In [144…
```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
import seaborn as sns
pd.options.display.float_format = '{:.2f}'.format
```

In [2]:
```
df = pd.read_csv('../data/all_data.csv',index_col=0 )
df
```

Out[2]:

	movie_id	primary_title	original_title	start_year	genres	average_rating	num_v
0	tt1014759	Alice in Wonderland	Alice in Wonderland	2010	Adventure,Family,Fantasy	6.50	35
1	tt1014759	Alice in Wonderland	Alice in Wonderland	2010	Adventure,Family,Fantasy	6.50	35
2	tt1014759	Alice in Wonderland	Alice in Wonderland	2010	Adventure,Family,Fantasy	6.50	35
3	tt1014759	Alice in Wonderland	Alice in Wonderland	2010	Adventure,Family,Fantasy	6.50	35
4	tt1014759	Alice in Wonderland	Alice in Wonderland	2010	Adventure,Family,Fantasy	6.50	35
...	...	...	...	...	...	...	
34028	tt3829266	The Predator	The Predator	2018	Action,Adventure,Sci-Fi	5.40	9
34029	tt3829266	The Predator	The Predator	2018	Action,Adventure,Sci-Fi	5.40	9
34030	tt3829266	The Predator	The Predator	2018	Action,Adventure,Sci-Fi	5.40	9
34031	tt3829266	The Predator	The Predator	2018	Action,Adventure,Sci-Fi	5.40	9
34032	tt3829266	The Predator	The Predator	2018	Action,Adventure,Sci-Fi	5.40	9

34033 rows × 23 columns

In [3]:
```
df_genre_pb = df[['genre','new_budget_api']]
df_genre_pb
```

Out[3]:

	genre	new_budget_api
0	Fantasy	200000000.00
1	Family	200000000.00
2	Adventure	200000000.00
3	Fantasy	200000000.00
4	Family	200000000.00

	genre	new_budget_api
...	...	...
34028	Sci-Fi	88000000.00
34029	Adventure	88000000.00
34030	Action	88000000.00
34031	Sci-Fi	88000000.00
34032	Adventure	88000000.00

34033 rows × 2 columns

In [136...
```
df_genre_pb_avg = df_genre_pb.groupby(by='genre').mean().reset_index()[['genre','new_bu
df_genre_pb_avg.sort_values(by='new_budget_api', ascending = False , inplace = True)
```

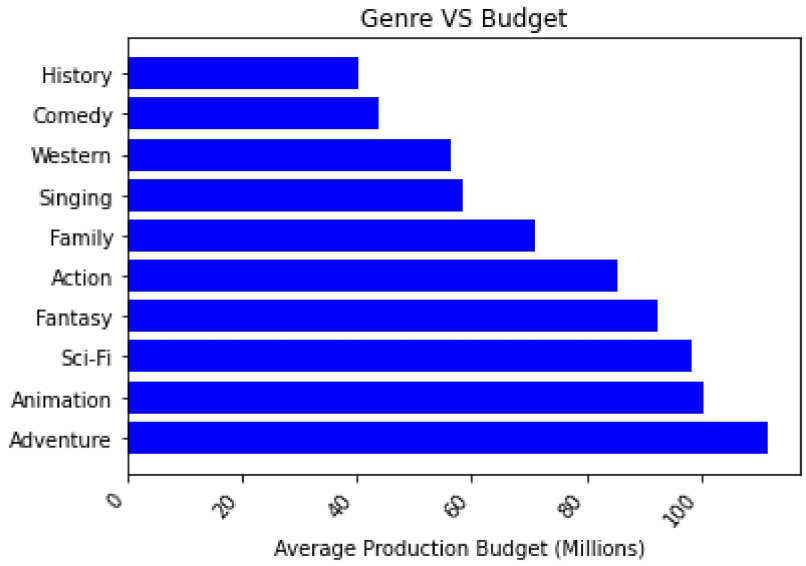
In [137...
```
df_genre_pb_avg.new_budget_api = df_genre_pb_avg.new_budget_api.head(10) / 1000000
df_genre_pb_avg.new_budget_api.head(10)
```

Out[137...
```
1    111.53
2    100.30
15    98.28
9     92.42
0     85.52
8     70.92
16    58.29
20    56.25
4     43.74
10    40.24
Name: new_budget_api, dtype: float64
```

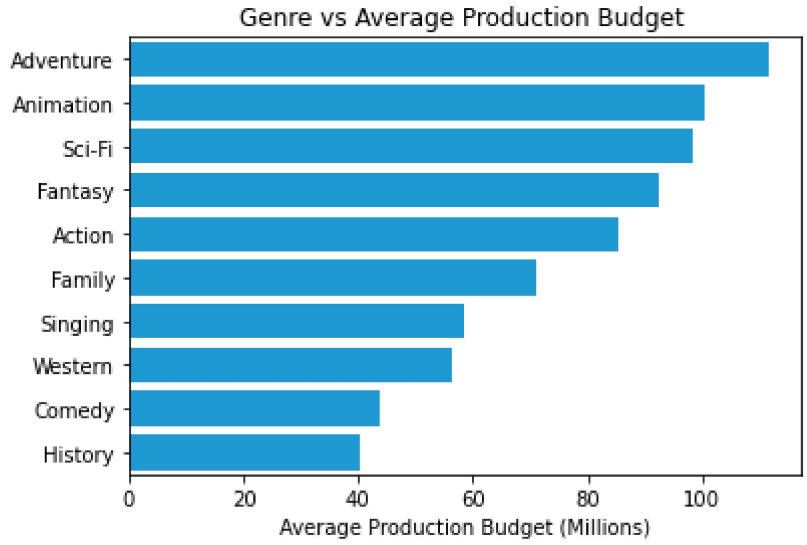
In [142...
```
df_genre_pb_avg.genre.head(10)
```

Out[142...
```
1     Adventure
2     Animation
15       Sci-Fi
9        Fantasy
0         Action
8         Family
16       Singing
20       Western
4         Comedy
10       History
Name: genre, dtype: object
```

In [141...
```
fig,ax = plt.subplots()
plt.xticks(rotation=50, ha="right")
ax.ticklabel_format(style='plain')



x = df_genre_pb_avg.genre.head(10)
height = df_genre_pb_avg.new_budget_api.head(10)

ax.barh(y = x , width = height, color='blue')
ax.set_xlabel('Average Production Budget (Millions) ')
ax.set_ylabel(' ')
ax.set_title('Genre VS Budget');
```



In [148…
```
plot = sns.barplot(x = height , y = x, data = df_genre_pb_avg, orient = 'h', color = '#
plot.set_xlabel('Average Production Budget (Millions)')
plot.set_ylabel('')
plot.set_title('Genre vs Average Production Budget ');
```



In [78]:
```
#According to the bar graph above, we can say that Action,Adventure,
```

In [111…
```
df_genre_pb_median = df_genre_pb.groupby(by='genre').median().reset_index()[['genre','n
df_genre_pb_median.sort_values(by='new_budget_api', ascending = True , inplace = True)
```

In [112…
```
df_genre_pb_median.new_budget_api =df_genre_pb_median.new_budget_api / 1000000
```

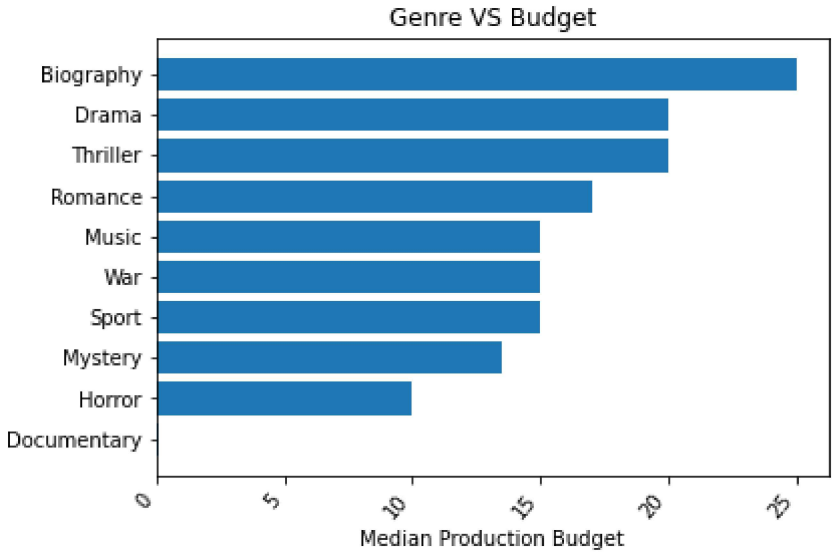
In [113…
```
df_genre_pb_median.genre
```

Out[113…
```
6     Documentary
11        Horror
13       Mystery
17         Sport
19           War
12         Music
14       Romance
18      Thriller
```

```
7           Drama
3       Biography
4          Comedy
5           Crime
10        History
20        Western
8          Family
0          Action
9          Fantasy
16         Singing
2        Animation
15         Sci-Fi
1        Adventure
Name: genre, dtype: object
```

In [114…

```
fig,ax = plt.subplots()
plt.xticks(rotation=50, ha="right")
ax.ticklabel_format(style='plain')



x = df_genre_pb_median.genre.head(10)
height = df_genre_pb_median.new_budget_api.head(10)

ax.barh(y = x , width = height, )
ax.set_xlabel('Median Production Budget')
ax.set_ylabel('')
ax.set_title('Genre VS Budget');
```



In [ ]:

In [ ]: