Data Preparation and Cleaning Here we will read the data from the CSV file and clean the data as per our purposes. We will drop the NaN values and split the dataset into movies and TV Shows datasets.

In [1]:
```
import pandas as pd
netflix_df = pd.read_csv('Netflix_Data.csv')
```

In [2]:
```
netflix_df.head(5)
```

Out[2]:

	show_id	type	title	director	cast	country	date_added	release_year	rating	dura
0	s1	Movie	Dick Johnson Is Dead	Kirsten Johnson	NaN	United States	September 25, 2021	2020	PG-13	90
1	s2	TV Show	Blood & Water	NaN	Ama Qamata, Khosi Ngema, Gail Mabalane, Thaban...	South Africa	September 24, 2021	2021	TV-MA	Sea
2	s3	TV Show	Ganglands	Julien Leclercq	Sami Bouajila, Tracy Gotoas, Samuel Jouy, Nabi...	NaN	September 24, 2021	2021	TV-MA	Sea
3	s4	TV Show	Jailbirds New Orleans	NaN	NaN	NaN	September 24, 2021	2021	TV-MA	Sea
4	s5	TV Show	Kota Factory	NaN	Mayur More, Jitendra Kumar, Ranjan Raj, Alam K...	India	September 24, 2021	2021	TV-MA	Sea

In [3]:
```
netflix_df.shape
```

Out[3]:
```
(8807, 12)
```

In [4]:

```
netflix_df.count()
```

Out[4]:

```
show_id         8807
type            8807
title           8807
director        6173
cast            7982
country         7976
date_added      8797
release_year    8807
rating          8803
duration        8804
listed_in       8807
description     8807
dtype: int64
```

In [5]:

```
netflix_df.dropna(inplace = True)
```

In [6]:

```
netflix_df.count()
```

Out[6]:

```
show_id         5332
type            5332
title           5332
director        5332
cast            5332
country         5332
date_added      5332
release_year    5332
rating          5332
duration        5332
listed_in       5332
description     5332
dtype: int64
```

In [7]:

```
netflix_df.date_added = pd.to_datetime(netflix_df.date_added)
```

In [8]:

```
netflix_shows = netflix_df[netflix_df.type == "TV Show"]
```

In [9]:

```
netflix_movies = netflix_df[netflix_df.type == "Movie"]
```

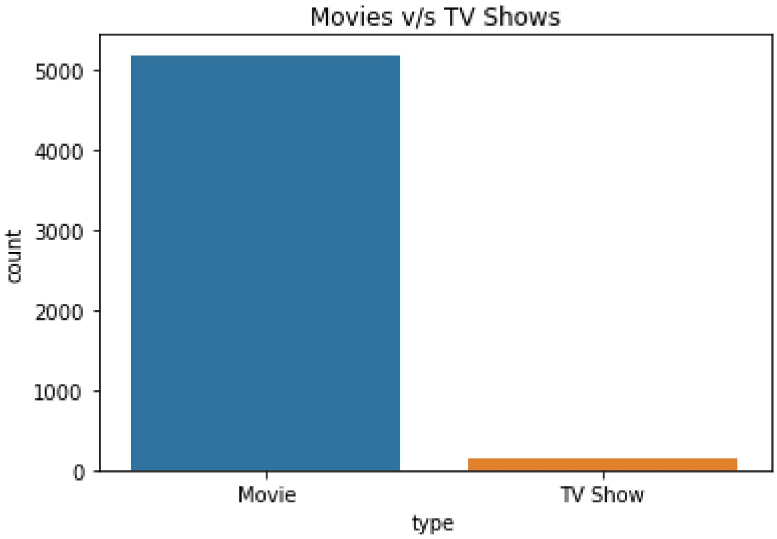
Exploratory Analysis and Visualization Here we will do some exploratory analysis. We will check how the dataset is distributed and check the content of the dataset.

In [10]:

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

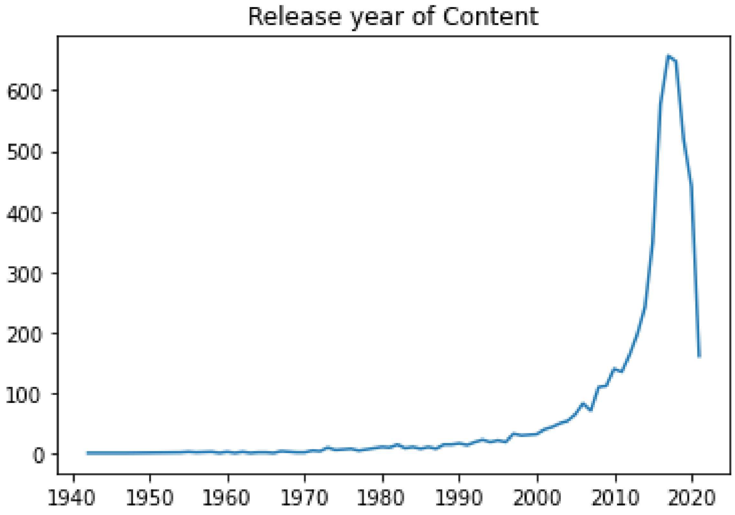
Lets check the how many entries for movies and TV shows are there in the dataset.

```
In [11]: plt.title("Movies v/s TV Shows")
         sns.countplot(x= netflix_df.type);
```



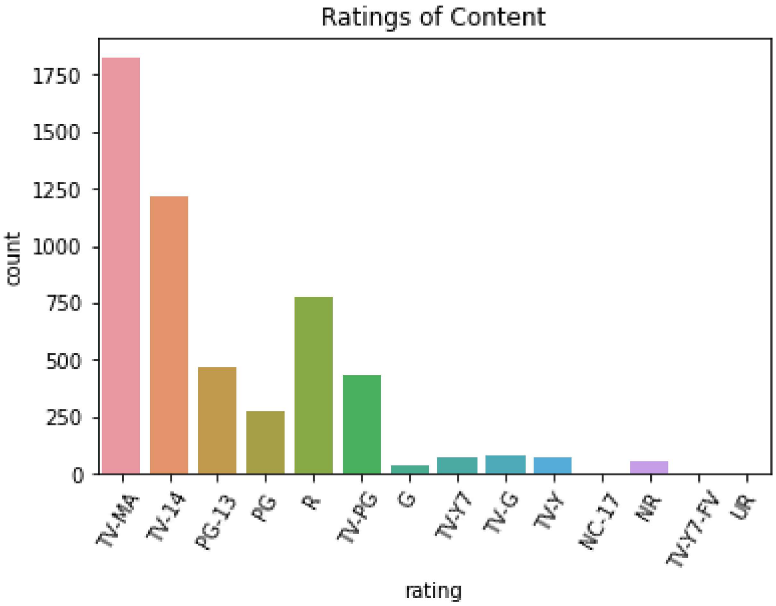
Lets check distribution of when the movies were release

```
In [12]: plt.title("Release year of Content")
         plt.plot(netflix_df.groupby(by = ["release_year"]).release_year.count());
```



Lets check the distribution of the ratings of the movies

In [13]:
```
plt.title("Ratings of Content")
plt.xticks(rotation=60)
sns.countplot(x= netflix_df.rating);
```



Lets check the oldest 15 movies from the dataset.

```
In [14]: # 15 oldest movies in the dataset
         netflix_movies.sort_values("release_year").title.head(15)
```

```
Out[14]: 8205       The Battle of Midway
         8640           Tunisian Victory
         7219    Know Your Enemy - Japan
         7294         Let There Be Light
         8587                Thunderbolt
         1699            White Christmas
         2375            The Blazing Sun
         7954        Scandal in Sorrento
         8506          The Sign of Venus
         7839      Rebel Without a Cause
         6784           Forbidden Planet
         2369                Dark Waters
         6431      Cat on a Hot Tin Roof
         2368              Cairo Station
         6853                       Gigi
         Name: title, dtype: object
```

Lets check the 15 oldest TV Shows from the dataset.

```
In [15]: #15 oldest TV shows in the dataset
         netflix_shows.sort_values("release_year").title.head(15)
```

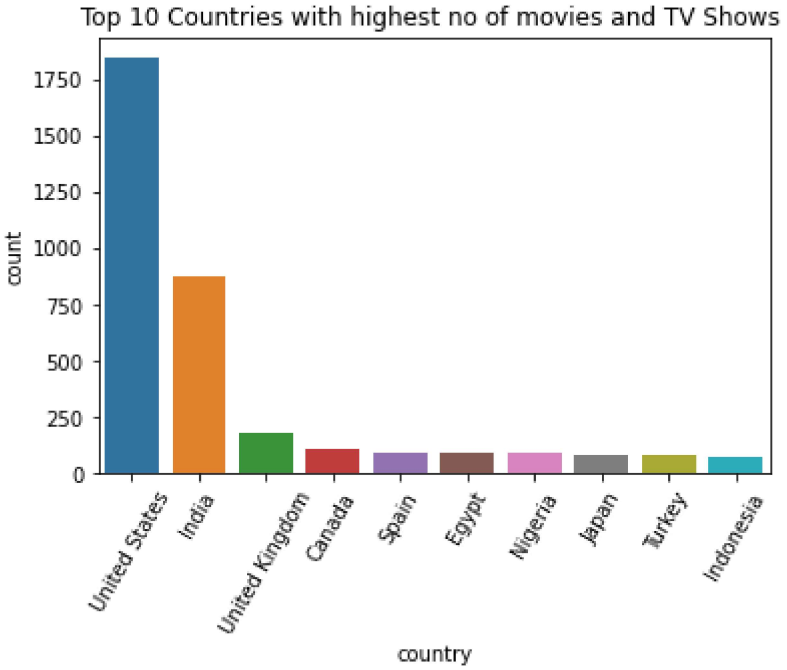
```
Out[15]: 7175                             Ken Burns: The Civil War
         8214     The Blue Planet: A Natural History of the Oceans
         7748                Planet Earth: The Complete Collection
         3541                                               Naruto
         803                           Ouran High School Host Club
         5096                     Fullmetal Alchemist: Brotherhood
         6838                                     Geronimo Stilton
         6810                                        Frozen Planet
         316                                          Office Girls
         8293                                             The Fear
         5674                                               Merlin
         3614                                           Reply 1997
         3137                                     Girls und Panzer
         6371                                     Brave Miss World
         7648    Oliver Stone's Untold History of the United St...
         Name: title, dtype: object
```

In this section we will be asking some questions about the dataset and try to answer them from the data available.

Q1: Which country has the highest no of movies and TV shows?

In [16]:

```
plt.title("Top 10 Countries with highest no of movies and TV Shows ")
plt.xticks(rotation=60)
sns.countplot(x = netflix_df.country, order = netflix_df['country'].value_counts(
```

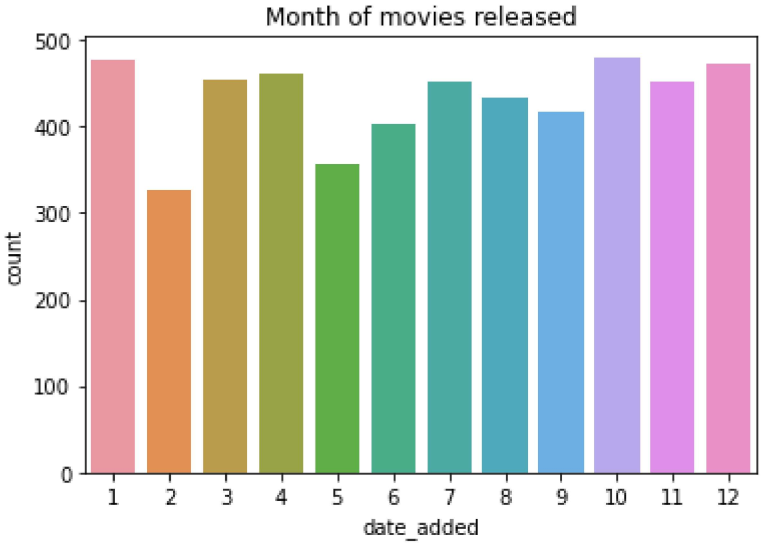


From the above chart, we can see that United States is producing the highest number of Movies as well as TV Shows.

Q2: Which month are the most no of movies released?

In [17]:

```
plt.title("Month of movies released")
release_month= netflix_movies.date_added.dt.month
sns.countplot(x= release_month);
```

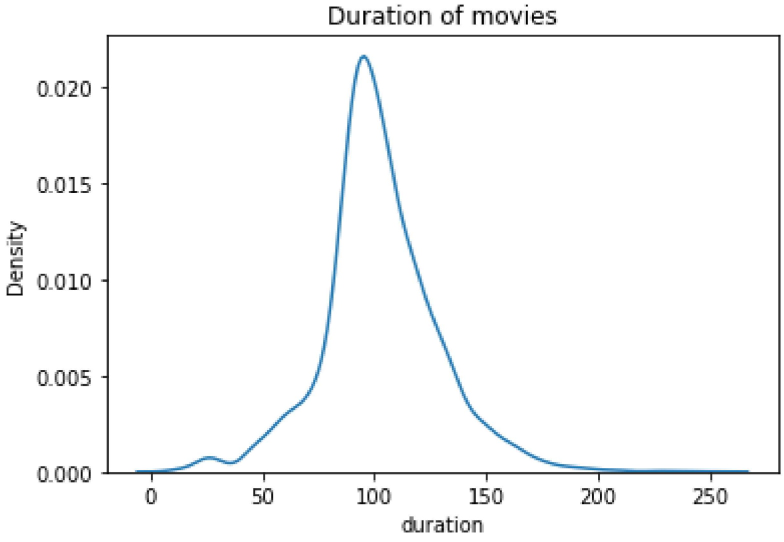


We can see that the highest number of movies are released around the holiday season i.e November, December and January.

Q3: How long is the duration of a average movie?

In [18]:

```
plt.title("Duration of movies")
netflix_movies_duration = netflix_movies["duration"].str.replace("min","")
sns.kdeplot(data=netflix_movies_duration.astype(int));
```

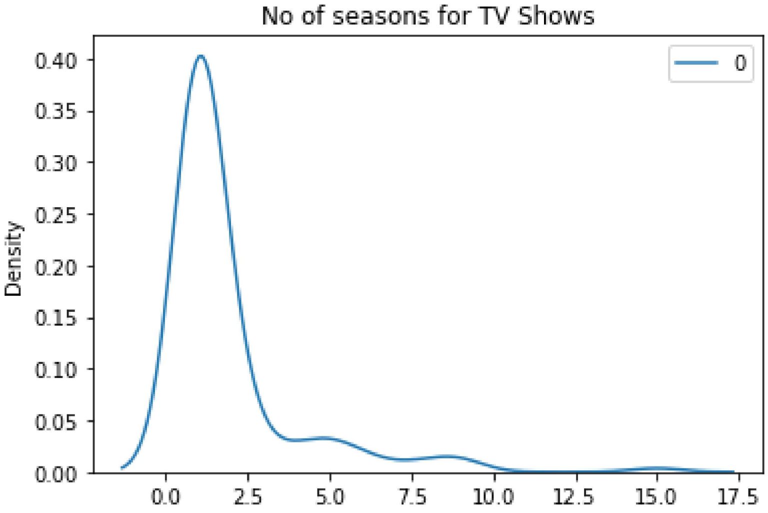


The average duration of movie is about 90-120 mins. It is acceptable considering the fact that a fair amount of the audience cannot watch a 3 hour movie in one sitting.

Q4: How many seasons does a average TV show have?

In [19]:

```
plt.title("No of seasons for TV Shows")
netflix_show_duration = netflix_shows["duration"].str.extract('(\d+)')
sns.kdeplot(data=netflix_show_duration.astype(int));
```

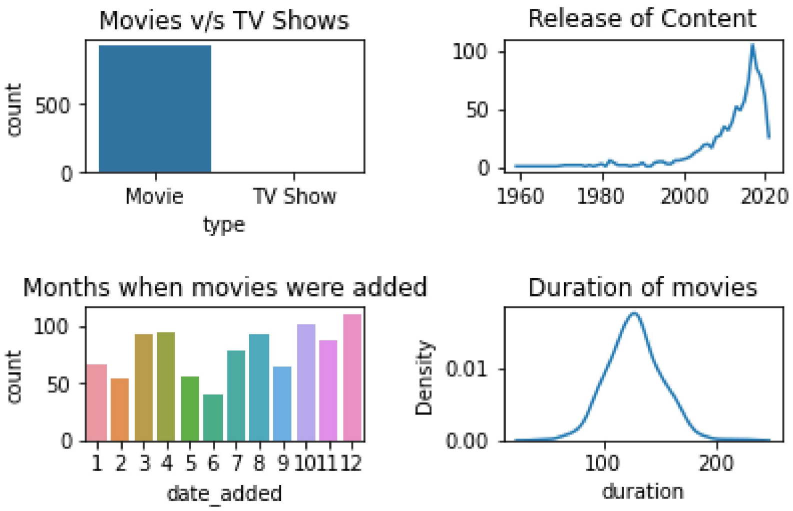


The average looks to be about 1-2.5 seasons.

Q5: How does India perform in the area of content creation

In [20]:

```
#making a df for indian content
india_content= netflix_df[netflix_df["country"].str.contains('India')]
fig, axes = plt.subplots(2, 2)

#graph 1
axes[0][0].set_title("Movies v/s TV Shows")
sns.countplot(x=india_content.type, ax=axes[0,0]);

#graph 2
axes[0][1].set_title("Release of Content")
axes[0][1].plot(india_content.groupby(by = ["release_year"]).release_year.count(

#graph 3
axes[1][0].set_title("Months when movies were added")
sns.countplot(x= india_content.date_added.dt.month, ax=axes[1,0]);

#graph 4
axes[1][1].set_title("Duration of movies")
indian_movies = india_content[india_content.type == "Movie"]
indian_movies_duration = indian_movies["duration"].str.replace("min","")
sns.kdeplot(data=indian_movies_duration.astype(int));

plt.tight_layout(pad=2);
```



We can see that India is more into producing movies than TV Shows. The release of new content has picked up pace since the 2000s. India is on par with the world when it comes to the duration of movies.

```
Inferences and Conclusion
We can conclude the following from the data analysis

1.Netflix has a lot more movies than TV Shows

2.Release of new content is picking up quite a lot of pace in the last few
years.

3.United States is the highest producer for TV Shows as well as movies.
```

4.Highest number of movies are released around the holiday season i.e November, December and January.