In [55]:
```
#for mathematical computation
import numpy as np
import pandas as pd
import seaborn as sns
import matplotlib.pyplot as plt
%matplotlib inline
```

In [33]:
```
df_track = pd.read_csv('Tracks.csv')
df_track.head()
```

Out[33]:

	genre	artist_name	track_name	track_id	popularity	acousticness
0	Movie	Henri Salvador	C'est beau de faire un Show	0BRjO6ga9RKCKjfDqeFgWV	0	0.611
1	Movie	Martin & les fées	Perdu d'avance (par Gad Elmaleh)	0BjC1NfoEOOusryehmNudP	1	0.246
2	Movie	Joseph Williams	Don't Let Me Be Lonely Tonight	0CoSDzoNIKCRs124s9uTVy	3	0.952
3	Movie	Henri Salvador	Dis-moi Monsieur Gordon Cooper	0Gc6TVm52BwZD07Ki6tIvf	0	0.703
4	Movie	Fabien Nataf	Ouverture	0IuslXpMROHdEPvSl1fTQK	4	0.950

In [34]:
```
#data Info
df_track.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 232725 entries, 0 to 232724
Data columns (total 18 columns):
 #   Column            Non-Null Count   Dtype  
---  ------            --------------   -----  
 0   genre             232725 non-null  object 
 1   artist_name       232725 non-null  object 
 2   track_name        232725 non-null  object 
 3   track_id          232725 non-null  object 
 4   popularity        232725 non-null  int64  
 5   acousticness      232725 non-null  float64
 6   danceability      232725 non-null  float64
 7   duration_ms       232725 non-null  int64  
 8   energy            232725 non-null  float64
 9   instrumentalness  232725 non-null  float64
 10  key               232725 non-null  object 
 11  liveness          232725 non-null  float64
 12  loudness          232725 non-null  float64
 13  mode              232725 non-null  object 
 14  speechiness       232725 non-null  float64
 15  tempo             232725 non-null  float64
 16  time_signature    232725 non-null  object 
 17  valence           232725 non-null  float64
dtypes: float64(9), int64(2), object(7)
memory usage: 32.0+ MB
```

In [35]:
```
#Checking The Null Values
df_track.isnull().sum()
```

Out[35]:
```
genre               0
artist_name         0
track_name          0
track_id            0
popularity          0
acousticness        0
danceability        0
duration_ms         0
energy              0
instrumentalness    0
key                 0
liveness            0
loudness            0
mode                0
speechiness         0
tempo               0
time_signature      0
valence             0
dtype: int64
```

In [17]:
```
df_most_popular_sorted = df_track.sort_values('popularity',ascending = Fa
df_most_popular_sorted
```

Out[17]:

	genre	artist_name	track_name	track_id	popularity	ac
9027	Dance	Ariana Grande	7 rings	14msK75pk3pA33pzPVNtBF	100	
107804	Pop	Ariana Grande	7 rings	14msK75pk3pA33pzPVNtBF	100	
86951	Rap	Post Malone	Wow.	6MWtB6iiXyIwun0YzU6DFP	99	
107803	Pop	Post Malone	Wow.	6MWtB6iiXyIwun0YzU6DFP	99	
107802	Pop	Ariana Grande	break up with your girlfriend, i'm bored	4kV4N9D1iKVxx1KLvtTpjS	99	
9026	Dance	Ariana Grande	break up with your girlfriend, i'm bored	4kV4N9D1iKVxx1KLvtTpjS	99	
66643	Hip-Hop	Daddy Yankee	Con Calma	5w9c2J52mkdntKOmRLeM2m	98	
107909	Pop	Daddy Yankee	Con Calma	5w9c2J52mkdntKOmRLeM2m	98	
138918	Reggaeton	Daddy Yankee	Con Calma	5w9c2J52mkdntKOmRLeM2m	98	
107829	Pop	Ava Max	Sweet but Psycho	25sgk305KZfyuqVBQIahim	97	

In [36]:

```
most_popular = df_track.query('popularity > 90',inplace = False).sort_val
most_popular[:10]
```

Out[36]:

	genre	artist_name	track_name	track_id	popularity	ac
107804	Pop	Ariana Grande	7 rings	14msK75pk3pA33pzPVNtBF	100	
9027	Dance	Ariana Grande	7 rings	14msK75pk3pA33pzPVNtBF	100	
9026	Dance	Ariana Grande	break up with your girlfriend, i'm bored	4kV4N9D1iKVxx1KLvtTpjS	99	
86951	Rap	Post Malone	Wow.	6MWtB6iiXyIwun0YzU6DFP	99	
107803	Pop	Post Malone	Wow.	6MWtB6iiXyIwun0YzU6DFP	99	
107802	Pop	Ariana Grande	break up with your girlfriend, i'm bored	4kV4N9D1iKVxx1KLvtTpjS	99	
138918	Reggaeton	Daddy Yankee	Con Calma	5w9c2J52mkdntKOmRLeM2m	98	
66643	Hip-Hop	Daddy Yankee	Con Calma	5w9c2J52mkdntKOmRLeM2m	98	
107909	Pop	Daddy Yankee	Con Calma	5w9c2J52mkdntKOmRLeM2m	98	
86953	Rap	Post Malone	Sunflower - Spider-Man: Into the Spider-Verse	3KkXRkHbMCARz0aVfEt68P	97	

In [38]:
```
df_track.head()
```

Out[38]:

	genre	artist_name	track_name	track_id	popularity	acousticness
0	Movie	Henri Salvador	C'est beau de faire un Show	0BRjO6ga9RKCKjfDqeFgWV	0	0.611
1	Movie	Martin & les fées	Perdu d'avance (par Gad Elmaleh)	0BjC1NfoEOOusryehmNudP	1	0.246
2	Movie	Joseph Williams	Don't Let Me Be Lonely Tonight	0CoSDzoNIKCRs124s9uTVy	3	0.952
3	Movie	Henri Salvador	Dis-moi Monsieur Gordon Cooper	0Gc6TVm52BwZD07Ki6tIvf	0	0.703
4	Movie	Fabien Nataf	Ouverture	0IuslXpMROHdEPvSl1fTQK	4	0.950

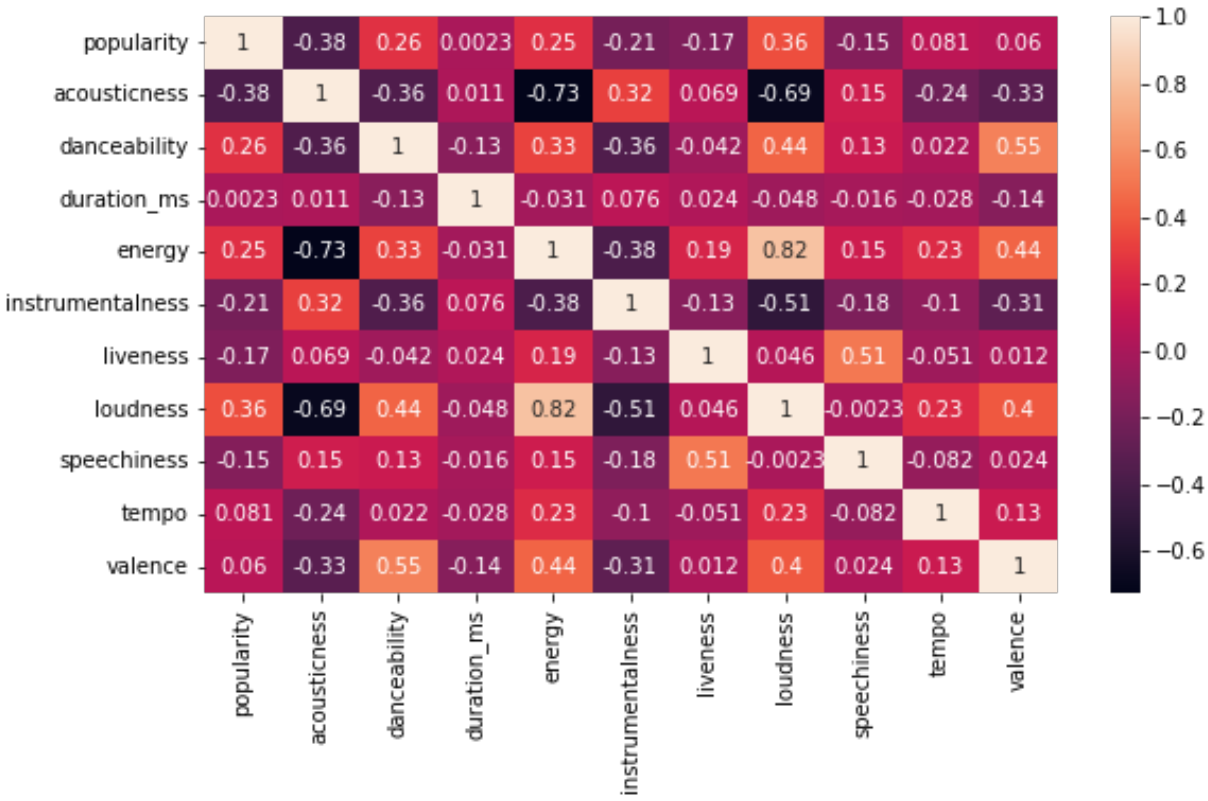
In [43]:
```
df_most_popular_sorted = df_track.sort_values('popularity', ascending = F
df_most_popular_sorted
```

Out[43]:

	genre	artist_name	track_name	track_id	popularity	ac
9027	Dance	Ariana Grande	7 rings	14msK75pk3pA33pzPVNtBF	100	
107804	Pop	Ariana Grande	7 rings	14msK75pk3pA33pzPVNtBF	100	
86951	Rap	Post Malone	Wow.	6MWtB6iiXyIwun0YzU6DFP	99	
107803	Pop	Post Malone	Wow.	6MWtB6iiXyIwun0YzU6DFP	99	
107802	Pop	Ariana Grande	break up with your girlfriend, i'm bored	4kV4N9D1iKVxx1KLvtTpjS	99	
9026	Dance	Ariana Grande	break up with your girlfriend, i'm bored	4kV4N9D1iKVxx1KLvtTpjS	99	
66643	Hip-Hop	Daddy Yankee	Con Calma	5w9c2J52mkdntKOmRLeM2m	98	
107909	Pop	Daddy Yankee	Con Calma	5w9c2J52mkdntKOmRLeM2m	98	
138918	Reggaeton	Daddy Yankee	Con Calma	5w9c2J52mkdntKOmRLeM2m	98	
107829	Pop	Ava Max	Sweet but Psycho	25sgk305KZfyuqVBQIahim	97	

In [58]:
```
plt.figure(figsize=(9,5))
sns.heatmap(df.corr(), annot= True)
```

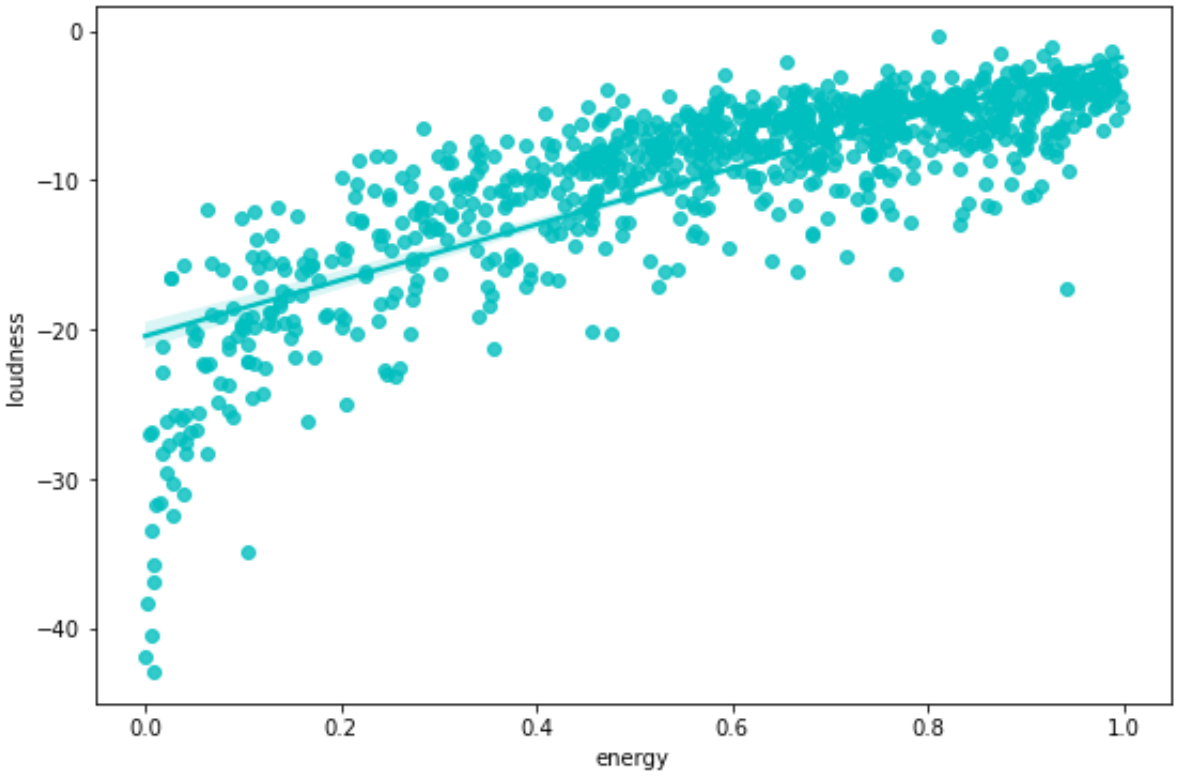
Out[58]:
```
<AxesSubplot:>
```



In [59]:
```
sample_df = df_track.sample(int(0.004 * len(df_track)))
```

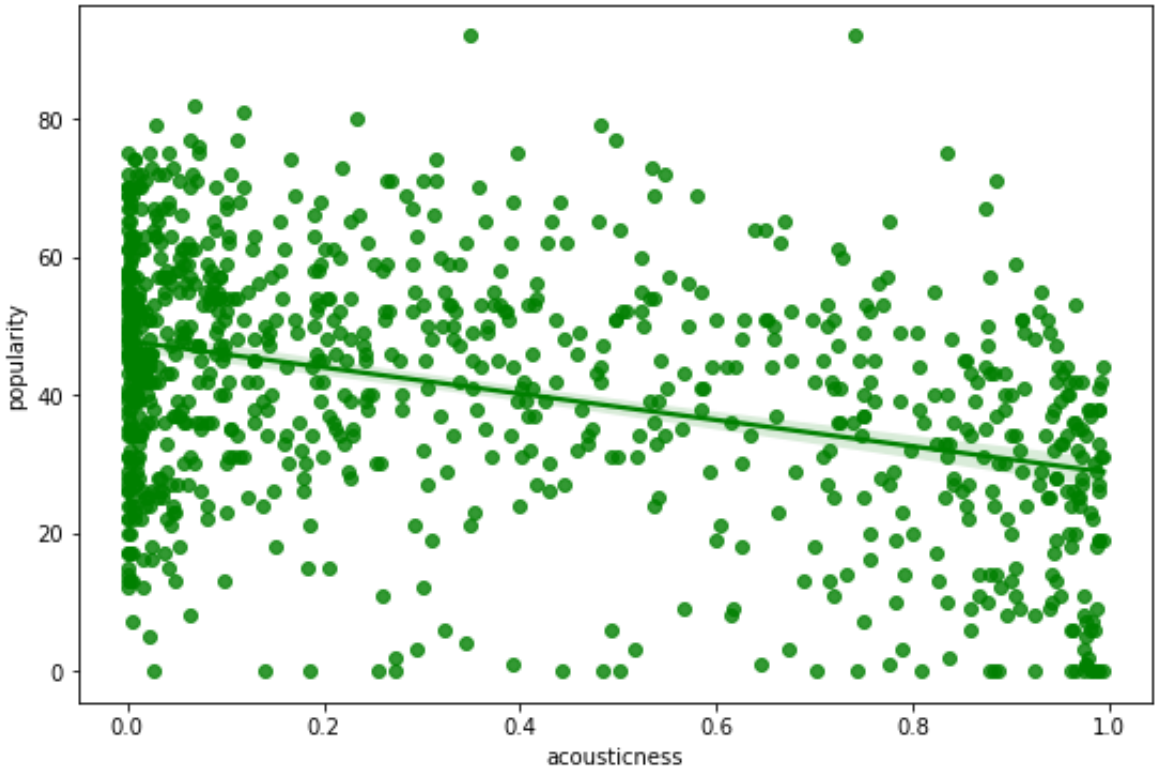
In [60]:
```
plt.figure(figsize = [9, 6])
sns.regplot(data = sample_df, y = 'loudness', x = 'energy', color = 'c')
```

Out[60]:
```
<AxesSubplot:xlabel='energy', ylabel='loudness'>
```



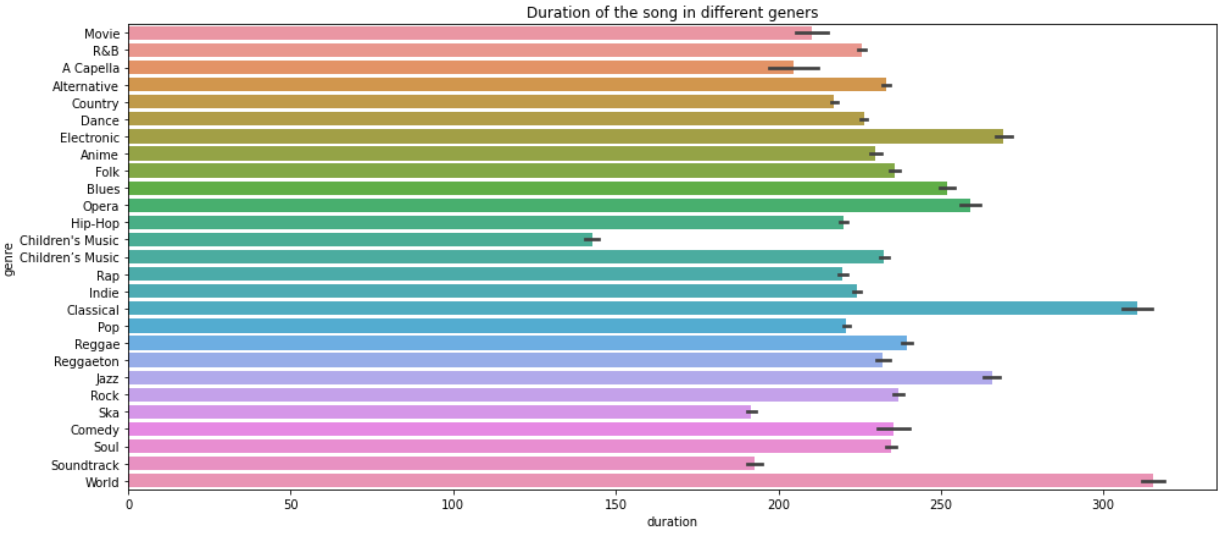
In [61]:
```
plt.figure(figsize = [9,6])
sns.regplot(data = sample_df, y = 'popularity', x = 'acousticness', color
```

Out[61]:
```
<AxesSubplot:xlabel='acousticness', ylabel='popularity'>
```



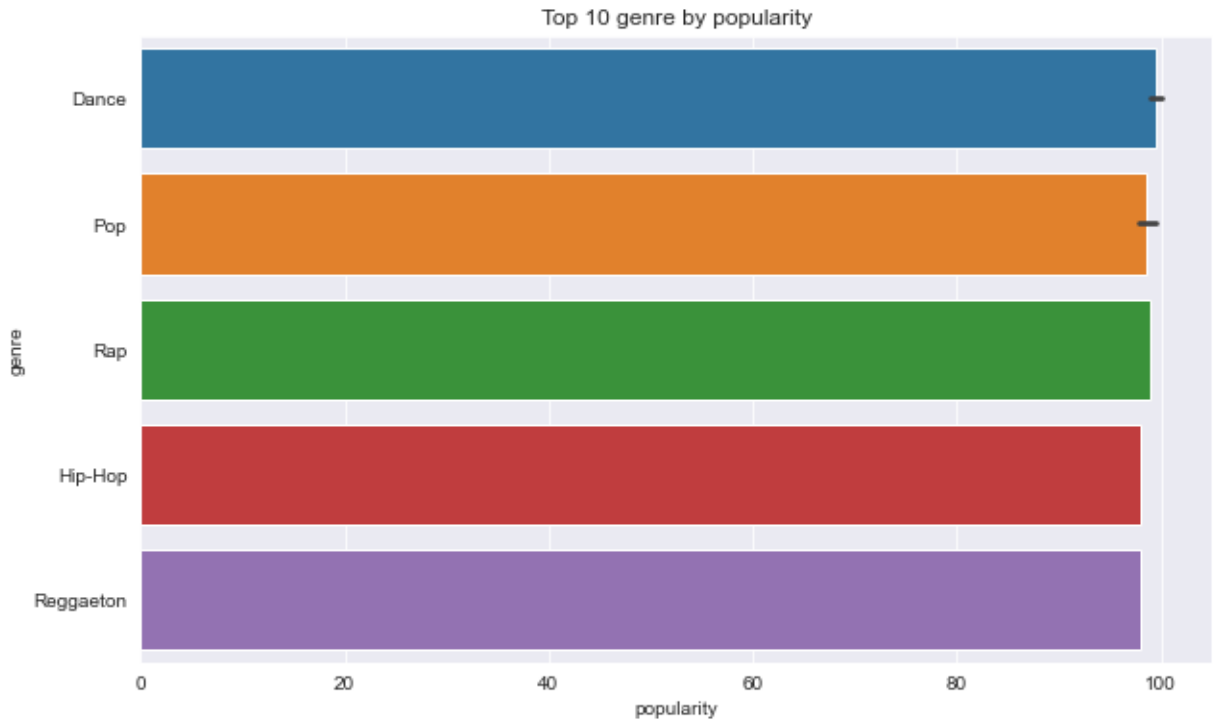
In [62]:
```
plt.figure(figsize = [16,7])
plt.title('Duration of the song in different geners')
sns.color_palette('rocket', as_cmap = True)
sns.barplot(y = 'genre', x = 'duration', data = df_track)
```

Out[62]:
```
<AxesSubplot:title={'center':'Duration of the song in different geners'},
xlabel='duration', ylabel='genre'>
```



In [63]:
```
sns.set_style(style ='darkgrid')
plt.figure(figsize = [10,6])
most_popular_genres = df_track.sort_values('popularity',ascending = False
sns.barplot(y ='genre', x = 'popularity', data = most_popular_genres).set
```

Out[63]:
```
[Text(0.5, 1.0, 'Top 10 genre by popularity')]
```



In [ ]:
```
```