PERFORM DATA PRE-PROCESSING OPERATIONS

In [3]: import pandas as pd In [49]: df1_spotify=pd.read_csv(r"C:\Users\arumu\OneDrive\Desktop\spotify.csv") df1_spotify

]:	track_id	track_name	track_artist	track_popularity	track_album_id	track_album_name	tra
0	6f807x0ima9a1j3VPbc7VN	I Don't Care (with Justin Bieber) - Loud Luxur	Ed Sheeran	66	2oCs0DGTsRO98Gh5ZSI2Cx	I Don't Care (with Justin Bieber) [Loud Luxury	
1	0r7CVbZTWZgbTCYdfa2P31	Memories - Dillon Francis Remix	Maroon 5	67	63rPSO264uRjW1X5E6cWv6	Memories (Dillon Francis Remix)	
2	1z1Hg7Vb0AhHDiEmnDE79I	All the Time - Don Diablo Remix	Zara Larsson	70	1HoSmj2eLcsrR0vE9gThr4	All the Time (Don Diablo Remix)	
3	75FpbthrwQmzHlBJLuGdC7	Call You Mine - Keanu Silva Remix	The Chainsmokers	60	1nqYsOef1yKKuGOVchbsk6	Call You Mine - The Remixes	
4	1e8PAfcKUYoKkxPhrHqw4x	Someone You Loved - Future Humans Remix	Lewis Capaldi	69	7m7vv9wlQ4i0LFuJiE2zsQ	Someone You Loved (Future Humans Remix)	
32828	7bxnKAamR3snQ1VGLuVfC1	City Of Lights - Official Radio Edit	Lush & Simon	42	2azRoBBWEEEYhqV6sb7JrT	City Of Lights (Vocal Mix)	
32829	5Aevni09Em4575077nkWHz	Closer - Sultan & Ned Shepard Remix	Tegan and Sara	20	6kD6KLxj7s8eCE3ABvAyf5	Closer Remixed	
32830	7ImMqPP3Q1yfUHvsdn7wEo	Sweet Surrender - Radio Edit	Starkillers	14	0ltWNSY9JgxoIZO4VzuCa6	Sweet Surrender (Radio Edit)	
32831	2m69mhnfQ1Oq6lGtXuYhgX	Only For You - Maor Levi Remix	Mat Zo	15	1fGrOkHnHJcStl14zNx8Jy	Only For You (Remixes)	
32832	29zWqhca3zt5NsckZqDf6c	Typhoon - Original Mix	Julian Calor	27	0X3mUOm6MhxR7PzxG95rAo	Typhoon/Storm	
32833 ı	rows × 23 columns						

In [50]: #function used to get first few rows from the dataset
df1_spotify.head()

Out[50]:		track_id	track_name	track_artist	track_popularity	track_album	n_id track_album_name	track_alb
	0	6f807x0ima9a1j3VPbc7VN	I Don't Care (with Justin Bieber) - Loud Luxur	Ed Sheeran	66	2oCs0DGTsRO98Gh5ZSl2	I Don't Care (with 2Cx Justin Bieber) [Loud Luxury	
	1 0	r7CVbZTWZgbTCYdfa2P31	Memories - Dillon Francis Remix	Maroon 5	67	63rPSO264uRjW1X5E6cV	Nv6 Memories (Dillon Francis Remix)	
	2 1	z1Hg7Vb0AhHDiEmnDE79I	All the Time - Don Diablo Remix	Zara Larsson	70	1HoSmj2eLcsrR0vE9gT	Thr4 All the Time (Don Diablo Remix)	
	3 7	75FpbthrwQmzHlBJLuGdC7	Call You Mine - Keanu Silva Remix	The Chainsmokers	60	1nqYsOef1yKKuGOVchb	call You Mine - The Remixes	
	4 1	e8PAfcKUYoKkxPhrHqw4x	Someone You Loved - Future Humans Remix	Lewis Capaldi	69	7m7vv9wlQ4i0LFuJiE2z	Someone You zsQ Loved (Future Humans Remix)	
	5 row	s × 23 columns						
	4							•
In [52]:		get last rows						
	uii_	spotify.tail()						
Out[52]:	uii_	• • • • • • • • • • • • • • • • • • • •	k_id track_n	ame track_art	st track_popular	ity track_al	lbum_id track_album_na	ame track
Out[52]:		• • • • • • • • • • • • • • • • • • • •	Ci VfC1 Lig	ty Of hts - Lush	&	ity track_al 42 2azRoBBWEEEYhqV	City Of Li	ghts
Out[52]:		trac 8 7bxnKAamR3snQ1VGLu	VfC1 Ci VfC1 Lig Of Radio Clo Sult WHz	ty Of hts - Lush	& on		/6sb7JrT City Of Li (Vocal	ghts Mix)
Out[52]:	3282	trac 8 7bxnKAamR3snQ1VGLu 9 5Aevni09Em4575077nk	VfC1 Ci NfC1 Lig Of Radio Clo Sult WHz She R	ty Of Ints - Lush fficial Sim Edit Ser - an & Tegan a Ned pard emix weet der - Starkille	& on and ara	42 2azRoBBWEEEYhqV	Gsb7JrT City Of Lin (Vocal ABvAyf5 Closer Rem	ghts Mix) ixed
Out[52]:	3282	 trac 7bxnKAamR3snQ1VGLu 5Aevni09Em4575077nk 7ImMqPP3Q1yfUHvsdn7 	VfC1 Ci Ligg Of Radio Clo Sult WHz She R S 'wEo Surren Radio	ty Of hts - Lush ficial Sim Sim Ser - an & Tegan a Sapard emix weet der - Starkille For Maor Mat	& on and area	42 2azRoBBWEEEYhqV 20 6kD6KLxj7s8eCE3/	ABvAyf5 Closer Rem VzuCa6 Sweet Surrer (Radio E	ghts Mix) ixed inder Edit)
Out[52]:	3282 3282 3283	trac 8 7bxnKAamR3snQ1VGLu 9 5Aevni09Em4575077nk 0 7lmMqPP3Q1yfUHvsdn7 1 2m69mhnfQ1Oq6lGtXu	VfC1 Ci Ligg Of Radio Clo Sult WHz She R S WEo Surren Radio Only YngX You - I Levi R	ty Of htts - Lush fficial Sim Ser - an & Tegan a Ned pard emix weet der - Edit / For Maor emix	& on and area	42 2azRoBBWEEEYhqV 20 6kD6KLxj7s8eCE3/ 14 0ltWNSY9JgxoIZO4	ABvAyf5 Closer Rem VzuCa6 Sweet Surrer (Radio B	ghts Mix) ixed ixed inder Edit) You xes)
Out[52]:	3282 3283 3283 3283	trac 8 7bxnKAamR3snQ1VGLu 9 5Aevni09Em4575077nk 0 7lmMqPP3Q1yfUHvsdn7 1 2m69mhnfQ1Oq6lGtXu	VfC1 Lig Of Radio Clo Sult WHz She R WEo Surren Radio Only YhgX You - I Levi R	ty Of htts - Lush fficial Sim Ser - an & Tegan a Separd emix weet der - Edit For Maor emix	& on and area	42 2azRoBBWEEEYhqV 20 6kD6KLxj7s8eCE3/ 14 0ltWNSY9JgxoIZO4 15 1fGrOkHnHJcSti14	ABvAyf5 Closer Rem VzuCa6 Sweet Surrer (Radio E	ghts Mix) ixed ixed inder Edit) You xes)
Out[52]:	3282 3283 3283 3283	trac 8 7bxnKAamR3snQ1VGLu 9 5Aevni09Em4575077nk 0 7lmMqPP3Q1yfUHvsdn7 1 2m69mhnfQ1Oq6lGtXu 29zWqhca3zt5NsckZq	VfC1 Lig Of Radio Clo Sult WHz She R WEo Surren Radio Only YhgX You - I Levi R	ty Of htts - Lush fficial Sim Ser - an & Tegan a Separd emix weet der - Edit For Maor emix	& on and area	42 2azRoBBWEEEYhqV 20 6kD6KLxj7s8eCE3/ 14 0ltWNSY9JgxoIZO4 15 1fGrOkHnHJcSti14	ABvAyf5 Closer Rem VzuCa6 Sweet Surrer (Radio E	ghts Mix) ixed ixed inder Edit) You xes)
	3282 3283 3283 3283 5 rows	trac 8 7bxnKAamR3snQ1VGLu 9 5Aevni09Em4575077nk 0 7lmMqPP3Q1yfUHvsdn7 1 2m69mhnfQ1Oq6lGtXu 29zWqhca3zt5NsckZq	VfC1 Lig Of Radio Clo Sult WHz She R WEo Surren Radio Only YhgX You - I Levi R	ty Of htts - Lush fficial Sim Ser - an & Tegan a Separd emix weet der - Edit For Maor emix	& on and area	42 2azRoBBWEEEYhqV 20 6kD6KLxj7s8eCE3/ 14 0ltWNSY9JgxoIZO4 15 1fGrOkHnHJcSti14	ABvAyf5 Closer Rem VzuCa6 Sweet Surrer (Radio E	ghts Mix) ixed ixed inder Edit) You xes)

In [54]: df1_spotify[1140:1150]

1140	2W3EgJst61RLZtPPm3EQim	Territory	The Blaze	64	56X6IaIoNEfqxAvGb9St58	Territory
1141	5iK8GmW2uiPuUc5CtkZrlK	Downtown	Majical Cloudz	53	2xF3ioefFdZrOg9zUBU5hb	Are You Alone?
1142	297rZsBEjFw9d0Gl3iBLnd	Goodie Bag	Still Woozy	45	31u58iuxrUOJeKJj4SKqOI	Goodie Bag
1143	6qsArsTq6WoqtUFUe1e15W	Airplanes	Local Natives	49	2clpJDijNEoHv88jJKwDID	Gorilla Manor
1144	17eu2pSgSUpIG1GFWBnODv	Kill V. Maim	Grimes	62	5hB4jVN4ZHpubyiMmW81K1	Art Angels
1145	6bTn1ovlil0OkjUNkiMBJq	Nobody	Mitski	67	653wRjqO0GOZPQPcXpeAXD	Be the Cowboy
1146	1CLmFKW99S8eJrebO3GB04	No Woman	Whitney	65	5yMCA6HdFAeL1aqUjxO3MO	Light Upon the Lake
1147	71cUqXJ3h1r0Ees6YdENLU	Coffee	Sylvan Esso	61	5Abelpx4c3FzhTOZP3ZlvS	Sylvan Esso
1148	2sZtaJ4RFbRAAOBKWEeR4H	Loud Places	Jamie xx	7	5jBKTppNIUpcrNKbr8jbsQ	In Colour - Preview White Label
1149	2JiVVU7qv1YeD1yabplyoX	Riding For The Feeling	Bill Callahan	48	4RBHgVw8kR6lpXVnZhZrh0	Apocalypse

In [11]: df2_spotify=pd.read_csv(r"C:\Users\arumu\OneDrive\Desktop\spotify.csv",usecols=[0,11])
df2_spotify

Out[11]: track_id danceability

	track_id	danceability
0	6f807x0ima9a1j3VPbc7VN	0.748
1	0r7CVbZTWZgbTCYdfa2P31	0.726
2	1z1Hg7Vb0AhHDiEmnDE79l	0.675
3	75FpbthrwQmzHlBJLuGdC7	0.718
4	1e8PAfcKUYoKkxPhrHqw4x	0.650
32828	7bxnKAamR3snQ1VGLuVfC1	0.428
32829	5Aevni09Em4575077nkWHz	0.522
32830	7ImMqPP3Q1yfUHvsdn7wEo	0.529
32831	2m69mhnfQ1Oq6lGtXuYhgX	0.626
32832	29zWqhca3zt5NsckZqDf6c	0.603

32833 rows × 2 columns

In [55]: df3_spotify=pd.read_csv(r"C:\Users\arumu\OneDrive\Desktop\spotify.csv",skiprows=[4])
df3_spotify

Out[55]:	track_id	track_name	track_artist	track_popularity	track_album_id	track_album_name	track

	-	_	_	,			
0	6f807x0ima9a1j3VPbc7VN	I Don't Care (with Justin Bieber) - Loud Luxur	Ed Sheeran	66	2oCs0DGTsRO98Gh5ZSl2Cx	I Don't Care (with Justin Bieber) [Loud Luxury	
1	0r7CVbZTWZgbTCYdfa2P31	Memories - Dillon Francis Remix	Maroon 5	67	63rPSO264uRjW1X5E6cWv6	Memories (Dillon Francis Remix)	
2	1z1Hg7Vb0AhHDiEmnDE79I	All the Time - Don Diablo Remix	Zara Larsson	70	1HoSmj2eLcsrR0vE9gThr4	All the Time (Don Diablo Remix)	
3	1e8PAfcKUYoKkxPhrHqw4x	Someone You Loved - Future Humans Remix	Lewis Capaldi	69	7m7vv9wlQ4i0LFuJiE2zsQ	Someone You Loved (Future Humans Remix)	
4	7fvUMiyapMsRRxr07cU8Ef	Beautiful People (feat. Khalid) - Jack Wins Remix	Ed Sheeran	67	2yiy9cd2QktrNvWC2EUi0k	Beautiful People (feat. Khalid) [Jack Wins Remix]	
32827	7bxnKAamR3snQ1VGLuVfC1	City Of Lights - Official Radio Edit	Lush & Simon	42	2azRoBBWEEEYhqV6sb7JrT	City Of Lights (Vocal Mix)	
32828	5Aevni09Em4575077nkWHz	Closer - Sultan & Ned Shepard Remix	Tegan and Sara	20	6kD6KLxj7s8eCE3ABvAyf5	Closer Remixed	
32829	7ImMqPP3Q1yfUHvsdn7wEo	Sweet Surrender - Radio Edit	Starkillers	14	0ltWNSY9JgxoIZO4VzuCa6	Sweet Surrender (Radio Edit)	
32830	2m69mhnfQ1Oq6lGtXuYhgX	Only For You - Maor Levi Remix	Mat Zo	15	1fGrOkHnHJcStl14zNx8Jy	Only For You (Remixes)	
32831	29zWqhca3zt5NsckZqDf6c	Typhoon - Original Mix	Julian Calor	27	0X3mUOm6MhxR7PzxG95rAo	Typhoon/Storm	

In [56]: df4_spotify=pd.read_csv(r"C:\Users\arumu\OneDrive\Desktop\spotify.csv")
df4_spotify

Out[56]:	track_id track_name	track_artist track_popularity	track_album_id track_album_name tra

	uuok_lu	track_manie	track_artist	track_popularity	track_albani_la	track_album_name	uu
0	6f807x0ima9a1j3VPbc7VN	I Don't Care (with Justin Bieber) - Loud Luxur	Ed Sheeran	66	2oCs0DGTsRO98Gh5ZSl2Cx	I Don't Care (with Justin Bieber) [Loud Luxury	
1	0r7CVbZTWZgbTCYdfa2P31	Memories - Dillon Francis Remix	Maroon 5	67	63rPSO264uRjW1X5E6cWv6	Memories (Dillon Francis Remix)	
2	1z1Hg7Vb0AhHDiEmnDE79l	All the Time - Don Diablo Remix	Zara Larsson	70	1HoSmj2eLcsrR0vE9gThr4	All the Time (Don Diablo Remix)	
3	75FpbthrwQmzHlBJLuGdC7	Call You Mine - Keanu Silva Remix	The Chainsmokers	60	1nqYsOef1yKKuGOVchbsk6	Call You Mine - The Remixes	
4	1e8PAfcKUYoKkxPhrHqw4x	Someone You Loved - Future Humans Remix	Lewis Capaldi	69	7m7vv9wlQ4i0LFuJiE2zsQ	Someone You Loved (Future Humans Remix)	
32828	7bxnKAamR3snQ1VGLuVfC1	City Of Lights - Official Radio Edit	Lush & Simon	42	2azRoBBWEEEYhqV6sb7JrT	City Of Lights (Vocal Mix)	
32829	5Aevni09Em4575077nkWHz	Closer - Sultan & Ned Shepard Remix	Tegan and Sara	20	6kD6KLxj7s8eCE3ABvAyf5	Closer Remixed	
32830	7ImMqPP3Q1yfUHvsdn7wEo	Sweet Surrender - Radio Edit	Starkillers	14	0ltWNSY9JgxoIZO4VzuCa6	Sweet Surrender (Radio Edit)	
32831	2m69mhnfQ1Oq6lGtXuYhgX	Only For You - Maor Levi Remix	Mat Zo	15	1fGrOkHnHJcStl14zNx8Jy	Only For You (Remixes)	
32832	29zWqhca3zt5NsckZqDf6c	Typhoon - Original Mix	Julian Calor	27	0X3mUOm6MhxR7PzxG95rAo	Typhoon/Storm	

In [57]: #to check null values we use this function

Out[57]: track_id track_name track_artist track_popularity track album id track album name track_album

:	track_id	track_name	track_artist	track_popularity	track_album_id	track_album_name	track_album_release_date	playlist_n
0	False	False	False	False	False	False	False	F
1	False	False	False	False	False	False	False	F
2	False	False	False	False	False	False	False	F
3	False	False	False	False	False	False	False	F
4	False	False	False	False	False	False	False	F
32828	False	False	False	False	False	False	False	F
32829	False	False	False	False	False	False	False	F
32830	False	False	False	False	False	False	False	F
32831	False	False	False	False	False	False	False	F
32832	False	False	False	False	False	False	False	F

32833 rows × 23 columns

In [58]: df4_spotify.isnull().sum()

```
0
Out[58]: track_id
         track_name
                                     5
         track_artist
                                     5
         track_popularity
                                     0
         track_album_id
                                     0
         track album name
                                     5
         track_album_release_date
                                    0
         playlist name
                                     0
                                     0
         playlist_id
         playlist_genre
                                     0
         playlist_subgenre
                                     0
         danceability
                                     0
         energy
                                     0
         key
                                     0
         loudness
                                     0
                                     0
         mode
         speechiness
                                     0
                                     0
         acousticness
                                     0
         instrumentalness
                                     0
         liveness
         valence
                                     0
         tempo
                                     0
         duration ms
                                     0
         dtype: int64
```

In [59]: df4_spotify["track_artist"].isnull().sum()

Out[59]: 5

In [60]: df5_spotify=pd.read_csv(r"C:\Users\arumu\OneDrive\Desktop\spotify.csv") df5_spotify

t[60]:		track_id	track_name	track_artist	track_popularity	track_album_id	track_album_name	tra
	0	6f807x0ima9a1j3VPbc7VN	I Don't Care (with Justin Bieber) - Loud Luxur	Ed Sheeran	66	2oCs0DGTsRO98Gh5ZSl2Cx	I Don't Care (with Justin Bieber) [Loud Luxury	
	1	0r7CVbZTWZgbTCYdfa2P31	Memories - Dillon Francis Remix	Maroon 5	67	63rPSO264uRjW1X5E6cWv6	Memories (Dillon Francis Remix)	
	2	1z1Hg7Vb0AhHDiEmnDE79I	All the Time - Don Diablo Remix	Zara Larsson	70	1HoSmj2eLcsrR0vE9gThr4	All the Time (Don Diablo Remix)	
	3	75FpbthrwQmzHlBJLuGdC7	Call You Mine - Keanu Silva Remix	The Chainsmokers	60	1nqYsOef1yKKuGOVchbsk6	Call You Mine - The Remixes	
	4	1e8PAfcKUYoKkxPhrHqw4x	Someone You Loved - Future Humans Remix	Lewis Capaldi	69	7m7vv9wlQ4i0LFuJiE2zsQ	Someone You Loved (Future Humans Remix)	
	32828	7bxnKAamR3snQ1VGLuVfC1	City Of Lights - Official Radio Edit	Lush & Simon	42	2azRoBBWEEEYhqV6sb7JrT	City Of Lights (Vocal Mix)	
	32829	5Aevni09Em4575077nkWHz	Closer - Sultan & Ned Shepard Remix	Tegan and Sara	20	6kD6KLxj7s8eCE3ABvAyf5	Closer Remixed	
	32830	7ImMqPP3Q1yfUHvsdn7wEo	Sweet Surrender - Radio Edit	Starkillers	14	0ltWNSY9JgxoIZO4VzuCa6	Sweet Surrender (Radio Edit)	
	32831	2m69mhnfQ1Oq6lGtXuYhgX	Only For You - Maor Levi Remix	Mat Zo	15	1fGrOkHnHJcStl14zNx8Jy	Only For You (Remixes)	
	32832	29zWqhca3zt5NsckZqDf6c	Typhoon - Original Mix	Julian Calor	27	0X3mUOm6MhxR7PzxG95rAo	Typhoon/Storm	

32833 rows × 23 columns

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0 6f807x0lma9a1j3VPbc7VN (with Justin Bleber) Loud Loud Loud Loud Loud Loud Loud Loud	L]:	track_id	track_name	track_artist	track_popularity	track_album_id	track_album_name
1 0r7CVbZTWZgbTCYdfa2P31 Dillon Francis Remix Maroon 5 67 63rPSO264uRjW1X5E6cWv6 Memories (Dillon Francis Remix) 2 1z1Hg7Vb0AhHDiEmnDE791 All the Time On Diablo Remix Zara Larsson 70 1HoSmj2eLcsrR0vE9gThr4 All the Time (Don Diablo Remix) 3 75FpbthrwQmzHlBJLuGdC7 Call You Mine Francis Remix Mine Remix 60 1nqYsOef1yKKuGOVchbsk6 Call You Mine The Chainsmokers 4 1e8PAfckUYoKkxPhrHqw4x Someone You Loved Future Humans Remix Lewis Capaldi 69 7m7vv9wlQ4i0LFuJiE2zsQ Someone You Loved (Future Humans Remix) 32828 7bxnKAamR3snQ1VGLuVfC1 City Of Lights Official Radio Edit Lush & Simon 42 2azRoBBWEEEYhqV6sb7JrT City Of Lights (Vocal Mix) 32829 5Aevni09Em4575077nkWHz Closer Suttan & Ned Sarra Remix Tegan and Sarra Remix 20 6kD6kLxj7s8eCE3ABvAyf5 Closer Remixed 32830 7ImMqPP3Q1yfUHvsdn7wbc Sweet Surrender Redio Edit Starkillers 14 0ltWNSY9JgxolZO4VzuCa6 Sweet Surrender (Radio Edit) 32831 2m69mhnfQ1Oq6iGtXuYpds Only For You Maor Levi Remix Mat Zo 15 1fGrOkHnHJcStl14zNx8Jy Only For You Remixes)	0	6f807x0ima9a1j3VPbc7VN	(with Justin Bieber) - Loud	Ed Sheeran	66	2oCs0DGTsRO98Gh5ZSl2Cx	Justin Bieber) [Loud
2 1z1Hg7Vb0AhHDiEmnDE79I - Don Diablo Remix Zara Larsson 70 1HoSmj2eLcsrR0vE9gThr4 All the 1Ime (Don Diablo Remix) All the 1Ime (D	1	0r7CVbZTWZgbTCYdfa2P31	Dillon Francis	Maroon 5	67	63rPSO264uRjW1X5E6cWv6	
3 75FpbthrwQmzHlBJLuGdC7 Keanu Silva Remix Keanu Silva Remix Someone You Loved - Future Humans Remix	2	! 1z1Hg7Vb0AhHDiEmnDE79l	- Don Diablo	Zara Larsson	70	1HoSmj2eLcsrR0vE9gThr4	
4 1e8PAfcKUYoKkxPhrHqw4x You Loved - Future Humans Remix	3	75FpbthrwQmzHlBJLuGdC7	Mine - Keanu Silva		60	1nqYsOef1yKKuGOVchbsk6	
32828 7bxnKAamR3snQ1VGLuVfC1 City Of Lights - Official Radio Edit Lush & Simon 42 2azRoBBWEEEYhqV6sb7JrT City Of Lights (Vocal Mix) 32829 5Aevni09Em4575077nkWHz Closer - Sultan & Ned Shepard Remix Tegan and Sara 20 6kD6KLxj7s8eCE3ABvAyf5 Closer Remixed 32830 7ImMqPP3Q1yfUHvsdn7wEo Sweet Surrender - Radio Edit Starkillers 14 0ltWNSY9JgxolZO4VzuCa6 Sweet Surrender (Radio Edit) 32831 2m69mhnfQ1Oq6lGtXuYhgX Only For You - Maor Levi Remix Mat Zo 15 1fGrOkHnHJcSti14zNx8Jy Only For You (Remixes)	4	1e8PAfcKUYoKkxPhrHqw4x	You Loved - Future Humans	Lewis Capaldi	69	7m7vv9wlQ4i0LFuJiE2zsQ	Loved (Future
7bxnKAamR3snQ1VGLuVfC1 Lights Official Radio Edit Lush & Simon 42 2azRoBBWEEEYhqV6sb7JrT City Of Lights (Vocal Mix) Closer - Sultan & Ned Shepard Remix Tegan and Sara 7lmMqPP3Q1yfUHvsdn7wEo Sweet Surrender - Radio Edit Only For You - Maor Levi Remix Typhoon - Lution Color Typhoon - Lution Color At 2 2azRoBBWEEEYhqV6sb7JrT City Of Lights (Vocal Mix) City Of Lights (Vocal Mix) City Of Lights (Vocal Mix) At 2 2azRoBBWEEEYhqV6sb7JrT City Of Lights (Vocal Mix) City Of Lights (Vocal Mix) At 2 2azRoBBWEEEYhqV6sb7JrT City Of Lights (Vocal Mix) City Of Lights (Vocal Mix) At 2 2azRoBBWEEEYhqV6sb7JrT City Of Lights (Vocal Mix)							
32829 5Aevni09Em4575077nkWHz Sultan & Ned Shepard Remix 32830 7ImMqPP3Q1yfUHvsdn7wEo Surrender - Radio Edit 32831 2m69mhnfQ1Oq6lGtXuYhgX Only For You - Maor Levi Remix 32832 - 20c1Mehas 2ctEMack 7c DfSa Typhoon - Malian Color - Wilson Color -	32828	7bxnKAamR3snQ1VGLuVfC1	Lights - Official	Lush & Simon	42	2azRoBBWEEEYhqV6sb7JrT	
7ImMqPP3Q1yfUHvsdn7wEo Surrender - Radio Edit Starkillers 14 0ltWNSY9JgxolZO4VzuCa6 (Radio Edit) 32831 2m69mhnfQ1Oq6lGtXuYhgX Only For You - Maor Levi Remix Mat Zo 15 1fGrOkHnHJcStl14zNx8Jy (Remixes) 7ImMqPP3Q1yfUHvsdn7wEo Surrender (Radio Edit)	32829	5Aevni09Em4575077nkWHz	Sultan & Ned Shepard		20	6kD6KLxj7s8eCE3ABvAyf5	Closer Remixed
32831 2m69mhnfQ1Oq6lGtXuYhgX You - Maor Levi Remix Mat Zo 15 1fGrOkHnHJcStl14zNx8Jy (Remixes)	32830	7ImMqPP3Q1yfUHvsdn7wEo	Surrender -	Starkillers	14	0ltWNSY9JgxoIZO4VzuCa6	
32832 29zWqhca3zt5NsckZqDf6c Typhoon - Julian Calor 27 0X3mUOm6MhxR7PzxG95rAo Typhoon/Storm	32831	2m69mhnfQ1Oq6lGtXuYhgX	You - Maor	Mat Zo	15	1fGrOkHnHJcStl14zNx8Jy	
Original with	32832	29zWqhca3zt5NsckZqDf6c	Typhoon - Original Mix	Julian Calor	27	0X3mUOm6MhxR7PzxG95rAo	Typhoon/Storm

In [62]: df5_spotify.sort_index()

52]:	track_id		track_name	track_artist	track_popularity	track_album_id	track_album_name
	0	6f807x0ima9a1j3VPbc7VN	I Don't Care (with Justin Bieber) - Loud Luxur	Ed Sheeran	66	2oCs0DGTsRO98Gh5ZSl2Cx	I Don't Care (with Justin Bieber) [Loud Luxury
	1	0r7CVbZTWZgbTCYdfa2P31	Memories - Dillon Francis Remix	Maroon 5	67	63rPSO264uRjW1X5E6cWv6	Memories (Dillon Francis Remix)
	2	1z1Hg7Vb0AhHDiEmnDE79I	All the Time - Don Diablo Remix	Zara Larsson	70	1HoSmj2eLcsrR0vE9gThr4	All the Time (Don Diablo Remix)
	3	75FpbthrwQmzHlBJLuGdC7	Call You Mine - Keanu Silva Remix	The Chainsmokers	60	1nqYsOef1yKKuGOVchbsk6	Call You Mine - The Remixes
	4	1e8PAfcKUYoKkxPhrHqw4x	Someone You Loved - Future Humans Remix	Lewis Capaldi	69	7m7vv9wlQ4i0LFuJiE2zsQ	Someone You Loved (Future Humans Remix)
3	2828	7bxnKAamR3snQ1VGLuVfC1	City Of Lights - Official Radio Edit	Lush & Simon	42	2azRoBBWEEEYhqV6sb7JrT	City Of Lights (Vocal Mix)
3	2829	5Aevni09Em4575077nkWHz	Closer - Sultan & Ned Shepard Remix	Tegan and Sara	20	6kD6KLxj7s8eCE3ABvAyf5	Closer Remixed
3	2830	7ImMqPP3Q1yfUHvsdn7wEo	Sweet Surrender - Radio Edit	Starkillers	14	0ltWNSY9JgxoIZO4VzuCa6	Sweet Surrender (Radio Edit)
3	2831	2m69mhnfQ1Oq6lGtXuYhgX	Only For You - Maor Levi Remix	Mat Zo	15	1fGrOkHnHJcStl14zNx8Jy	Only For You (Remixes)
3	2832	29zWqhca3zt5NsckZqDf6c	Typhoon - Original Mix	Julian Calor	27	0X3mUOm6MhxR7PzxG95rAo	Typhoon/Storm
32	9833 rd	ows x 23 columns					

In [63]: df5_spotify.sort_index(ascending=False)

tra	track_album_name	track_album_id	track_popularity	track_artist	track_name	track_id		
	Typhoon/Storm	0X3mUOm6MhxR7PzxG95rAo	27	Julian Calor	Typhoon - Original Mix	29zWqhca3zt5NsckZqDf6c	32832	
	Only For You (Remixes)	1fGrOkHnHJcStl14zNx8Jy	15	Mat Zo	Only For You - Maor Levi Remix	2m69mhnfQ1Oq6lGtXuYhgX	32831	
	Sweet Surrender (Radio Edit)	0ltWNSY9JgxoIZO4VzuCa6	14	Starkillers	Sweet Surrender - Radio Edit	7ImMqPP3Q1yfUHvsdn7wEo	32830	
	Closer Remixed	6kD6KLxj7s8eCE3ABvAyf5	20	Tegan and Sara	Closer - Sultan & Ned Shepard Remix	5Aevni09Em4575077nkWHz	32829	
	City Of Lights (Vocal Mix)	2azRoBBWEEEYhqV6sb7JrT	42	Lush & Simon	City Of Lights - Official Radio Edit	7bxnKAamR3snQ1VGLuVfC1	32828	
	Someone You Loved (Future Humans Remix)	7m7vv9wlQ4i0LFuJiE2zsQ	69	Lewis Capaldi	Someone You Loved - Future Humans Remix	1e8PAfcKUYoKkxPhrHqw4x	4	
	Call You Mine - The Remixes	1nqYsOef1yKKuGOVchbsk6	60	The Chainsmokers	Call You Mine - Keanu Silva Remix	75FpbthrwQmzHlBJLuGdC7	3	
	All the Time (Don Diablo Remix)	1HoSmj2eLcsrR0vE9gThr4	70	Zara Larsson	All the Time - Don Diablo Remix	1z1Hg7Vb0AhHDiEmnDE79l	2	
	Memories (Dillon Francis Remix)	63rPSO264uRjW1X5E6cWv6	67	Maroon 5	Memories - Dillon Francis Remix	0r7CVbZTWZgbTCYdfa2P31	1	
	I Don't Care (with Justin Bieber) [Loud Luxury	2oCs0DGTsRO98Gh5ZSl2Cx	66	Ed Sheeran	I Don't Care (with Justin Bieber) - Loud	6f807x0ima9a1j3VPbc7VN	0	

In [65]: df5_spotify.loc[1,"track_popularity"]=100
df5_spotify

Luxur...

Out[65]:	track_id track_name	track_artist track_popularity	track_album_id track_album_name tra
		,	

0	6f807x0ima9a1j3VPbc7VN	I Don't Care (with Justin Bieber) - Loud Luxur	Ed Sheeran	99	2oCs0DGTsRO98Gh5ZSl2Cx	I Don't Care (with Justin Bieber) [Loud Luxury
1	0r7CVbZTWZgbTCYdfa2P31	Memories - Dillon Francis Remix	Maroon 5	100	63rPSO264uRjW1X5E6cWv6	Memories (Dillon Francis Remix)
2	1z1Hg7Vb0AhHDiEmnDE79I	All the Time - Don Diablo Remix	Zara Larsson	70	1HoSmj2eLcsrR0vE9gThr4	All the Time (Don Diablo Remix)
3	75FpbthrwQmzHlBJLuGdC7	Call You Mine - Keanu Silva Remix	The Chainsmokers	60	1nqYsOef1yKKuGOVchbsk6	Call You Mine - The Remixes
4	1e8PAfcKUYoKkxPhrHqw4x	Someone You Loved - Future Humans Remix	Lewis Capaldi	69	7m7vv9wlQ4i0LFuJiE2zsQ	Someone You Loved (Future Humans Remix)
32828	7bxnKAamR3snQ1VGLuVfC1	City Of Lights - Official Radio Edit	Lush & Simon	42	2azRoBBWEEEYhqV6sb7JrT	City Of Lights (Vocal Mix)
32829	5Aevni09Em4575077nkWHz	Closer - Sultan & Ned Shepard Remix	Tegan and Sara	20	6kD6KLxj7s8eCE3ABvAyf5	Closer Remixed
32830	7ImMqPP3Q1yfUHvsdn7wEo	Sweet Surrender - Radio Edit	Starkillers	14	0ltWNSY9JgxoIZO4VzuCa6	Sweet Surrender (Radio Edit)
32831	2m69mhnfQ1Oq6lGtXuYhgX	Only For You - Maor Levi Remix	Mat Zo	15	1fGrOkHnHJcStl14zNx8Jy	Only For You (Remixes)
32832	29zWqhca3zt5NsckZqDf6c	Typhoon - Original Mix	Julian Calor	27	0X3mUOm6MhxR7PzxG95rAo	Typhoon/Storm

In [67]: df5_spotify.loc[:,["track_album_id","track_album_name","track_album_release_date","playlist_name"]]

Out[67]:	track_album_id		track_album_name	track_album_release_date	playlist_name
	0	2oCs0DGTsRO98Gh5ZSl2Cx	I Don't Care (with Justin Bieber) [Loud Luxury	14-06-2019	Pop Remix
	1	63rPSO264uRjW1X5E6cWv6	Memories (Dillon Francis Remix)	13-12-2019	Pop Remix
	2	1HoSmj2eLcsrR0vE9gThr4	All the Time (Don Diablo Remix)	05-07-2019	Pop Remix
	3	1nqYsOef1yKKuGOVchbsk6	Call You Mine - The Remixes	19-07-2019	Pop Remix
	4	7m7vv9wlQ4i0LFuJiE2zsQ	Someone You Loved (Future Humans Remix)	05-03-2019	Pop Remix
	32828	2azRoBBWEEEYhqV6sb7JrT	City Of Lights (Vocal Mix)	28-04-2014	♥ EDM LOVE 2020
	32829	6kD6KLxj7s8eCE3ABvAyf5	Closer Remixed	08-03-2013	♥ EDM LOVE 2020
	32830	0ltWNSY9JgxoIZO4VzuCa6	Sweet Surrender (Radio Edit)	21-04-2014	♥ EDM LOVE 2020
	32831	1fGrOkHnHJcStl14zNx8Jy	Only For You (Remixes)	01-01-2014	♥ EDM LOVE 2020
	32832	0X3mUOm6MhxR7PzxG95rAo	Typhoon/Storm	03-03-2014	♥ EDM LOVE 2020

32833 rows × 4 columns

Out[70]:		track_album_id	track_album_name	track_album_release_date	playlist_name
	0	2oCs0DGTsRO98Gh5ZSl2Cx	I Don't Care (with Justin Bieber) [Loud Luxury	14-06-2019	Pop Remix
	1	63rPSO264uRjW1X5E6cWv6	Memories (Dillon Francis Remix)	13-12-2019	Pop Remix
	2 1HoSmj2eLcsrR0vE9gThr4 All the Time (E		All the Time (Don Diablo Remix)	05-07-2019	Pop Remix
			Call You Mine - The Remixes	19-07-2019	Pop Remix
			Someone You Loved (Future Humans Remix)	05-03-2019	Pop Remix
	5	2yiy9cd2QktrNvWC2EUi0k	Beautiful People (feat. Khalid) [Jack Wins Remix]	11-07-2019	Pop Remix

In [72]: df5 spotify.iloc[20:30,4:7]

 1151.	d15_5pot11y11toc[20:30,4:7]

Out[72]:

	track_album_id	track_album_name	track_album_release_date
20	37bCTD5iLWMpDcBanNkkXB	Heaven (David Guetta & MORTEN Remix)	23-08-2019
21	5r998zJ0MNYb2TTxyQmjxT	All Around The World (La La La) [Marnik Remix]	23-08-2019
22	1WhPuMFm5VaTJqe9rl3C5Q	Don't Leave Me Alone (feat. Anne-Marie) [EDX's	08-05-2019
23	6Ol6C42O7AWnTkj8pHMHWv	Slow Dance (feat. Ava Max) [Sam Feldt Remix]	25-10-2019
24	5vf16sRhXB2f3sS5kteU2T	Do You Mean - The Remixes (feat. Ty Dolla \$ign	24-05-2019
25	1LTVUVJQ9wNArrbm02ZOVL	Hold Me While You Wait (Steve Void Remix)	21-06-2019
26	13pvchQvJxxpvvtsasA4NG	One Thing Right (Remixes)	09-08-2019
27	5bMicFMWsZIRZNTDq9h3oA	Close To Me (Remixes)	01-02-2019
28	4pl2838fY2YPaqiT2yWuMo	So Am I (Toby Green Remix)	23-05-2019
29	6MhbDWEsAP9Xsgoj0TuEOc	When You Leave (Breathe Carolina Remix)	19-04-2019

In [73]: df6_spotify=pd.read_csv(r"C:\Users\arumu\OneDrive\Desktop\spotify.csv")
df6_spotify

Tegan and Track_id Track_name Track_artist Track_popularity Track_album_id Track_album_name Track_album_name Track_popularity Track_album_id Track_album_name Tr							
1]:	track_id	track_name	track_artist	track_popularity	track_album_id	track_album_name
1 0r7CVbZTWZgbTCYdfa2P31 Pillon Francis Remix 2 1z1Hg7Vb0AhHDiEmnDE791 All the Time - Don Diablo Remix 3 75FpbthrwQmzHlBJLuGdC7 Remix 4 1e8PAfcKUYoKkxPhrHqw4x Pillon Remix	0	6f807x0ima9a1j3VPbc7VN	(with Justin Bieber) - Loud	Ed Sheeran	66	2oCs0DGTsRO98Gh5ZSl2Cx	Justin Bieber) [Loud
2 1z1Hg7Vb0AhHDiEmnDE79I - Don Diablo Remix 3 75FpbthrwQmzHlBJLuGdC7 Call You Mine-Keanu Silva Remix Someone You Loved - Future Humans Remix	1	0r7CVbZTWZgbTCYdfa2P31	Dillon Francis	Maroon 5	67	63rPSO264uRjW1X5E6cWv6	
3 75FpbthrwQmzHlBJLuGdC7 Keanu Silve Kugovchbské Call You Mine - The Remixes Silve Keanux Silve Keanux Silve Keanux Silve Keanux Silve Keanux Silve Kugovchbské Call You Mine - The Remixes Silve Keanux Silve Keanux Silve Kugovchbské Call You Mine - The Remixes Silve Keanux Silve Kugovchbské Call You Mine - The Remixes Silve Keanux Silve Kugovchbské Call You Mine - The Remixes Silve Keanux Silve Kugovchbské Call You Mine - The Remixes Silve Keanux Silve Kall You Mine - The Remixes Silve Keanux Silve Kugovchbské Call You Mine - The Remixes Silve Keanux Silve Kugovchbské Call You Mine - The Remixes Silve Kall You Mine - The Remixes Silv	2	1z1Hg7Vb0AhHDiEmnDE79l	- Don Diablo	Zara Larsson	70	1HoSmj2eLcsrR0vE9gThr4	
4 1e8PAfcKUYoKkxPhrHqw4x	3	75FpbthrwQmzHlBJLuGdC7	Mine - Keanu Silva		60	1nqYsOef1yKKuGOVchbsk6	
32828 7bxnKAamR3snQ1VGLuVfC1 City Of Lights - Official Radio Edit Lush & Simon 42 2azRoBBWEEEYhqV6sb7JrT City Of Lights (Vocal Mix) 32829 5Aevni09Em4575077nkWHz Closer - Sultan & Ned Shepard Remix Tegan and Sara 20 6kD6KLxj7s8eCE3ABvAyf5 Closer Remixed 32830 7ImMqPP3Q1yfUHvsdn7wEo Sweet Surrender - Radio Edit Starkillers 14 0ltWNSY9JgxolZO4VzuCa6 Sweet Surrender (Radio Edit) 32831 2m69mhnfQ1Oq6lGtXuYhgX Only For You - Maor Levi Remix Mat Zo 15 1fGr0kHnHJcStl14zNx8Jy Only For You (Remixes)	4	1e8PAfcKUYoKkxPhrHqw4x	You Loved - Future Humans	Lewis Capaldi	69	7m7vv9wlQ4i0LFuJiE2zsQ	Loved (Future
7 bxnKAamR3snQ1VGLuVfC1							
32829 5Aevni09Em4575077nkWHz Sultan & Ned Shepard Remix Sweet Surrender - Radio Edit 32830 7ImMqPP3Q1yfUHvsdn7wEo Surrender - Radio Edit Only For You - Maor Levi Remix And Sara 20 6kD6KLxj7s8eCE3ABvAyf5 Closer Remixed Sweet Surrender (Radio Edit) Only For You - Maor Levi Remix Only For You - Maor Levi Remix Typhoon - Inlien Colors 27 0V2mH0m6MbvB7Pmv00FsAs Typhoon - Typhoon (Starse)	32828	7bxnKAamR3snQ1VGLuVfC1	Lights - Official	Lush & Simon	42	2azRoBBWEEEYhqV6sb7JrT	
32830 7ImMqPP3Q1yfUHvsdn7wEo Surrender - Radio Edit Starkillers 14 0ItWNSY9JgxoIZO4VzuCa6 (Radio Edit) 32831 2m69mhnfQ1Oq6lGtXuYhgX Only For You - Maor Levi Remix Mat Zo 15 1fGrOkHnHJcStl14zNx8Jy Only For You (Remixes)	32829	5Aevni09Em4575077nkWHz	Sultan & Ned Shepard		20	6kD6KLxj7s8eCE3ABvAyf5	Closer Remixed
32831 2m69mhnfQ1Oq6lGtXuYhgX You - Maor Mat Zo 15 1fGrOkHnHJcStl14zNx8Jy (Remixes) Levi Remix Typhoon - Julian Color 27 0X2mU0m6MbvB7D7vC05rAc Typhoon (Storm	32830	7ImMqPP3Q1yfUHvsdn7wEo	Surrender -	Starkillers	14	0ltWNSY9JgxoIZO4VzuCa6	
32832 207\Wahca3zt5Neck7aDf6c Typhoon - Julian Calor 27 0X3mHOm6MhyR7PzyG95rAo Typhoon/Storm	32831	2m69mhnfQ1Oq6lGtXuYhgX	You - Maor	Mat Zo	15	1fGrOkHnHJcStl14zNx8Jy	
Original Mix	32832	29zWqhca3zt5NsckZqDf6c	Typhoon - Original Mix	Julian Calor	27	0X3mUOm6MhxR7PzxG95rAo	Typhoon/Storm

In [74]: df6_spotify.drop(3)

[74]:	track_id		track_name	track_artist	track_popularity	track_album_id	track_album_name	track
	0	6f807x0ima9a1j3VPbc7VN	I Don't Care (with Justin Bieber) - Loud Luxur	Ed Sheeran	66	2oCs0DGTsRO98Gh5ZSl2Cx	I Don't Care (with Justin Bieber) [Loud Luxury	
	1	0r7CVbZTWZgbTCYdfa2P31	Memories - Dillon Francis Remix	Maroon 5	67	63rPSO264uRjW1X5E6cWv6	Memories (Dillon Francis Remix)	
	2	1z1Hg7Vb0AhHDiEmnDE79I	All the Time - Don Diablo Remix	Zara Larsson	70	1HoSmj2eLcsrR0vE9gThr4	All the Time (Don Diablo Remix)	
	4	1e8PAfcKUYoKkxPhrHqw4x	Someone You Loved - Future Humans Remix	Lewis Capaldi	69	7m7vv9wlQ4i0LFuJiE2zsQ	Someone You Loved (Future Humans Remix)	
	5	7fvUMiyapMsRRxr07cU8Ef	Beautiful People (feat. Khalid) - Jack Wins Remix	Ed Sheeran	67	2yiy9cd2QktrNvWC2EUi0k	Beautiful People (feat. Khalid) [Jack Wins Remix]	
	32828	7bxnKAamR3snQ1VGLuVfC1	City Of Lights - Official Radio Edit	Lush & Simon	42	2azRoBBWEEEYhqV6sb7JrT	City Of Lights (Vocal Mix)	
	32829	5Aevni09Em4575077nkWHz	Closer - Sultan & Ned Shepard Remix	Tegan and Sara	20	6kD6KLxj7s8eCE3ABvAyf5	Closer Remixed	
	32830	7ImMqPP3Q1yfUHvsdn7wEo	Sweet Surrender - Radio Edit	Starkillers	14	0ltWNSY9JgxoIZO4VzuCa6	Sweet Surrender (Radio Edit)	
	32831	2m69mhnfQ1Oq6lGtXuYhgX	Only For You - Maor Levi Remix	Mat Zo	15	1fGrOkHnHJcStl14zNx8Jy	Only For You (Remixes)	
	32832	29zWqhca3zt5NsckZqDf6c	Typhoon - Original Mix	Julian Calor	27	0X3mUOm6MhxR7PzxG95rAo	Typhoon/Storm	

In [75]: df6_spotify.drop("track_album_release_date",axis=1)

Out[75]:			tra	ck id 1	rack name	e track art	tist tra	ack popula	rity	track album id	track album name	pla
	0	6f807>	k0ima9a1j3VPb		I Don't Care (with Justin Bieber) Loud Luxur	n - Ed Sheer I	ran		66	2oCs0DGTsRO98Gh5ZSl2Cx	I Don't Care (with Justin Bieber) [Loud Luxury	
	1	0r7CVbZ	TWZgbTCYdfa	n2P31	Memories Dillor Francis Remix	Marooi	n 5		67	63rPSO264uRjW1X5E6cWv6	Memories (Dillon Francis Remix)	
	2	1z1Hg7\	/b0AhHDiEmnl		All the Time Don Diable Remix	Zara Larss	son		70	1HoSmj2eLcsrR0vE9gThr4	All the Time (Don Diablo Remix)	
	3	75Fpbth	nrwQmzHlBJLu	GdC7	Call You Mine Keanu Silva Remix	- T a Chainsmoke	The ers		60	1nqYsOef1yKKuGOVchbsk6	Call You Mine - The Remixes	
	4	1e8PAfo	cKUYoKkxPhrF		Someone You Loved Future Humans Remix	- e Lewis Capa s	aldi		69	7m7vv9wlQ4i0LFuJiE2zsQ	Someone You Loved (Future Humans Remix)	
	32828	7bxnKAai	mR3snQ1VGLı	ıVfC1	City O Lights Officia Radio Edi	Lush & Sim	non		42	2azRoBBWEEEYhqV6sb7JrT	City Of Lights (Vocal Mix)	
	32829	5Aevni0	9Em4575077nl	kWHz	Closer Sultan & Nec Shepard Remix	Tegan a Sa	and ara		20	6kD6KLxj7s8eCE3ABvAyf5	Closer Remixed	•
	32830	7ImMqPI	P3Q1yfUHvsdn	7wEo	Swee Surrender Radio Edi	- Starkille	ers		14	0ltWNSY9JgxolZO4VzuCa6	Sweet Surrender (Radio Edit)	
	32831	2m69mh	nnfQ1Oq6lGtXu	YhgX	Only Fo You - Mao Levi Remix	r Mat	Zo		15	1fGrOkHnHJcStl14zNx8Jy	Only For You (Remixes)	
	32832		qhca3zt5NsckZ	qDf6c	Typhoon Original Mix		alor		27	0X3mUOm6MhxR7PzxG95rAo	Typhoon/Storm	*
	32833 r	ows × 22 (columns									
	4											Þ
In [76]:	df4_sp	otify.is	snull()									
Out[76]:		track_id	track_name	track_a	artist trac	k_popularity	track_	_album_id	trac	k_album_name track_album	_release_date playli	st_n
	0	False	False	F	alse	False		False		False	False	F
	1	False	False	ı	alse	False		False		False	False	F
	2	False	False	F	alse	False		False		False	False	F
	3	False	False	F	alse	False		False		False	False	F
	4	False	False	ı	alse	False		False		False	False	F
	32828	False	False	ı	alse	False		False		False	False	F
	32829	False	False		alse	False		False		False	False	F
	32830	False	False		-alse	False		False		False	False	F
	32831	False	False		False	False		False		False	False	F

False

False

False

False

False

False

F

32832 False

In [77]: df4_spotify.dropna()

Out[77]: t	rack_id track_name	track_artist track_popularity	track_album_id track_album_name tra
		,	

0	6f807x0ima9a1j3VPbc7VN	I Don't Care (with Justin Bieber) - Loud Luxur	Ed Sheeran	66	2oCs0DGTsRO98Gh5ZSl2Cx	I Don't Care (with Justin Bieber) [Loud Luxury
1	0r7CVbZTWZgbTCYdfa2P31	Memories - Dillon Francis Remix	Maroon 5	67	63rPSO264uRjW1X5E6cWv6	Memories (Dillon Francis Remix)
2	1z1Hg7Vb0AhHDiEmnDE79I	All the Time - Don Diablo Remix	Zara Larsson	70	1HoSmj2eLcsrR0vE9gThr4	All the Time (Don Diablo Remix)
3	75FpbthrwQmzHlBJLuGdC7	Call You Mine - Keanu Silva Remix	The Chainsmokers	60	1nqYsOef1yKKuGOVchbsk6	Call You Mine - The Remixes
4	1e8PAfcKUYoKkxPhrHqw4x	Someone You Loved - Future Humans Remix	Lewis Capaldi	69	7m7vv9wlQ4i0LFuJiE2zsQ	Someone You Loved (Future Humans Remix)
32828	7bxnKAamR3snQ1VGLuVfC1	City Of Lights - Official Radio Edit	Lush & Simon	42	2azRoBBWEEEYhqV6sb7JrT	City Of Lights (Vocal Mix)
32829	5Aevni09Em4575077nkWHz	Closer - Sultan & Ned Shepard Remix	Tegan and Sara	20	6kD6KLxj7s8eCE3ABvAyf5	Closer Remixed
32830	7ImMqPP3Q1yfUHvsdn7wEo	Sweet Surrender - Radio Edit	Starkillers	14	0ltWNSY9JgxoIZO4VzuCa6	Sweet Surrender (Radio Edit)
32831	2m69mhnfQ1Oq6lGtXuYhgX	Only For You - Maor Levi Remix	Mat Zo	15	1fGrOkHnHJcStl14zNx8Jy	Only For You (Remixes)
32832	29zWqhca3zt5NsckZqDf6c	Typhoon - Original Mix	Julian Calor	27	0X3mUOm6MhxR7PzxG95rAo	Typhoon/Storm

In [78]: df4 spotify drapps/swi

In [78]:	df4_sp	ootify.dropna(axis=1)					
Out[78]:		track_id	track_popularity	track_album_id	track_album_release_date	playlist_name	
	0	6f807x0ima9a1j3VPbc7VN	66	2oCs0DGTsRO98Gh5ZSl2Cx	14-06-2019	Pop Remix	37i9dQZF
	1	0r7CVbZTWZgbTCYdfa2P31	67	63rPSO264uRjW1X5E6cWv6	13-12-2019	Pop Remix	37i9dQZF
	2	1z1Hg7Vb0AhHDiEmnDE79l	70	1HoSmj2eLcsrR0vE9gThr4	05-07-2019	Pop Remix	37i9dQZF
	3	75FpbthrwQmzHlBJLuGdC7	60	1nqYsOef1yKKuGOVchbsk6	19-07-2019	Pop Remix	37i9dQZF
	4	1e8PAfcKUYoKkxPhrHqw4x	69	7m7vv9wlQ4i0LFuJiE2zsQ	05-03-2019	Pop Remix	37i9dQZF
						•••	
	32828	7bxnKAamR3snQ1VGLuVfC1	42	2azRoBBWEEEYhqV6sb7JrT	28-04-2014	♥ EDM LOVE 2020	6jl1gFr(
	32829	5Aevni09Em4575077nkWHz	20	6kD6KLxj7s8eCE3ABvAyf5	08-03-2013	♥ EDM LOVE 2020	6jl1gFr6
	32830	7ImMqPP3Q1yfUHvsdn7wEo	14	0ltWNSY9JgxoIZO4VzuCa6	21-04-2014	♥ EDM LOVE 2020	6jl1gFr(
	32831	2m69mhnfQ1Oq6lGtXuYhgX	15	1fGrOkHnHJcStl14zNx8Jy	01-01-2014	♥ EDM LOVE 2020	6jl1gFr6
	32832	29zWqhca3zt5NsckZqDf6c	27	0X3mUOm6MhxR7PzxG95rAo	03-03-2014	♥ EDM LOVE 2020	6jl1gFrŧ

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	id_num	name_of_track	artist_name	popularity_of_track	album_id_num	album_name	(
0	6f807x0ima9a1j3VPbc7VN	I Don't Care (with Justin Bieber) - Loud Luxur	Ed Sheeran	66	2oCs0DGTsRO98Gh5ZSl2Cx	I Don't Care (with Justin Bieber) [Loud Luxury	
1	0r7CVbZTWZgbTCYdfa2P31	Memories - Dillon Francis Remix	Maroon 5	67	63rPSO264uRjW1X5E6cWv6	Memories (Dillon Francis Remix)	
2	1z1Hg7Vb0AhHDiEmnDE79I	All the Time - Don Diablo Remix	Zara Larsson	70	1HoSmj2eLcsrR0vE9gThr4	All the Time (Don Diablo Remix)	
3	75FpbthrwQmzHlBJLuGdC7	Call You Mine - Keanu Silva Remix	The Chainsmokers	60	1nqYsOef1yKKuGOVchbsk6	Call You Mine - The Remixes	2
4	1e8PAfcKUYoKkxPhrHqw4x	Someone You Loved - Future Humans Remix	Lewis Capaldi	69	7m7vv9wlQ4i0LFuJiE2zsQ	Someone You Loved (Future Humans Remix)	2
32828	7bxnKAamR3snQ1VGLuVfC1	City Of Lights - Official Radio Edit	Lush & Simon	42	2azRoBBWEEEYhqV6sb7JrT	City Of Lights (Vocal Mix)	
32829	5Aevni09Em4575077nkWHz	Closer - Sultan & Ned Shepard Remix	Tegan and Sara	20	6kD6KLxj7s8eCE3ABvAyf5	Closer Remixed	
32830	7ImMqPP3Q1yfUHvsdn7wEo	Sweet Surrender - Radio Edit	Starkillers	14	0ltWNSY9JgxoIZO4VzuCa6	Sweet Surrender (Radio Edit)	
32831	2m69mhnfQ1Oq6lGtXuYhgX	Only For You - Maor Levi Remix	Mat Zo	15	1fGrOkHnHJcStl14zNx8Jy	Only For You (Remixes)	
32832	29zWqhca3zt5NsckZqDf6c	Typhoon - Original Mix	Julian Calor	27	0X3mUOm6MhxR7PzxG95rAo	Typhoon/Storm	2
32833 r	ows × 23 columns						

In [80]: df4_spotify

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	id_num	name_of_track	artist_name	popularity_of_track	album_id_num	album_name	ſ
0	6f807x0ima9a1j3VPbc7VN	I Don't Care (with Justin Bieber) - Loud Luxur	Ed Sheeran	66	2oCs0DGTsRO98Gh5ZSl2Cx	I Don't Care (with Justin Bieber) [Loud Luxury	
1	0r7CVbZTWZgbTCYdfa2P31	Memories - Dillon Francis Remix	Maroon 5	67	63rPSO264uRjW1X5E6cWv6	Memories (Dillon Francis Remix)	
2	1z1Hg7Vb0AhHDiEmnDE79I	All the Time - Don Diablo Remix	Zara Larsson	70	1HoSmj2eLcsrR0vE9gThr4	All the Time (Don Diablo Remix)	
3	75FpbthrwQmzHlBJLuGdC7	Call You Mine - Keanu Silva Remix	The Chainsmokers	60	1nqYsOef1yKKuGOVchbsk6	Call You Mine - The Remixes	2
4	1e8PAfcKUYoKkxPhrHqw4x	Someone You Loved - Future Humans Remix	Lewis Capaldi	69	7m7vv9wlQ4i0LFuJiE2zsQ	Someone You Loved (Future Humans Remix)	2
32828	7bxnKAamR3snQ1VGLuVfC1	City Of Lights - Official Radio Edit	Lush & Simon	42	2azRoBBWEEEYhqV6sb7JrT	City Of Lights (Vocal Mix)	
32829	5Aevni09Em4575077nkWHz	Closer - Sultan & Ned Shepard Remix	Tegan and Sara	20	6kD6KLxj7s8eCE3ABvAyf5	Closer Remixed	2
32830	7ImMqPP3Q1yfUHvsdn7wEo	Sweet Surrender - Radio Edit	Starkillers	14	0ltWNSY9JgxoIZO4VzuCa6	Sweet Surrender (Radio Edit)	
32831	2m69mhnfQ1Oq6lGtXuYhgX	Only For You - Maor Levi Remix	Mat Zo	15	1fGrOkHnHJcStl14zNx8Jy	Only For You (Remixes)	
32832	29zWqhca3zt5NsckZqDf6c	Typhoon - Original Mix	Julian Calor	27	0X3mUOm6MhxR7PzxG95rAo	Typhoon/Storm	2
32833 r	ows × 23 columns						

In [81]: df4_spotify.dropna(how="any")

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:		id_num	name_of_track	artist_name	popularity_of_track	album_id_num	album_name	·
	0	6f807x0ima9a1j3VPbc7VN	I Don't Care (with Justin Bieber) - Loud Luxur	Ed Sheeran	66	2oCs0DGTsRO98Gh5ZSl2Cx	I Don't Care (with Justin Bieber) [Loud Luxury	2
	1	0r7CVbZTWZgbTCYdfa2P31	Memories - Dillon Francis Remix	Maroon 5	67	63rPSO264uRjW1X5E6cWv6	Memories (Dillon Francis Remix)	2
	2	1z1Hg7Vb0AhHDiEmnDE79l	All the Time - Don Diablo Remix	Zara Larsson	70	1HoSmj2eLcsrR0vE9gThr4	All the Time (Don Diablo Remix)	2
	3	75FpbthrwQmzHlBJLuGdC7	Call You Mine - Keanu Silva Remix	The Chainsmokers	60	1nqYsOef1yKKuGOVchbsk6	Call You Mine - The Remixes	2
	4	1e8PAfcKUYoKkxPhrHqw4x	Someone You Loved - Future Humans Remix	Lewis Capaldi	69	7m7vv9wlQ4i0LFuJiE2zsQ	Someone You Loved (Future Humans Remix)	2
	32828	7bxnKAamR3snQ1VGLuVfC1	City Of Lights - Official Radio Edit	Lush & Simon	42	2azRoBBWEEEYhqV6sb7JrT	City Of Lights (Vocal Mix)	2
	32829	5Aevni09Em4575077nkWHz	Closer - Sultan & Ned Shepard Remix	Tegan and Sara	20	6kD6KLxj7s8eCE3ABvAyf5	Closer Remixed	2
	32830	7ImMqPP3Q1yfUHvsdn7wEo	Sweet Surrender - Radio Edit	Starkillers	14	0ltWNSY9JgxoIZO4VzuCa6	Sweet Surrender (Radio Edit)	2
	32831	2m69mhnfQ1Oq6lGtXuYhgX	Only For You - Maor Levi Remix	Mat Zo	15	1fGrOkHnHJcStl14zNx8Jy	Only For You (Remixes)	2
	32832	29zWqhca3zt5NsckZqDf6c	Typhoon - Original Mix	Julian Calor	27	0X3mUOm6MhxR7PzxG95rAo	Typhoon/Storm	2

In [82]: df8_spotify=pd.read_csv(r"C:\Users\arumu\OneDrive\Desktop\spotify.csv")
df8_spotify

32]:		track_id	track_name	track_artist	track_popularity	track_album_id	track_album_name
	0	6f807x0ima9a1j3VPbc7VN	I Don't Care (with Justin Bieber) - Loud Luxur	Ed Sheeran	66	2oCs0DGTsRO98Gh5ZSl2Cx	I Don't Care (with Justin Bieber) [Loud Luxury
	1	0r7CVbZTWZgbTCYdfa2P31	Memories - Dillon Francis Remix	Maroon 5	67	63rPSO264uRjW1X5E6cWv6	Memories (Dillon Francis Remix)
	2	1z1Hg7Vb0AhHDiEmnDE79I	All the Time - Don Diablo Remix	Zara Larsson	70	1HoSmj2eLcsrR0vE9gThr4	All the Time (Don Diablo Remix)
	3	75FpbthrwQmzHlBJLuGdC7	Call You Mine - Keanu Silva Remix	The Chainsmokers	60	1nqYsOef1yKKuGOVchbsk6	Call You Mine - The Remixes
	4	1e8PAfcKUYoKkxPhrHqw4x	Someone You Loved - Future Humans Remix	Lewis Capaldi	69	7m7vv9wlQ4i0LFuJiE2zsQ	Someone You Loved (Future Humans Remix)
;	32828	7bxnKAamR3snQ1VGLuVfC1	City Of Lights - Official Radio Edit	Lush & Simon	42	2azRoBBWEEEYhqV6sb7JrT	City Of Lights (Vocal Mix)
;	32829	5Aevni09Em4575077nkWHz	Closer - Sultan & Ned Shepard Remix	Tegan and Sara	20	6kD6KLxj7s8eCE3ABvAyf5	Closer Remixed
;	32830	7ImMqPP3Q1yfUHvsdn7wEo	Sweet Surrender - Radio Edit	Starkillers	14	0ltWNSY9JgxoIZO4VzuCa6	Sweet Surrender (Radio Edit)
;	32831	2m69mhnfQ1Oq6lGtXuYhgX	Only For You - Maor Levi Remix	Mat Zo	15	1fGrOkHnHJcStl14zNx8Jy	Only For You (Remixes)
;	32832	29zWqhca3zt5NsckZqDf6c	Typhoon - Original Mix	Julian Calor	27	0X3mUOm6MhxR7PzxG95rAo	Typhoon/Storm
3	2833 r	ows × 23 columns					

In [83]: df8_spotify.fillna("SPOTIFY")

tra	track_album_name	track_album_id	track_popularity	track_artist	track_name	track_id		[83]:
	I Don't Care (with Justin Bieber) [Loud Luxury	2oCs0DGTsRO98Gh5ZSl2Cx	66	Ed Sheeran	I Don't Care (with Justin Bieber) - Loud Luxur	6f807x0ima9a1j3VPbc7VN	0	
	Memories (Dillon Francis Remix)	63rPSO264uRjW1X5E6cWv6	67	Maroon 5	Memories - Dillon Francis Remix	0r7CVbZTWZgbTCYdfa2P31	1	
	All the Time (Don Diablo Remix)	1HoSmj2eLcsrR0vE9gThr4	70	Zara Larsson	All the Time - Don Diablo Remix	1z1Hg7Vb0AhHDiEmnDE79l	2	
	Call You Mine - The Remixes	1nqYsOef1yKKuGOVchbsk6	60	The Chainsmokers	Call You Mine - Keanu Silva Remix	75FpbthrwQmzHlBJLuGdC7	3	
	Someone You Loved (Future Humans Remix)	7m7vv9wlQ4i0LFuJiE2zsQ	69	Lewis Capaldi	Someone You Loved - Future Humans Remix	1e8PAfcKUYoKkxPhrHqw4x	4	
			•••					
	City Of Lights (Vocal Mix)	2azRoBBWEEEYhqV6sb7JrT	42	Lush & Simon	City Of Lights - Official Radio Edit	7bxnKAamR3snQ1VGLuVfC1	32828	
	Closer Remixed	6kD6KLxj7s8eCE3ABvAyf5	20	Tegan and Sara	Closer - Sultan & Ned Shepard Remix	5Aevni09Em4575077nkWHz	32829	
	Sweet Surrender (Radio Edit)	0ltWNSY9JgxoIZO4VzuCa6	14	Starkillers	Sweet Surrender - Radio Edit	7ImMqPP3Q1yfUHvsdn7wEo	32830	
	Only For You (Remixes)	1fGrOkHnHJcStl14zNx8Jy	15	Mat Zo	Only For You - Maor Levi Remix	2m69mhnfQ1Oq6lGtXuYhgX	32831	

32832

In [86]: df8_spotify.interpolate(inplace=False)

C:\Users\arumu\AppData\Local\Temp\ipykernel_7728\1907674542.py:1: FutureWarning: DataFrame.interpolate with object dtype is deprecated and will raise in a future version. Call obj.infer_objects(copy=False) before interpolating instead.

27 0X3mUOm6MhxR7PzxG95rAo

Typhoon/Storm

Julian Calor

df8_spotify.interpolate(inplace=False)

29zWqhca3zt5NsckZqDf6c

Typhoon -

Original Mix

Out[86]:		track_id	track_name	track_artist	track_popularity	track_album_id	track_album_name	tra
	0	6f807x0ima9a1j3VPbc7VN	I Don't Care (with Justin Bieber) - Loud Luxur	Ed Sheeran	66	2oCs0DGTsRO98Gh5ZSl2Cx	I Don't Care (with Justin Bieber) [Loud Luxury	
	1	0r7CVbZTWZgbTCYdfa2P31	Memories - Dillon Francis Remix	Maroon 5	67	63rPSO264uRjW1X5E6cWv6	Memories (Dillon Francis Remix)	
	2	1z1Hg7Vb0AhHDiEmnDE79I	All the Time - Don Diablo Remix	Zara Larsson	70	1HoSmj2eLcsrR0vE9gThr4	All the Time (Don Diablo Remix)	
	3	75FpbthrwQmzHlBJLuGdC7	Call You Mine - Keanu Silva Remix	The Chainsmokers	60	1nqYsOef1yKKuGOVchbsk6	Call You Mine - The Remixes	
	4	1e8PAfcKUYoKkxPhrHqw4x	Someone You Loved - Future Humans Remix	Lewis Capaldi	69	7m7vv9wlQ4i0LFuJiE2zsQ	Someone You Loved (Future Humans Remix)	
	32828	7bxnKAamR3snQ1VGLuVfC1	City Of Lights - Official Radio Edit	Lush & Simon	42	2azRoBBWEEEYhqV6sb7JrT	City Of Lights (Vocal Mix)	
	32829	5Aevni09Em4575077nkWHz	Closer - Sultan & Ned Shepard Remix	Tegan and Sara	20	6kD6KLxj7s8eCE3ABvAyf5	Closer Remixed	
	32830	7ImMqPP3Q1yfUHvsdn7wEo	Sweet Surrender - Radio Edit	Starkillers	14	0ltWNSY9JgxoIZO4VzuCa6	Sweet Surrender (Radio Edit)	
	32831	2m69mhnfQ1Oq6lGtXuYhgX	Only For You - Maor Levi Remix	Mat Zo	15	1fGrOkHnHJcStl14zNx8Jy	Only For You (Remixes)	
	32832	29zWqhca3zt5NsckZqDf6c	Typhoon - Original Mix	Julian Calor	27	0X3mUOm6MhxR7PzxG95rAo	Typhoon/Storm	

In []:

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