```
import pandas as pd
import numpy as np
import plotly.express as px
import matplotlib.pyplot as plt
import seaborn as sns
from plotly.subplots import make_subplots
import plotly.graph_objs as go
import plotly.offline as pyo



df = pd.read_csv('./sample_data/genres_v2.csv', on_bad_lines='skip', low_memory=
df.head()
```

	danceability	energy	key	loudness	mode	speechiness	acousticness	inst
0	0.831	0.814	2	-7.364	1	0.4200	0.0598	
1	0.719	0.493	8	-7.230	1	0.0794	0.4010	
2	0.850	0.893	5	-4.783	1	0.0623	0.0138	
3	0.476	0.781	0	-4.710	1	0.1030	0.0237	
4	0.798	0.624	2	-7.668	1	0.2930	0.2170	

5 rows × 22 columns

```
df = df.drop(["type", "uri", "id", "track_href", "analysis_url", "song_name", "t
df.head()
```

	danceability	energy	key	loudness	mode	speechiness	acousticness	inst
0	0.831	0.814	2	-7.364	1	0.4200	0.0598	
1	0.719	0.493	8	-7.230	1	0.0794	0.4010	
2	0.850	0.893	5	-4.783	1	0.0623	0.0138	

```
df.info
```

```
<bound method DataFrame.info of       danceability  energy  key  loudness
mode  speechiness  acousticness  \
0             0.831   0.814    2    -7.364     1       0.4200       0.05980
1             0.719   0.493    8    -7.230     1       0.0794       0.40100
2             0.850   0.893    5    -4.783     1       0.0623       0.01380
3             0.476   0.781    0    -4.710     1       0.1030       0.02370
4             0.798   0.624    2    -7.668     1       0.2930       0.21700
...             ...     ...  ...       ...   ...          ...           ...
6534          0.441   0.250    8   -13.296     1       0.0463       0.14400
6535          0.663   0.696    9    -9.222     1       0.2280       0.00292
6536          0.544   0.663   10    -8.761     0       0.3800       0.09220
6537          0.575   0.909    7    -2.134     1       0.0749       0.10700
6538          0.809   0.667    1    -7.298     0       0.2520       0.08990

      instrumentalness  liveness  valence    tempo  duration_ms  \
0             0.013400    0.0556   0.3890  156.985     124539.0
1             0.000000    0.1180   0.1240  115.080     224427.0
2             0.000004    0.3720   0.0391  218.050      98821.0
3             0.000000    0.1140   0.1750  186.948     123661.0
4             0.000000    0.1660   0.5910  147.988     123298.0
...                ...       ...      ...      ...          ...
6534          0.070500    0.0922   0.0395  179.647     197064.0
6535          0.000018    0.0618   0.4470  172.001     167166.0
6536          0.000000    0.1300   0.2520  188.063     122725.0
6537          0.000535    0.2720   0.1770  114.803     170356.0
6538          0.000000    0.1900   0.7770  146.977          NaN

      time_signature            genre
0                4.0        Dark Trap
1                4.0        Dark Trap
2                4.0        Dark Trap
3                3.0        Dark Trap
4                4.0        Dark Trap
...              ...              ...
6534             5.0  Underground Rap
6535             4.0  Underground Rap
6536             4.0  Underground Rap
6537             4.0  Underground Rap
6538             NaN              NaN

[6539 rows x 14 columns]>
```

```
df.describe()
```

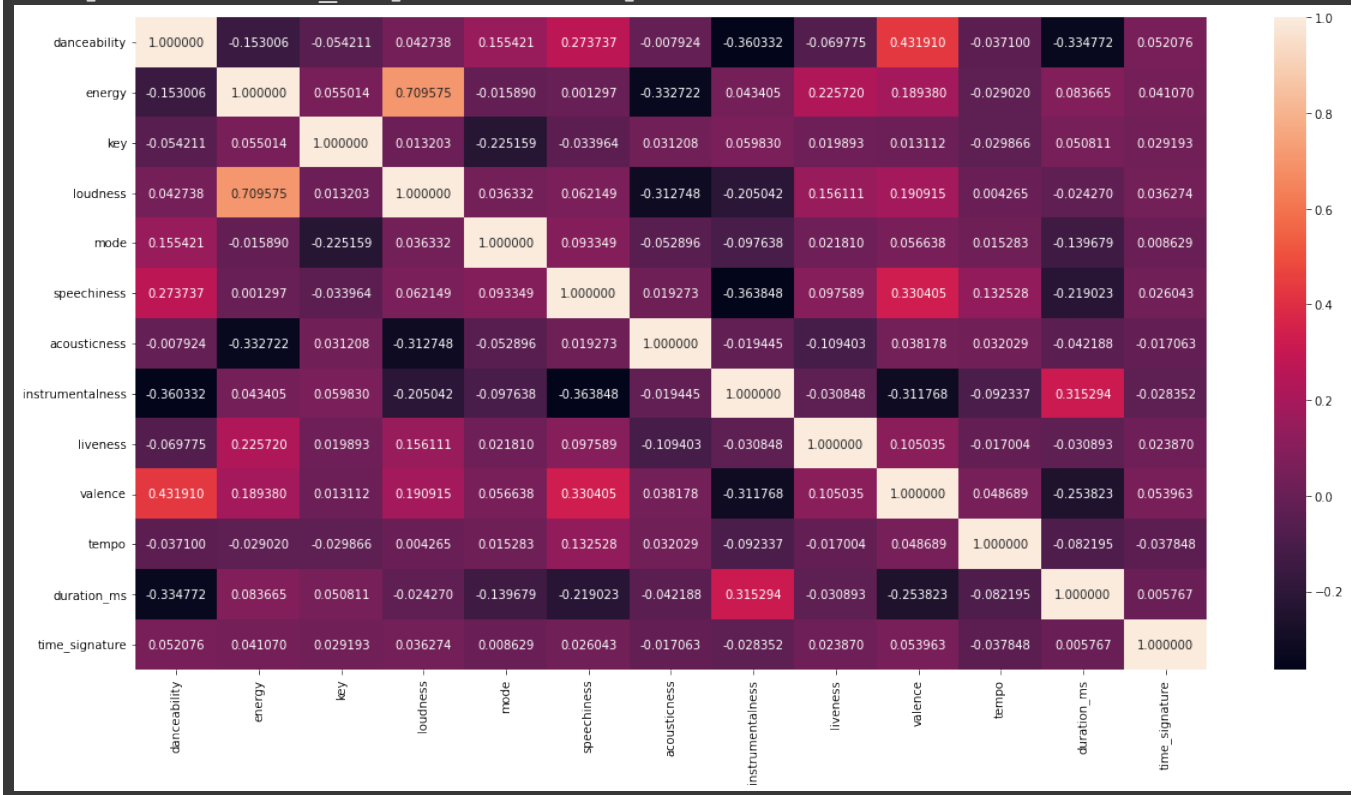
	danceability	energy	key	loudness	mode	speechin
count	6539.000000	6539.000000	6539.000000	6539.000000	6539.000000	6539.000
mean	0.659205	0.643500	5.211806	-7.790271	0.566600	0.152
std	0.162491	0.173179	3.681401	3.035627	0.495582	0.138
min	0.097900	0.000243	0.000000	-25.222000	0.000000	0.024
25%	0.550000	0.523000	1.000000	-9.512500	0.000000	0.045
50%	0.675000	0.645000	6.000000	-7.487000	1.000000	0.087
75%	0.785500	0.778000	8.000000	-5.733000	1.000000	0.237
max	0.985000	0.998000	11.000000	1.646000	1.000000	0.946

```
df.corr()
```

	danceability	energy	key	loudness	mode	speechi
danceability	1.000000	-0.153006	-0.054211	0.042738	0.155421	0.27
energy	-0.153006	1.000000	0.055014	0.709575	-0.015890	0.00
key	-0.054211	0.055014	1.000000	0.013203	-0.225159	-0.03
loudness	0.042738	0.709575	0.013203	1.000000	0.036332	0.06
mode	0.155421	-0.015890	-0.225159	0.036332	1.000000	0.09
speechiness	0.273737	0.001297	-0.033964	0.062149	0.093349	1.00
acousticness	-0.007924	-0.332722	0.031208	-0.312748	-0.052896	0.01
instrumentalness	-0.360332	0.043405	0.059830	-0.205042	-0.097638	-0.36
liveness	-0.069775	0.225720	0.019893	0.156111	0.021810	0.09
valence	0.431910	0.189380	0.013112	0.190915	0.056638	0.33
tempo	-0.037100	-0.029020	-0.029866	0.004265	0.015283	0.13
duration_ms	-0.334772	0.083665	0.050811	-0.024270	-0.139679	-0.21
time_signature	0.052076	0.041070	0.029193	0.036274	0.008629	0.02

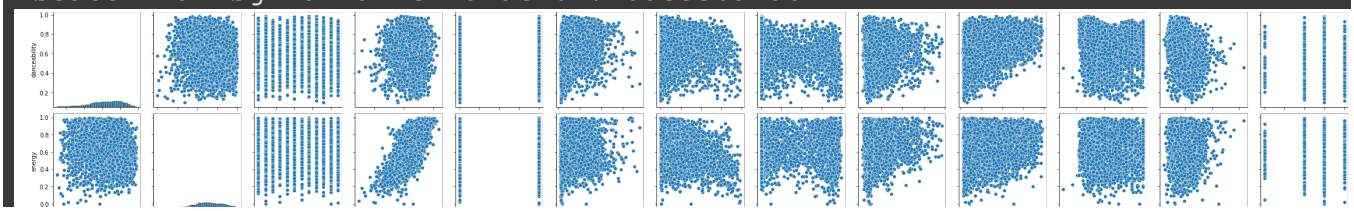
```
plt.figure(figsize=(20,10))
sns.heatmap(df.corr(), annot=True, fmt='.6f')
```

```
<matplotlib.axes._subplots.AxesSubplot at 0x7f0de3637e50>
```




```
sns.pairplot(df)
```

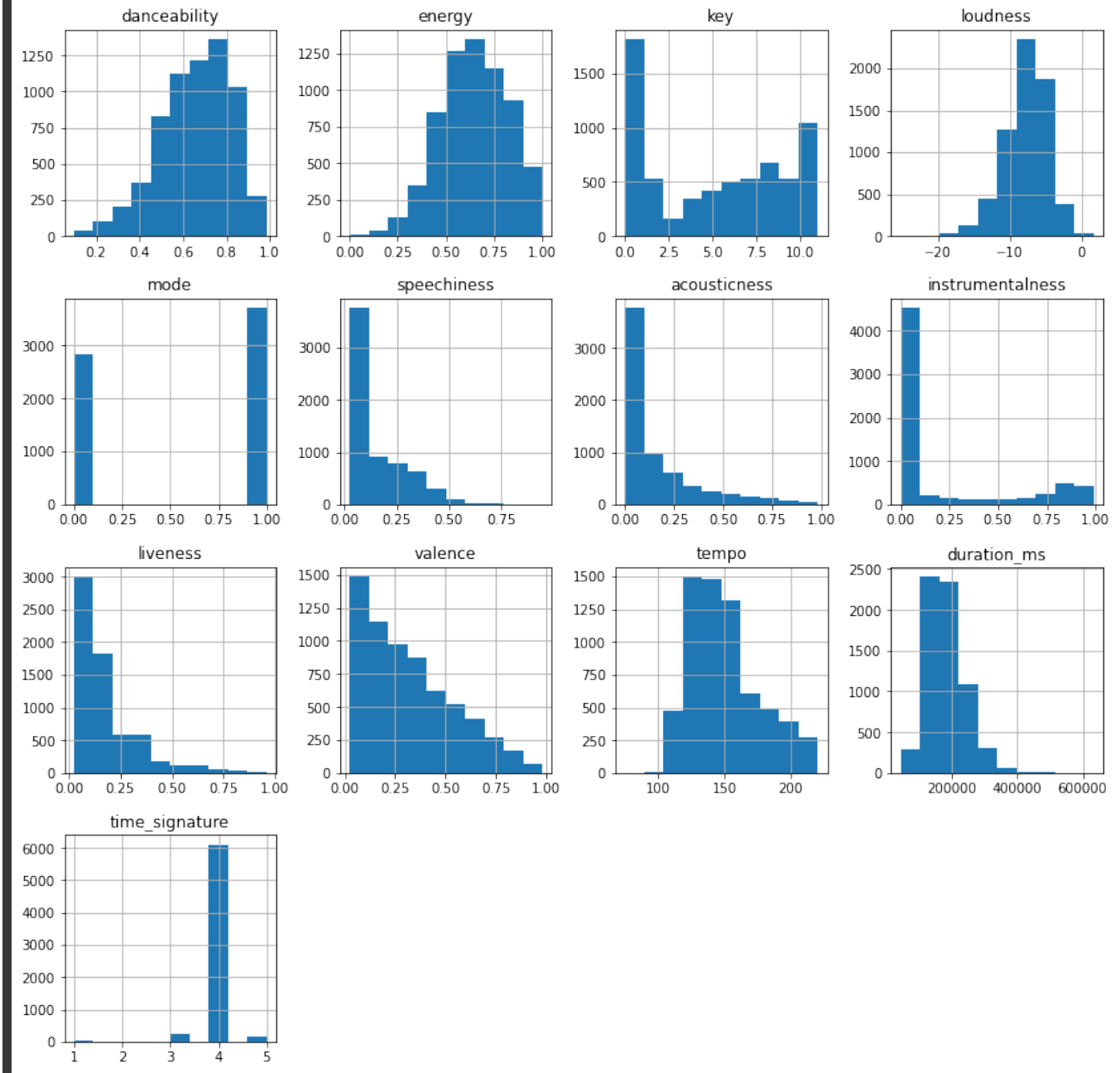
```
<seaborn.axisgrid.PairGrid at 0x7f0de350a4d0>
```



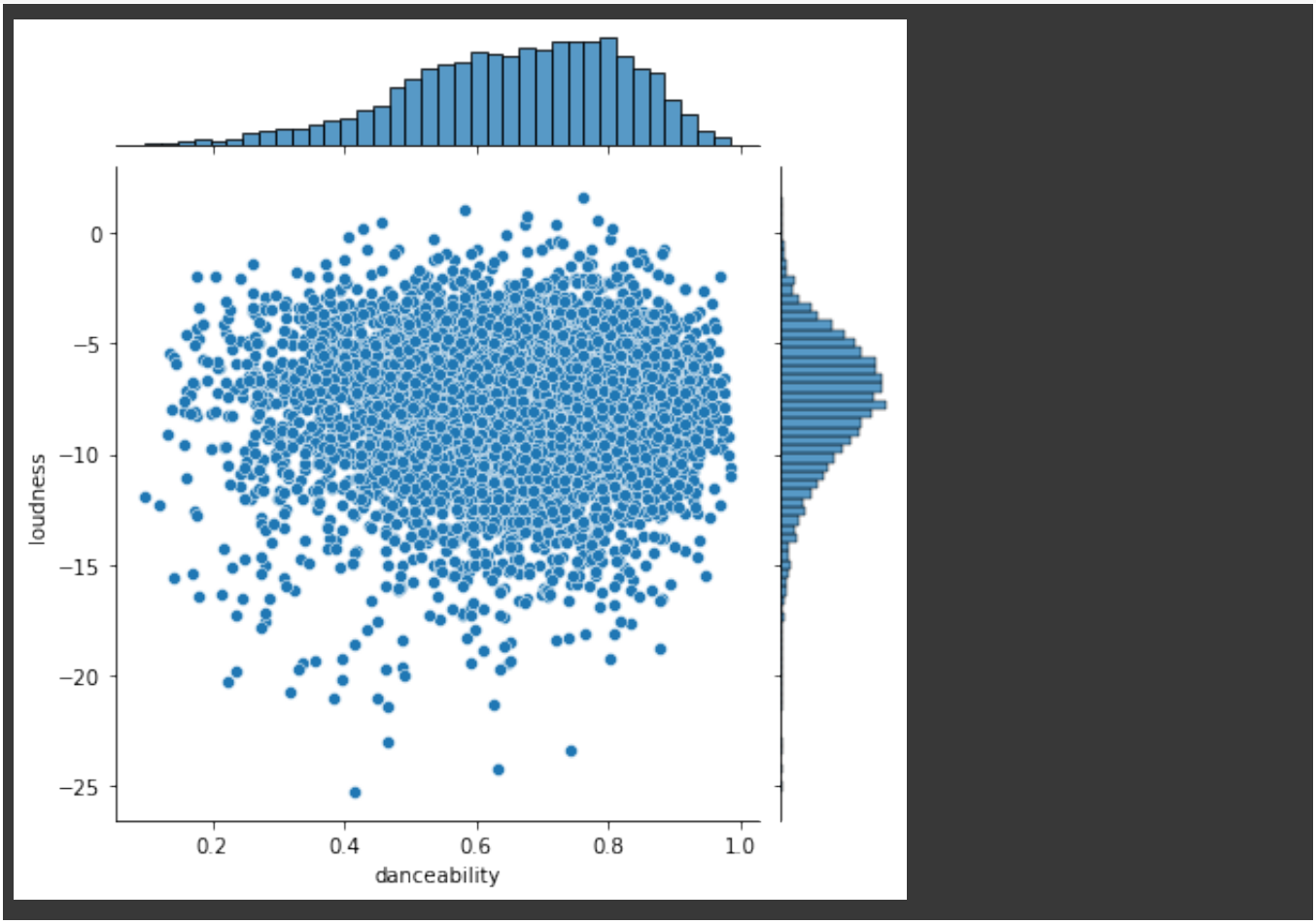

key
loudness
mode
speechiness
acousticness
instrumentalness
liveness
valence
tempo
duration_ms
time_signature
danceability
energy
key
loudness
mode
speechiness
acousticness
instrumentalness
liveness
valence
tempo
duration_ms
time_signature

```
df.hist(figsize=(14,14))
plt.title("Hist", size=14)
```

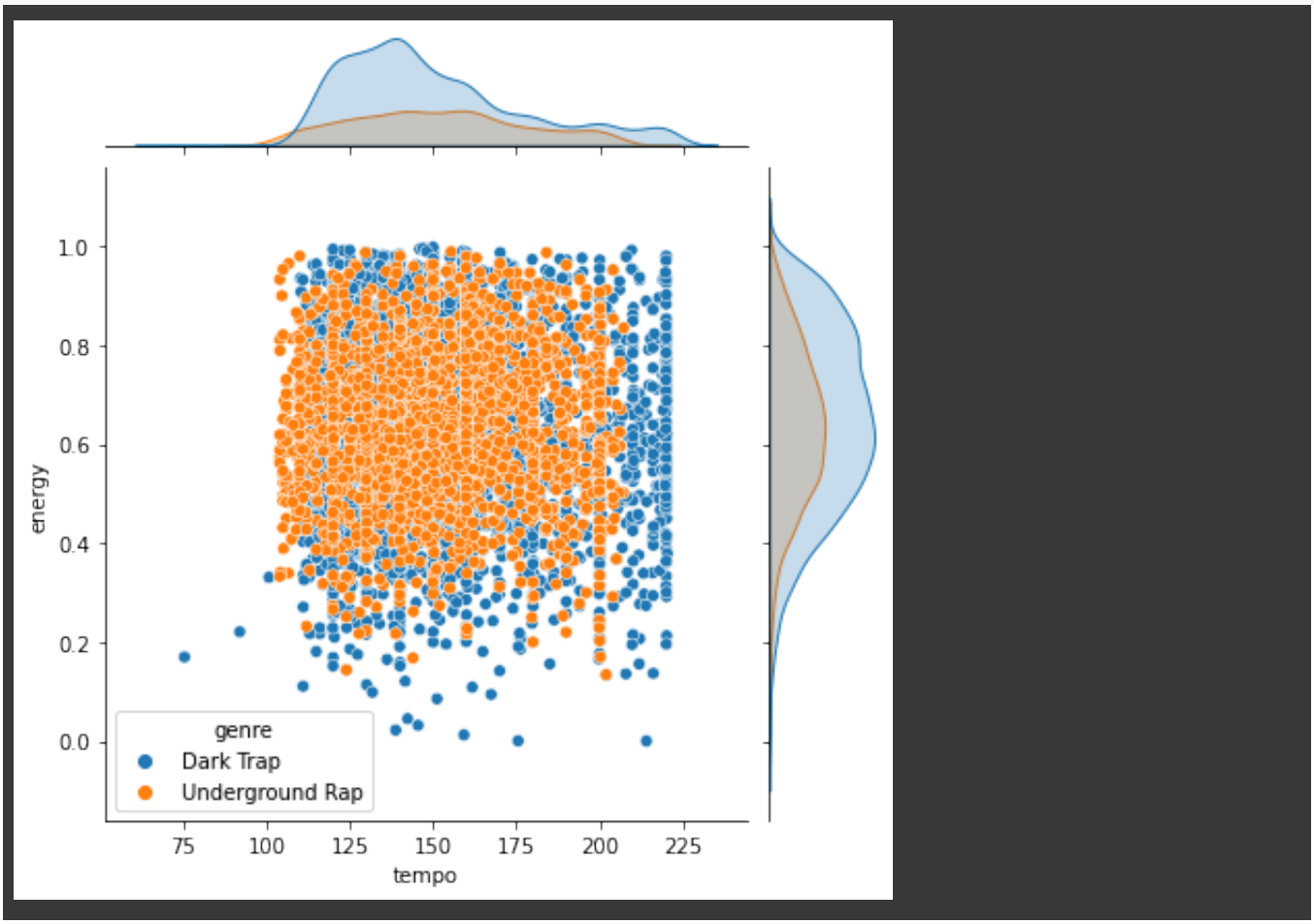
```
Text(0.5, 1.0, 'Hist')
```



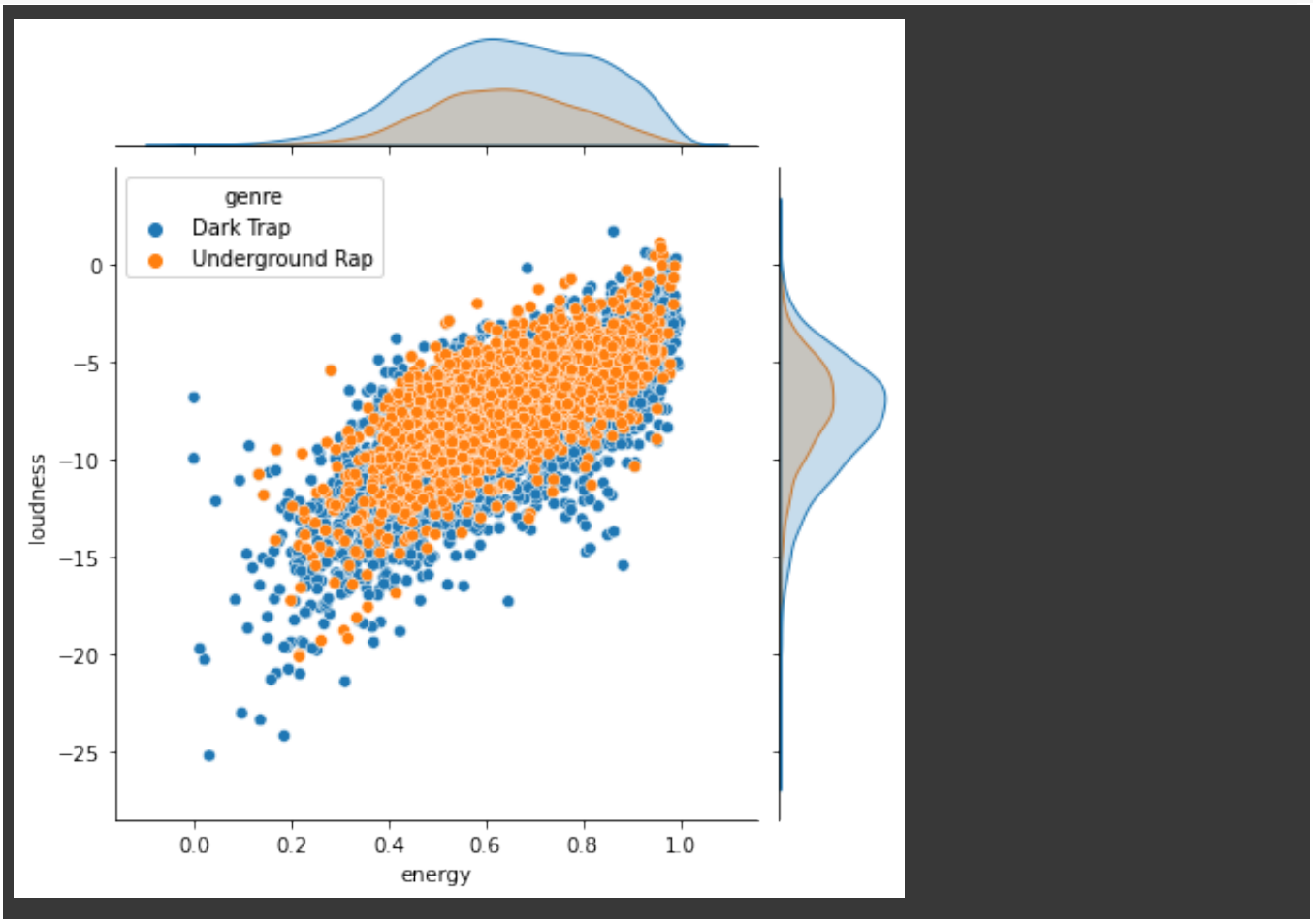
```
sns.jointplot(x = 'danceability', y = 'loudness', data = df, kind = 'scatter')
plt.show()
```



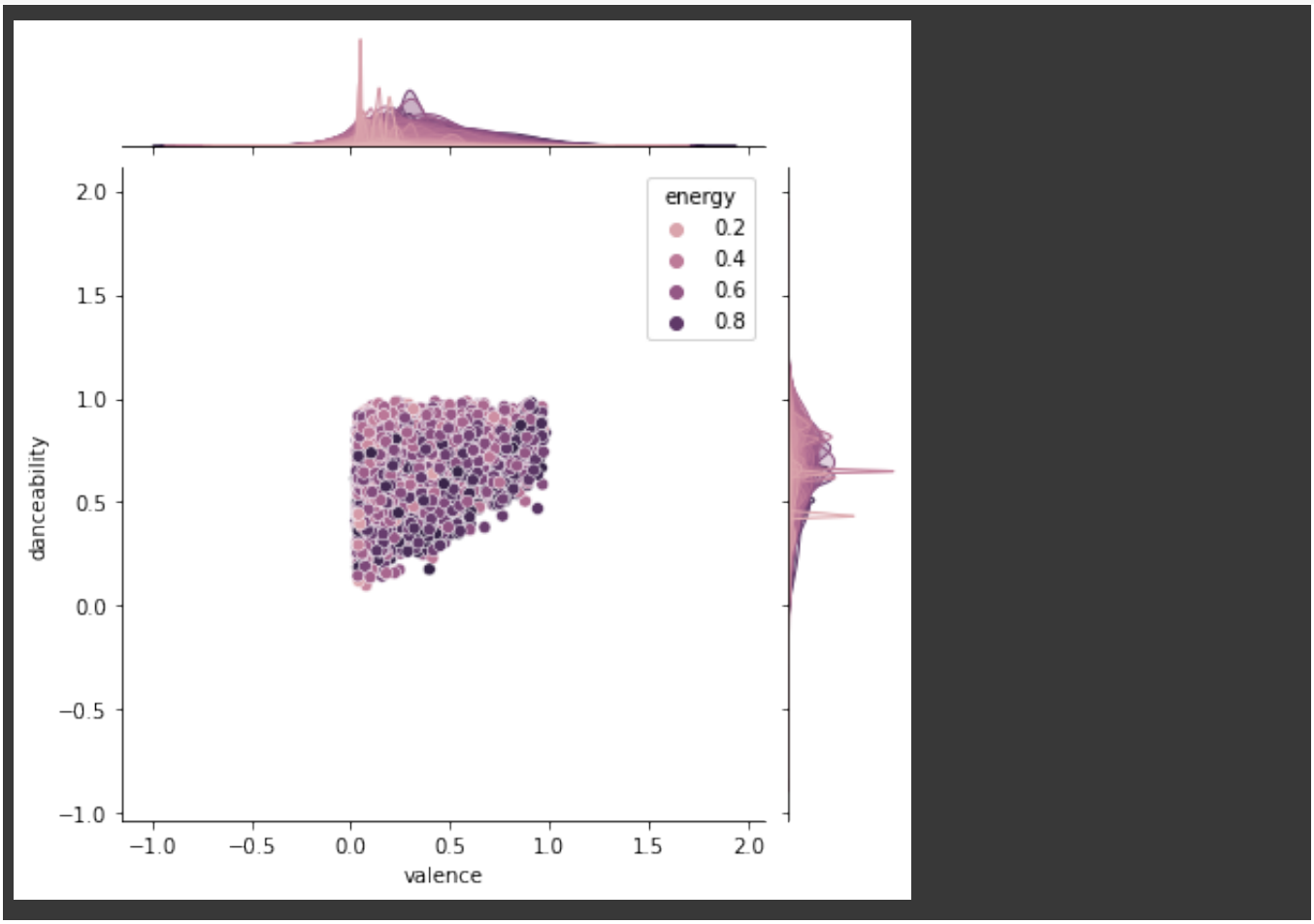
```
sns.jointplot(x = 'tempo', y = 'energy', data = df, kind = 'scatter', hue='genre
plt.show()
```



```
from seaborn.widgets import color_palette
sns.jointplot(x='energy',y='loudness', hue = 'genre' , color="red", data=df)
plt.show()
```



```
sns.jointplot(x='valence',y='danceability', hue = 'energy' , color="red", data=d
plt.show()
```



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