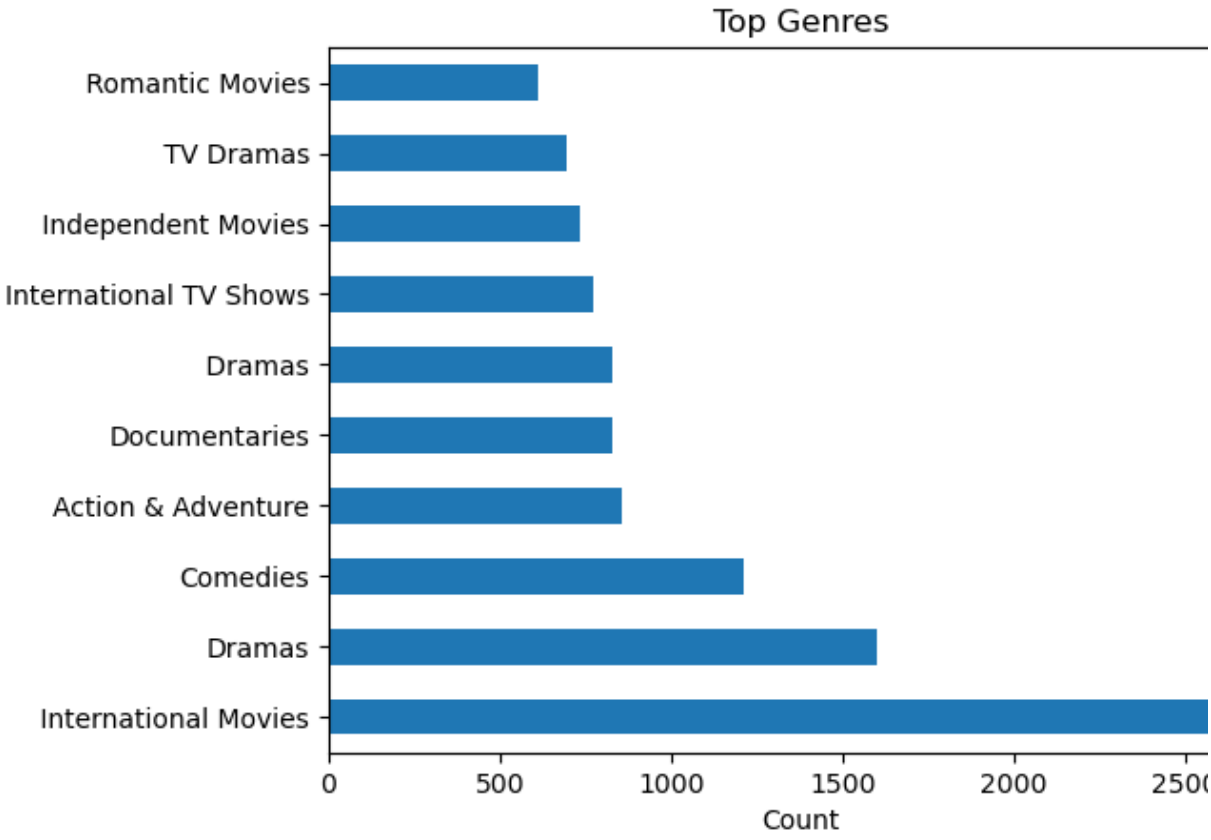
Insight: Most of the content was added in year 2019 i.e. COVID-19 year but on t
yaer 2020 the content had a decline due to lockdowns all over the world.

In [34]:
```
#Movie vs TV Show
df['type'].value_counts().plot(kind='pie', autopct='%1.1f%%', title='Movi
plt.ylabel('')
plt.show()
```



Insight: 69.7% of the netflix audience watches movies while the rest 30.3% is th audience of TV shows

In [37]:
```
#3. Most Popular Genres
df['listed_in'].str.split(',', expand=True).stack().value_counts().head(1(
plt.xlabel("Count")
plt.show()
```



Insight: Most popular Genres include International Movies followed by Dramas a
Comedy.

Summary of Findings

- Most content is from USA and India
- 2019 had the highest content addition
- International Movies, Dramas, and Comedies dominate Netflix
- Movies make up ~70% of Netflix content

Business Suggestion

Netflix can:

- Invest more in regional content (e.g., Korean, Turkish)
- Increase TV shows in trending genres
- Explore underrepresented countries

In [ ]: