Madhushree_VisualAss.ipynb

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```
import seaborn as sns
```

```
import matplotlib.pyplot as plt
```

```
sns.set(style="white",color_codes=True)
```

```
import pandas as pd
```

```
data=pd.read_csv("/games.csv")
```

```
data.head()
```

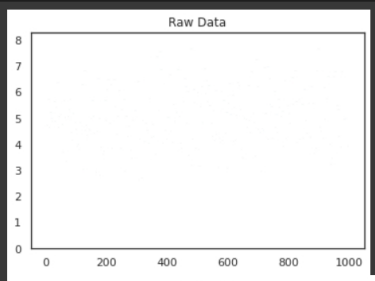
	id	rated	created_at	last_move_at	turns	victory_status	winner	increment_code	white_id	white_rating	black_id	black_rating	moves	opening_eco	opening_name
0	TZJHLljE	False	1.504210e+12	1.504210e+12	13	outoftime	white	15+2	bourgris	1500	a-00	1191	d4 d5 c4 c6 cxd5 e6 dxe6 fxe6 Nf3 Bb4+ Nc3 Ba5...	D10	Slav Defense: Exchange Variation
1	l1NXvwaE	True	1.504130e+12	1.504130e+12	16	resign	black	5+10	a-00	1322	skinnerua	1261	d4 Nc6 e4 e5 f4 f6 dxe5 fxe5 fxe5 Nxe5 Qd4 Nc6...	B00	Nimzowitsch Defense: Kennedy Variation
2	mIICvQHh	True	1.504130e+12	1.504130e+12	61	mate	white	5+10	ischia	1496	a-00	1500	e4 e5 d3 d6 Be3 c6 Be2 b5 Nd2 a5 a4 c5 axb5 Nc...	C20	King's Pawn Game: Leonardis Variation
3	kWKvrqYL	True	1.504110e+12	1.504110e+12	61	mate	white	20+0	daniamurashov	1439	adivanov2009	1454	d4 d5 Nf3 Bf5 Nc3 Nf6 Bf4 Ng4 e3 Nc6 Be2 Qd7 O...	D02	Queen's Pawn Game: Zukertort Variation
4	9tXo1AUZ	True	1.504030e+12	1.504030e+12	95	mate	white	30+3	nik221107	1523	adivanov2009	1469	e4 e5 Nf3 d6 d4 Nc6 d5 Nb4 a3 Na6	C41	Philidor Defense

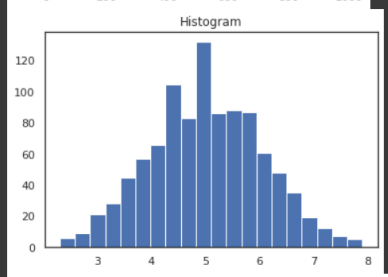
```
data["turns"].value_counts()
```

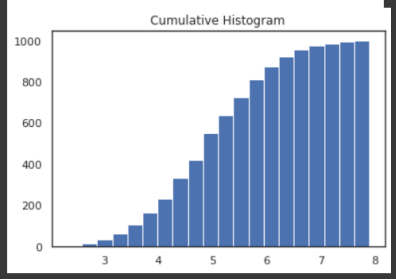
```
53     303
45     302
51     299
57     297
39     297
      ...
216      1
208      1
176      1
218      1
201      1
Name: turns, Length: 211, dtype: int64
```

```
import matplotlib.pyplot as plt
import numpy as np

# Use numpy to generate a bunch of random data in a bell curve around 5.
n = 5 + np.random.randn(1000)

m = [m for m in range(len(n))]
plt.bar(m, n)
plt.title("Raw Data")
plt.show()

plt.hist(n, bins=20)
plt.title("Histogram")
plt.show()

plt.hist(n, cumulative=True, bins=20)
```

```
    plt.title("Cumulative Histogram")
    plt.show()
```

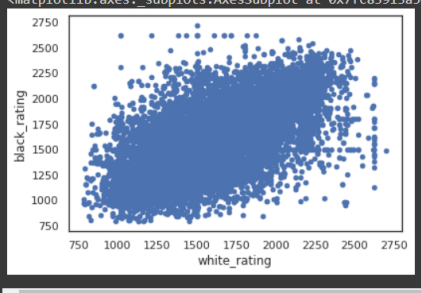






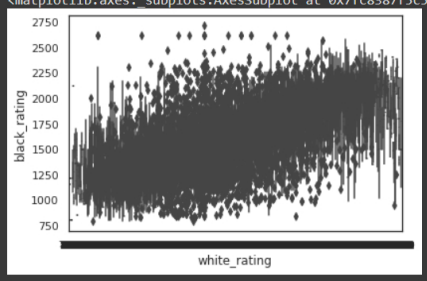

```
[ ] data.plot(kind="scatter",x="white_rating",y="black_rating")
```

```
*c* argument looks like a single numeric RGB or RGBA sequence, which should be avoided as value-mapping will have precedence in case its length matches with *x* & *y*.  Please use the *
<matplotlib.axes._subplots.AxesSubplot at 0x7fc83913a5d0>
```

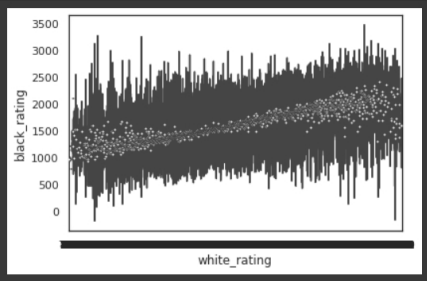



```
[ ] sns.boxplot(x="white_rating",y="black_rating",data=data)
```

```
<matplotlib.axes._subplots.AxesSubplot at 0x7fc8387f5c50>
```



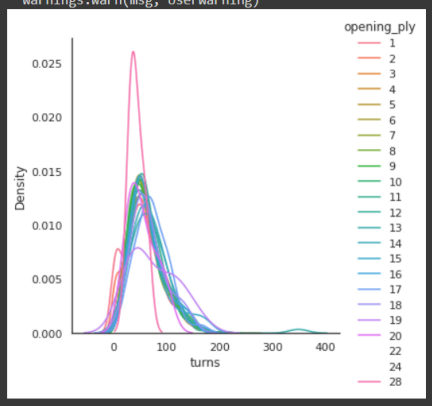

```
[ ] sns.violinplot(x="white_rating",y="black_rating",data=data,size=6)
    plt.show()
```



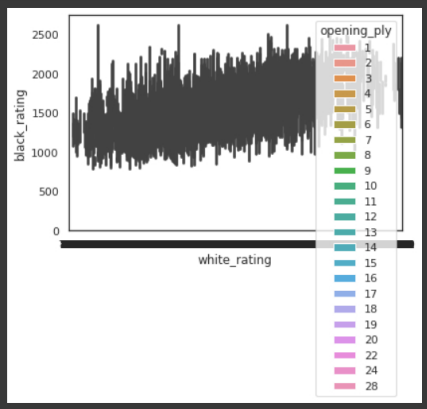

```
[ ] sns.FacetGrid(data,hue="opening_ply",size=5).map(sns.kdeplot,"turns").add_legend()
```

```
plt.show()
```

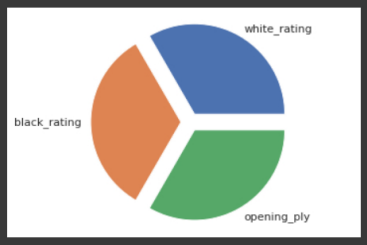
```
/usr/local/lib/python3.7/dist-packages/seaborn/axisgrid.py:337: UserWarning: The `size` parameter has been renamed to `height`; please update your code.
  warnings.warn(msg, UserWarning)
/usr/local/lib/python3.7/dist-packages/seaborn/distributions.py:316: UserWarning: Dataset has 0 variance; skipping density estimate. Pass `warn_singular=False` to disable this warning.
  warnings.warn(msg, UserWarning)
/usr/local/lib/python3.7/dist-packages/seaborn/distributions.py:316: UserWarning: Dataset has 0 variance; skipping density estimate. Pass `warn_singular=False` to disable this warning.
  warnings.warn(msg, UserWarning)
```




```
[ ] sns.barplot(x="white_rating",y="black_rating",data=data,hue="opening_ply")
    plt.show()
```

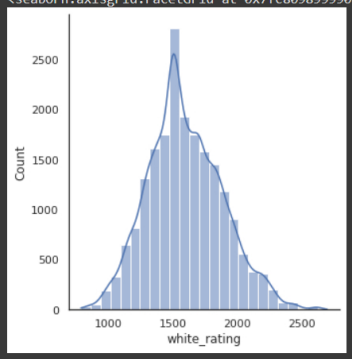


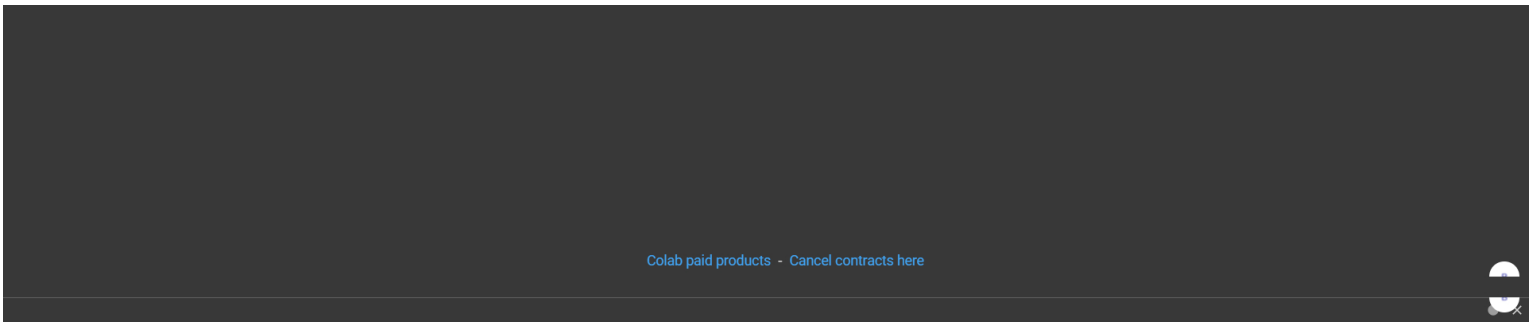

```
[ ] labels = ["white_rating","black_rating","opening_ply"]
    sizes = [50,50,50]
    plt.pie(sizes,labels=labels,explode=(0.1,0.1,0.1))
    plt.axis("equal")
    plt.show()
```




```
[ ] sns.displot(data["white_rating"],bins=25,kde=True)
```

```
<seaborn.axisgrid.FacetGrid at 0x7fc809899990>
```

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