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In [1]: import io
import spotipy

import numpy as np

import matplotlib
import matplotlib.pyplot as plt
import matplotlib.colors as mcolors

import pandas as pd

from collections import Counter, OrderedDict
from spotipy.oauth2 import SpotifyOAuth
```

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In [4]: scope = 'user-top-read'
ranges = ['short_term', 'medium_term', 'long_term']

sp = spotipy.Spotify(auth_manager=SpotifyOAuth(scope=scope))

sml = []
pop = [],[],[]
artist = [],[],[]
terms = ['short_term', 'medium_term', 'long_term']
pop_score = 0

for i in range(3):

    results = sp.current_user_top_artists(time_range=terms[i], limit=50)

    for j, item in enumerate(results['items']):
        popularity = item['popularity']
        pop_score += popularity
        artist[i].append(item['name'])
        pop[i].append(popularity)
    sml.append(popularity)

plt.rcParams["figure.figsize"] = (20,3)

for i in range(3):
    print(artist[i])
    df = pd.DataFrame({"x" : pop[i]})

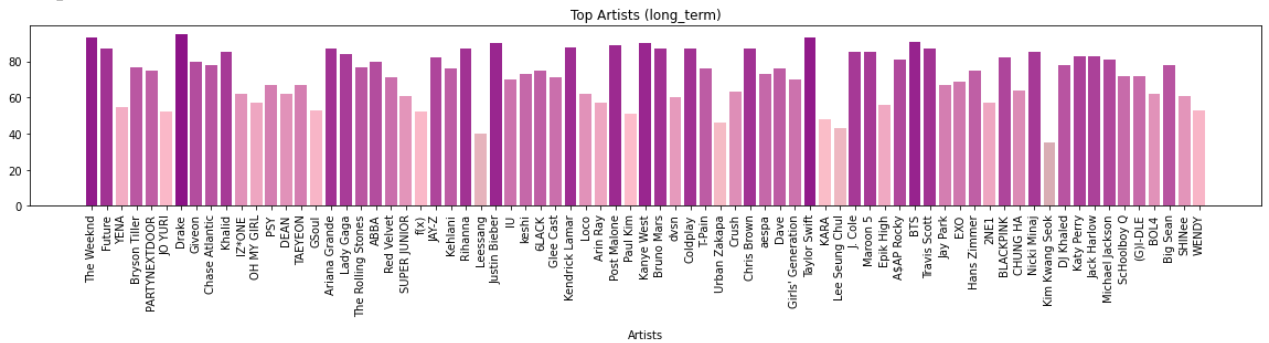
    cmap = mcolors.LinearSegmentedColormap.from_list("", ["grey", "pink", "purple"])

    plt.bar(artist[i], df["x"], color=cmap(df.x.values/100))
    plt.xlabel('Artists', labelpad=12)
    plt.xticks(rotation=90)

    plt.title("Top Artists (" + terms[i] + ")")
```

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['The Weeknd', 'Future', 'YENA', 'Bryson Tiller', 'PARTYNEXTDOOR', 'JO YURI', 'Drake',
'Giveon', 'Chase Atlantic', 'Khalid', 'IZ*ONE', 'OH MY GIRL', 'PSY', 'DEAN', 'TAEYEON',
'GSoul', 'Ariana Grande', 'Lady Gaga', 'The Rolling Stones', 'ABBA', 'Red Velvet', 'SUPE
R JUNIOR', 'f(x)', 'JAY-Z']
['PARTYNEXTDOOR', 'The Weeknd', 'Future', 'Drake', 'Bryson Tiller', 'Khalid', 'YENA', 'G
iveon', 'Kehlani', 'Rihanna', 'Chase Atlantic', 'Leessang', 'Red Velvet', 'Ariana Grand
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e', 'Justin Bieber', 'DEAN', 'IU', 'keshi', 'Lady Gaga', '6LACK', 'Glee Cast', 'TAEYEO
N', 'ABBA', 'Kendrick Lamar', 'Loco', 'f(x)', 'JO YURI', 'Ari Ray', 'Post Malone', 'JAY
-Z', 'Paul Kim', 'Kanye West', 'Bruno Mars', 'dvsn', 'Coldplay', 'T-Pain', 'Urban Zakap
a', 'GSoul', 'Crush', 'Chris Brown', 'aespa', 'Dave', "Girls' Generation", 'Taylor Swif
t', 'KARA', 'Lee Seung Chul', 'J. Cole', 'Maroon 5', 'Epik High', 'A$AP Rocky']
['Red Velvet', 'The Weeknd', 'Future', 'Bryson Tiller', 'Drake', 'IU', 'Ariana Grande',
'PARTYNEXTDOOR', 'BTS', 'TAEYEON', 'Travis Scott', 'Leessang', 'Khalid', 'Chris Brown',
'Post Malone', 'Jay Park', 'Glee Cast', 'EXO', 'Hans Zimmer', '2NE1', 'BLACKPINK', 'ABB
A', 'CHUNG HA', 'Nicki Minaj', "Girls' Generation", 'Kanye West', 'Lady Gaga', 'Justin B
ieber', 'Rihanna', 'Kehlani', 'Paul Kim', 'Crush', 'Kim Kwang Seok', 'DEAN', 'DJ Khale
d', 'JAY-Z', 'Urban Zakapa', 'Katy Perry', 'Jack Harlow', 'Maroon 5', 'Michael Jackson',
'Schoolboy Q', '(G)I-DLE', 'YENA', 'Giveon', '6LACK', 'BOL4', 'Big Sean', 'SHINee', 'WEN
DY']
```



In [6]:

```
artists = [],[],[]
tracks = [],[],[]
track_pop = [],[],[]

for i in range(3):
    results = sp.current_user_top_tracks(limit=50,offset=0,time_range=terms[i])

    text = ""

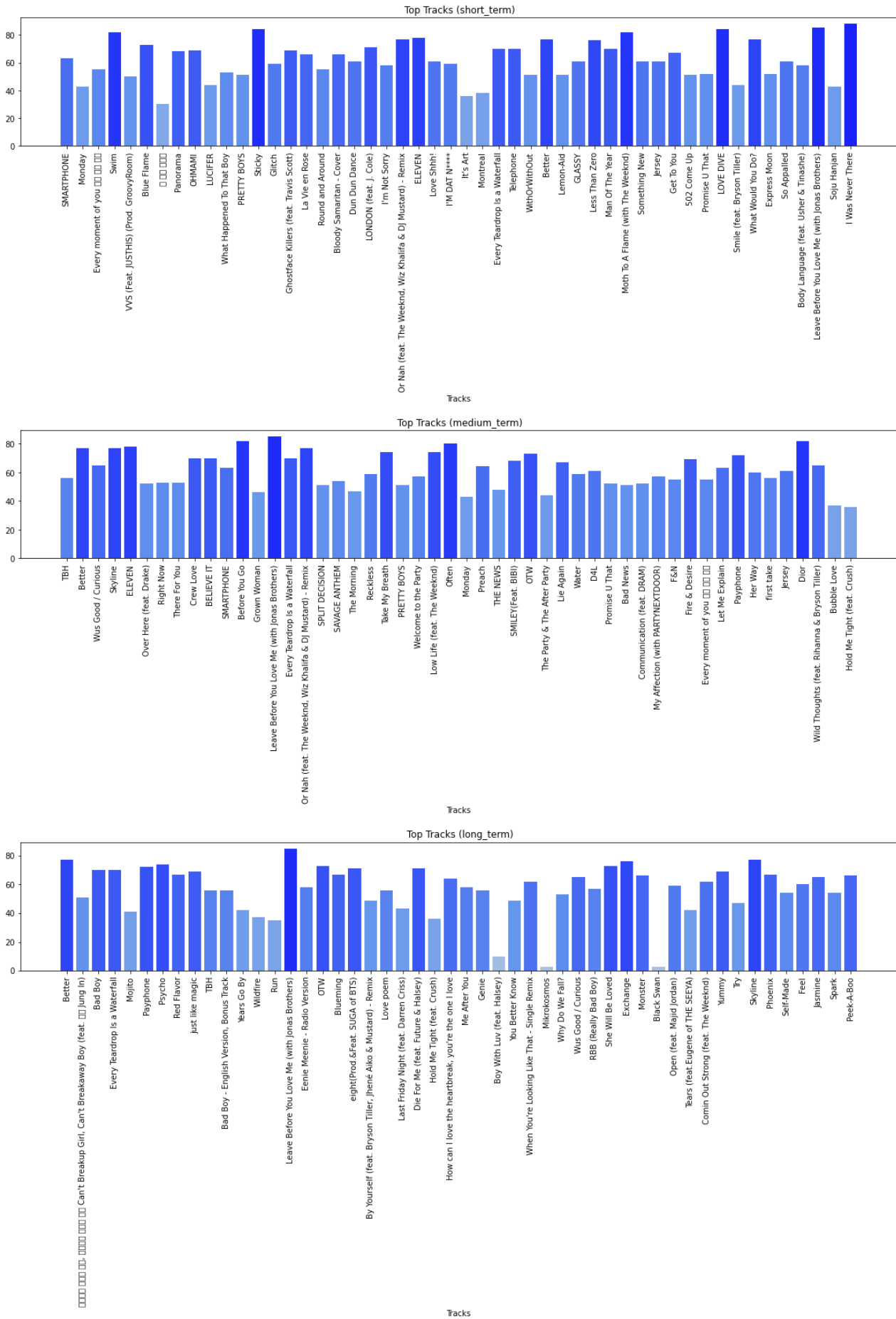
    for j, item in enumerate(results['items']):
        popularity = item['popularity']
        track = item['name']
        track_pop[i].append(popularity)
        tracks[i].append(track)

        target = item['artists']
        name = target[0]
        artist = name['name']
        artists[i].append(artist)

    df2 = pd.DataFrame({"x" : track_pop[i]})

    cmap = mcolors.LinearSegmentedColormap.from_list("", ["lightsteelblue", "cornflower

plt.bar(tracks[i], df2["x"], color=cmap(df2.x.values/100))
plt.xlabel('Tracks', fontsize=10)
plt.xticks(rotation=90)
plt.title(" Top Tracks (" + terms[i] + ")")
plt.show()
```

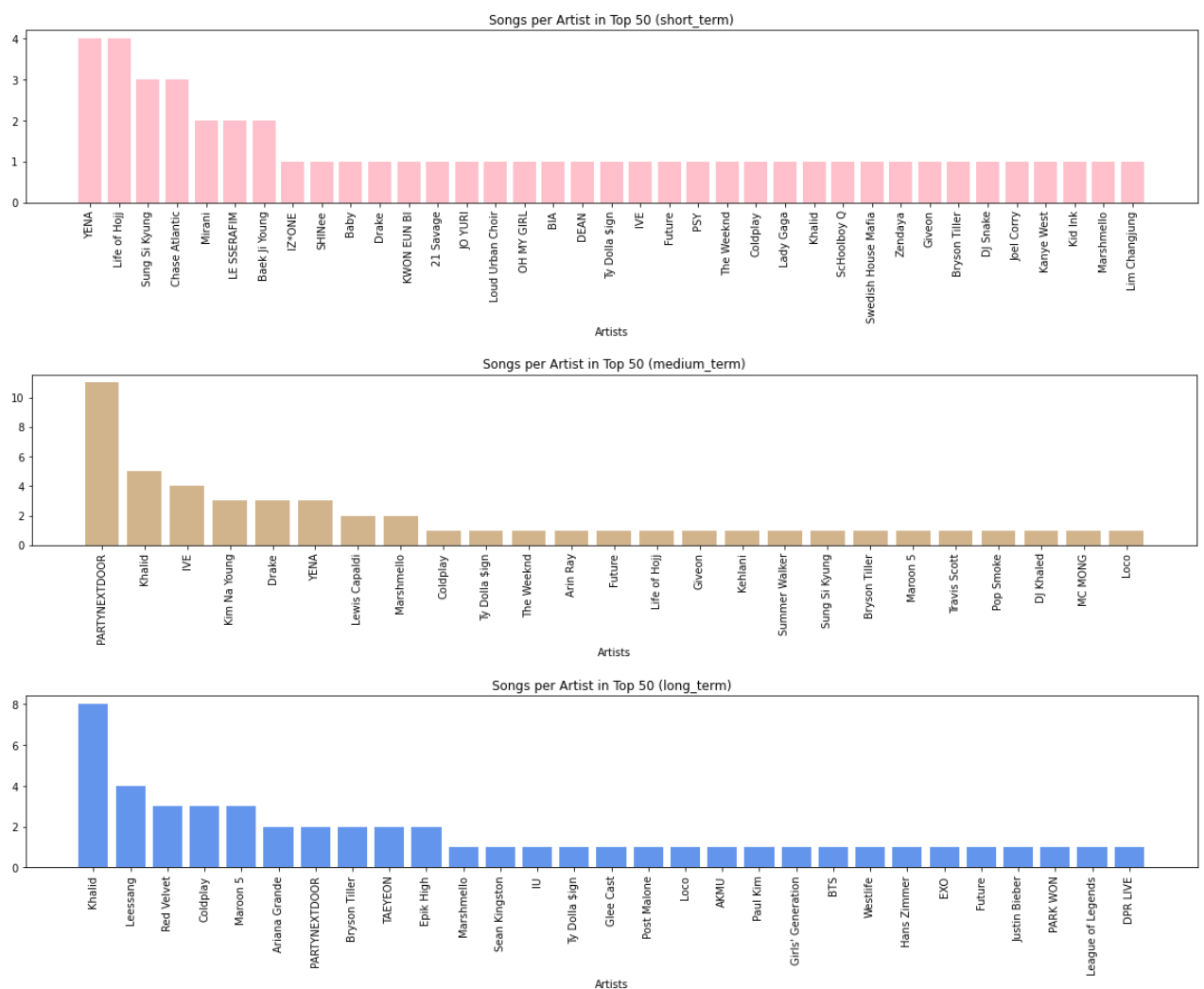


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for i, artist in enumerate(artists):
    df3 = pd.DataFrame(artist)
    c = Counter(df3[0])
    y = OrderedDict(c.most_common())
    df4 = pd.DataFrame({"x" : c})
    plt.bar(c.keys(), y.values(),color=colors[i])
    plt.xticks(rotation=90)

plt.xlabel('Artists', fontsize=10)
plt.title("Songs per Artist in Top 50 (" + terms[i] + ")")
plt.show()
if i == 2:
    buf = io.BytesIO()
    plt.savefig(buf, format = 'png')
    buf.seek(0)

```



<Figure size 1440x216 with 0 Axes>

In [ ]: