In [7]:
```
# Amazon Top 50 Bestselling Books 2009-2022
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
%matplotlib inline
```

In [8]:
```
data =pd.read_csv(r"C:\Users\ahmet\Downloads\bestsellers_with_categories_2022_03_27.csv
df = pd.DataFrame(data)
```

In [9]:
```
df.head()
```

Out[9]:

	Name	Author	User Rating	Reviews	Price	Year	Genre
0	Act Like a Lady, Think Like a Man: What Men Re...	Steve Harvey	4.6	5013	17	2009	Non Fiction
1	Arguing with Idiots: How to Stop Small Minds a...	Glenn Beck	4.6	798	5	2009	Non Fiction
2	Breaking Dawn (The Twilight Saga, Book 4)	Stephenie Meyer	4.6	9769	13	2009	Fiction
3	Crazy Love: Overwhelmed by a Relentless God	Francis Chan	4.7	1542	14	2009	Non Fiction
4	Dead And Gone: A Sookie Stackhouse Novel (Sook...	Charlaine Harris	4.6	1541	4	2009	Fiction

In [10]:
```
#Shows descriptive statistics data
df.describe()
```

Out[10]:

	User Rating	Reviews	Price	Year
count	700.000000	700.000000	700.000000	700.000000
mean	4.639857	19255.195714	12.700000	2015.500000
std	0.218586	23613.443875	9.915162	4.034011
min	3.300000	37.000000	0.000000	2009.000000
25%	4.500000	4987.250000	7.000000	2012.000000
50%	4.700000	10284.000000	11.000000	2015.500000
75%	4.800000	23358.000000	15.000000	2019.000000
max	4.900000	208917.000000	105.000000	2022.000000

In [56]:
```
#cheking for null values
for i in df.columns:
  print(i,"\t-\t", df[i].isna().mean()*100)
```

```
Name    -        0.0
Author  -        0.0
User Rating     -        0.0
Reviews         -        0.0
Price   -        0.0
Year    -        0.0
Genre   -        0.0
```

In [11]:
```
df.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 700 entries, 0 to 699
Data columns (total 7 columns):
 #   Column       Non-Null Count  Dtype
---  ------       --------------  -----
 0   Name         700 non-null    object
 1   Author       700 non-null    object
 2   User Rating  700 non-null    float64
 3   Reviews      700 non-null    int64
 4   Price        700 non-null    int64
 5   Year         700 non-null    int64
 6   Genre        700 non-null    object
dtypes: float64(1), int64(3), object(3)
memory usage: 38.4+ KB
```

In [31]:
```
#sort the values of the 10 books in a ascending order from top to bottom by User Rating
top10=df.sort_values('User Rating',ascending=False)[:10]
```

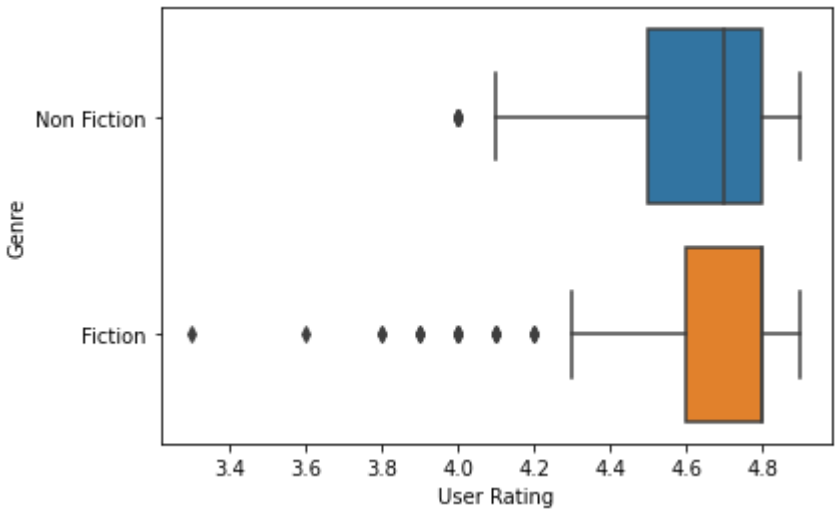
In [32]:
```
top10
```

Out[32]:

	Name	Author	User Rating	Reviews	Price	Year	Genre
605	Brown Bear, Brown Bear, What Do You See?	Bill Martin Jr.	4.9	38969	5	2021	Fiction
607	Call Us What We Carry: Poems	Amanda Gorman	4.9	2873	14	2021	Fiction
457	Dog Man: Brawl of the Wild: From the Creator o...	Dav Pilkey	4.9	7235	4	2018	Fiction
456	Dog Man and Cat Kid: From the Creator of Capta...	Dav Pilkey	4.9	5062	6	2018	Fiction
223	Oh, the Places You'll Go!	Dr. Seuss	4.9	21834	8	2013	Fiction
586	The Deep End (Diary of a Wimpy Kid Book 15)	Jeff Kinney	4.9	38674	7	2020	Fiction
227	Rush Revere and the Brave Pilgrims: Time-Trave...	Rush Limbaugh	4.9	7150	12	2013	Fiction
443	The Wonderful Things You Will Be	Emily Winfield Martin	4.9	8842	10	2017	Fiction
592	The Very Hungry Caterpillar	Eric Carle	4.9	47260	5	2020	Fiction
441	The Very Hungry Caterpillar	Eric Carle	4.9	19546	5	2017	Fiction

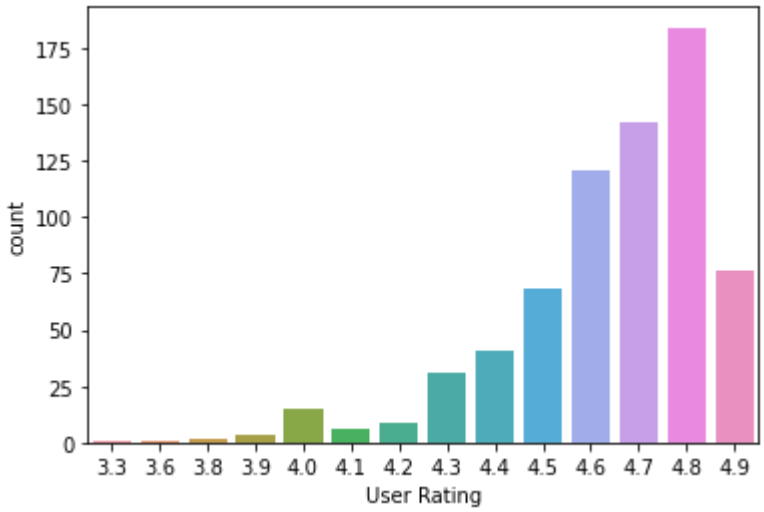
In [36]:
```
#Used seaborn to graph the genre and the user ratings.
#Acorrding to the graph  fiction is more popular than non-fiction on Amazon
sns.boxplot(x ='User Rating', y = 'Genre',data =df)
```

Out[36]:
```
<AxesSubplot:xlabel='User Rating', ylabel='Genre'>
```



In [26]:
```
#shows a visual reapresentation of user rating
sns.countplot(x = df['User Rating'])
```

Out[26]:
```
<AxesSubplot:xlabel='User Rating', ylabel='count'>
```



In [71]:
```
#Used pandas to extract data from the column user ratings that is equal to 4.9
#I used the groupby function to group author and user rating coulmn.
#Shows the top authors with the highest ratings.
bestsellers = df[df['User Rating']==5.0]
bestsellers = bestsellers.groupby('Author')['User Rating']
```

In [72]:
```
bestsellers
```

Out[72]:
```
<pandas.core.groupby.generic.SeriesGroupBy object at 0x000001F8A1917C10>
```

In [15]:

```
# I made the new year set to years from 2009-2022.
#I used the mean() function to give the average of the other numeric columns.
#Reset index to reset the index after making modifications to the column
pyear = df.groupby('Year').mean().reset_index()
pyear['Year'] = [ 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 202
pyear
```

Out[15]:

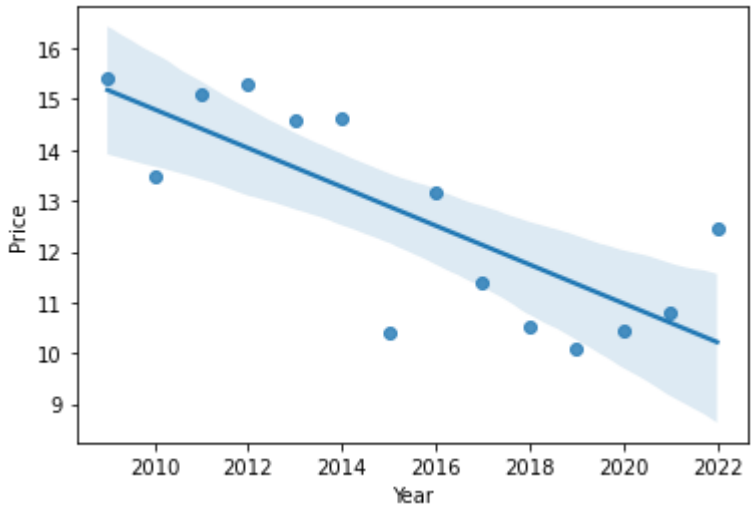
	Year	User Rating	Reviews	Price
0	2009	4.584	4710.12	15.40
1	2010	4.558	5479.62	13.48
2	2011	4.558	8100.82	15.10
3	2012	4.532	13090.92	15.30
4	2013	4.554	13098.14	14.60
5	2014	4.622	15859.94	14.64
6	2015	4.648	14233.38	10.42
7	2016	4.678	14196.00	13.18
8	2017	4.660	12888.40	11.38
9	2018	4.668	13930.42	10.52
10	2019	4.740	15898.34	10.08
11	2020	4.726	52349.94	10.46
12	2021	4.738	44859.48	10.78
13	2022	4.692	40877.22	12.46

In [16]:

```
#plots the linear regression model of the data from x and y.
#From the data the amazon price of books declined as the years went on.
sns.regplot(x="Year", y="Price",data=pyear)
```

Out[16]:

```
<AxesSubplot:xlabel='Year', ylabel='Price'>
```



In [ ]: