FIND AVERAGE RATING OF MOVIES YEAR WISE

In [63]:
```
data.columns
```

Out[63]:
```
Index(['Rank', 'Title', 'Genre', 'Description', 'Director', 'Actors', 'Year',
       'Runtime (Minutes)', 'Rating', 'Votes', 'Revenue (Millions)',
       'Metascore'],
      dtype='object')
```

In [64]:
```
data.groupby("Year")["Rating"].mean().sort_values(ascending=False)
```

Out[64]:
```
Year
2007    7.133962
2006    7.125000
2009    6.960784
2012    6.925000
2011    6.838095
2014    6.837755
2010    6.826667
2013    6.812088
2008    6.784615
2015    6.602362
2016    6.436700
Name: Rating, dtype: float64
```

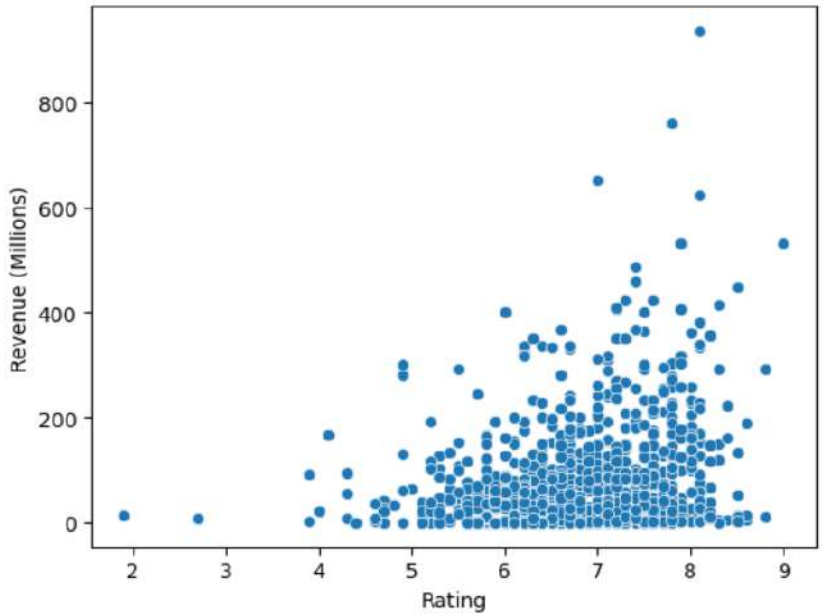
DOES RATING AFFECT THE REVENUE?

In [65]:
```
data.columns
```

Out[65]:
```
Index(['Rank', 'Title', 'Genre', 'Description', 'Director', 'Actors', 'Year',
       'Runtime (Minutes)', 'Rating', 'Votes', 'Revenue (Millions)',
       'Metascore'],
      dtype='object')
```

In [66]:
```
sns.scatterplot(x="Rating", y="Revenue (Millions)", data=data)
```

Out[66]:
```
<Axes: xlabel='Rating', ylabel='Revenue (Millions)'>
```



CLASSIFY MOVIES BASED ON RATINGS[EXCELLENT, GOOD AND AVERAGE]

In [67]:
```
data.columns
```

Out[67]:
```
Index(['Rank', 'Title', 'Genre', 'Description', 'Director', 'Actors', 'Year',
       'Runtime (Minutes)', 'Rating', 'Votes', 'Revenue (Millions)',
       'Metascore'],
      dtype='object')
```

In [68]:
```
def rating(rating):
    if rating>=7.0:
        return "Excellent"
    elif rating>=6.0:
        return "Good"
    else:
        return "Average"
```

In [69]:
```
data["rating_cat"]=data["Rating"].apply(rating)
```

In [69]:
```
data["rating_cat"]=data["Rating"].apply(rating)
```

In [70]:
```
data.head()
```

Out[70]:

	Rank	Title	Genre	Description	Director	Actors	Year	Runtime (Minutes)	Rating	Votes	Revenue (Millions)	Metascore	rating_cat
0	1	Guardians of the Galaxy	Action,Adventure,Sci-Fi	A group of intergalactic criminals are forced ...	James Gunn	Chris Pratt, Vin Diesel, Bradley Cooper, Zoe S...	2014	121	8.1	757074	333.13	76.0	Excellent
1	2	Prometheus	Adventure,Mystery,Sci-Fi	Following clues to the origin of mankind, a te...	Ridley Scott	Noomi Rapace, Logan Marshall-Green, Michael Fa...	2012	124	7.0	485820	126.46	65.0	Excellent
2	3	Split	Horror,Thriller	Three girls are kidnapped by a man with a diag...	M. Night Shyamalan	James McAvoy, Anya Taylor-Joy, Haley Lu Richar...	2016	117	7.3	157606	138.12	62.0	Excellent
3	4	Sing	Animation,Comedy,Family	In a city of humanoid animals, a hustling thea...	Christophe Lourdelet	Matthew McConaughey,Reese Witherspoon, Seth Ma...	2016	108	7.2	60545	270.32	59.0	Excellent
4	5	Suicide Squad	Action,Adventure,Fantasy	A secret government agency recruits some of th...	David Ayer	Will Smith, Jared Leto, Margot Robbie, Viola D...	2016	123	6.2	393727	325.02	40.0	Good

COUNT NUMBER OF ACTION MOVIES

In [71]:
```
data.columns
```

Out[71]:
```
Index(['Rank', 'Title', 'Genre', 'Description', 'Director', 'Actors', 'Year',
       'Runtime (Minutes)', 'Rating', 'Votes', 'Revenue (Millions)',
       'Metascore', 'rating_cat'],
      dtype='object')
```

In [72]:
```
data["Genre"].dtype
```

Out[72]:
```
dtype('O')
```

In [73]:
```
len(data[data["Genre"].str.contains("action", case=False)])
```

Out[73]:
```
303
```

FIND UNIQUE VALUES FROM GENRE

In [74]:
```
data.columns
```

Out[74]:
```
Index(['Rank', 'Title', 'Genre', 'Description', 'Director', 'Actors', 'Year',
       'Runtime (Minutes)', 'Rating', 'Votes', 'Revenue (Millions)',
       'Metascore', 'rating_cat'],
      dtype='object')
```

In [75]:
```
data["Genre"]
```

Out[75]:
```
0       Action,Adventure,Sci-Fi
1      Adventure,Mystery,Sci-Fi
2               Horror,Thriller
3       Animation,Comedy,Family
4      Action,Adventure,Fantasy
                 ...
995         Crime,Drama,Mystery
996                      Horror
997         Drama,Music,Romance
998            Adventure,Comedy
999       Comedy,Family,Fantasy
Name: Genre, Length: 1000, dtype: object
```

In [77]:
```
list1=[]
for value in data["Genre"]:
    list1.append(value.split(','))
```

In [78]:
```
list1
```

Out[78]:
```
[['Action', 'Adventure', 'Sci-Fi'],
 ['Adventure', 'Mystery', 'Sci-Fi'],
 ['Horror', 'Thriller'],
 ['Animation', 'Comedy', 'Family'],
 ['Action', 'Adventure', 'Fantasy'],
 ['Action', 'Adventure', 'Fantasy'],
 ['Comedy', 'Drama', 'Music'],
 ['Comedy'],
 ['Action', 'Adventure', 'Biography'],
 ['Adventure', 'Drama', 'Romance'],
```

```
Name: Genre, Length: 1000, dtype: object
```

In [77]:
```
list1=[]
for value in data["Genre"]:
    list1.append(value.split(','))
```

In [78]:
```
list1
```

Out[78]:
```
[['Action', 'Adventure', 'Sci-Fi'],
 ['Adventure', 'Mystery', 'Sci-Fi'],
 ['Horror', 'Thriller'],
 ['Animation', 'Comedy', 'Family'],
 ['Action', 'Adventure', 'Fantasy'],
 ['Action', 'Adventure', 'Fantasy'],
 ['Comedy', 'Drama', 'Music'],
 ['Comedy'],
 ['Action', 'Adventure', 'Biography'],
 ['Adventure', 'Drama', 'Romance'],
 ['Adventure', 'Family', 'Fantasy'],
 ['Biography', 'Drama', 'History'],
 ['Action', 'Adventure', 'Sci-Fi'],
 ['Animation', 'Adventure', 'Comedy'],
 ['Action', 'Comedy', 'Drama'],
 ['Animation', 'Adventure', 'Comedy'],
 ['Biography', 'Drama', 'History'],
 ['Action', 'Thriller'],
 ['Biography', 'Drama'],
 ['Drama', 'Mystery', 'Sci-Fi'],
 ['Adventure', 'Drama', 'Thriller'],
 ['Drama'],
 ['Crime', 'Drama', 'Horror'],
 ['Animation', 'Adventure', 'Comedy'],
 ['Action', 'Adventure', 'Sci-Fi'],
 ['Comedy'],
 ['Action', 'Adventure', 'Drama'],
 ['Horror', 'Thriller'],
 ['Comedy'],
 ['Action', 'Adventure', 'Drama'],
 ['Comedy'],
 ['Drama', 'Thriller'],
 ['Action', 'Adventure', 'Sci-Fi'],
 ['Action', 'Adventure', 'Comedy'],
 ['Action', 'Horror', 'Sci-Fi'],
```

In [79]:
```
one_d=[]
for item in list1:
    for item1 in item:
        one_d.append(item1)
```

In [80]:
```
one_d
```

Out[80]:
```
['Action',
 'Adventure',
 'Sci-Fi',
 'Adventure',
 'Mystery',
 'Sci-Fi',
 'Horror',
 'Thriller',
 'Animation',
 'Comedy',
 'Family',
 'Action',
 'Adventure',
 'Fantasy',
 'Action',
 'Adventure',
 'Fantasy',
 'Comedy',
 'Drama',
 'Music',
 'Comedy',
 'Action',
 'Adventure',
 'Biography',
 'Adventure',
 'Drama',
 'Romance',
 'Adventure',
 'Family',
 'Fantasy',
```

```
 'Thriller',
 'Drama',
 'History',
 'Thriller',
 'Animation',
 'Action',
 'Adventure',
 'Action',
 'Adventure',
 'Drama',
 ...]
```

In [81]:
```
uni_list=[]
for item in one_d:
    if item not in uni_list:
        uni_list.append(item)
```

In [82]:
```
uni_list
```

Out[82]:
```
['Action',
 'Adventure',
 'Sci-Fi',
 'Mystery',
 'Horror',
 'Thriller',
 'Animation',
 'Comedy',
 'Family',
 'Fantasy',
 'Drama',
 'Music',
 'Biography',
 'Romance',
 'History',
 'Crime',
 'Western',
 'War',
 'Musical',
 'Sport']
```