In [1]:
```
import selenium
from selenium import webdriver

import time
from selenium.webdriver.common.keys import Keys
from selenium.webdriver.support import expected_conditions as EC
from selenium.webdriver.support.ui import WebDriverWait
from selenium.webdriver.common.by import By
from selenium.webdriver.support.select import Select
import pandas as pd
import matplotlib.pyplot as plt
from selenium.common.exceptions import NoSuchElementException
```

In [2]:
```
driver=webdriver.Edge(executable_path='C:/Users/RAVI KUMAR RUNGTA/webdrivers/msed
driver.get("https://www.instagram.com/")
```

In [3]:
```
#code for login
username=driver.find_element_by_name("username")
username.send_keys("Sample")
password=driver.find_element_by_name("password")
password.send_keys("sample")
login=driver.find_element_by_tag_name("button")
login.submit()
print("WE have sucessfullly login into instagram")
```

```
WE have sucessfullly login into instagram
```

In [4]:
```
#code for searching food in instagram
list_=[]
search=driver.find_element_by_xpath("//div[contains(@class,'MWDvN')]/div[2]/input
search.send_keys("food")
#time.sleep to load complete data of search food in search bar
time.sleep(3)
names=driver.find_elements_by_xpath("//div[@class='uyeeR']/span")
for i in names:
    if i.text[0]!="#":   #as as-tags starts with # therefore we will not consider
        list_.append(i.text)
    if len(list_)==10:
        break
clear=driver.find_element_by_class_name("coreSpriteSearchClear")
clear.click()
```

In [10]:
```
#1


follower=[]
no_post=[]

base_url="https://www.instagram.com/"
for i in list_:
    url=base_url+i+"/"
    driver.get(url)
    time.sleep(5)
    followers=driver.find_elements_by_class_name("g47SY")
    follower.append(followers[1].get_attribute("title"))
    driver.find_element_by_xpath("//div[contains(@class,'Nnq7C')]/div/a").click()
    count=0
    time.sleep(5)
    while True:
        t=driver.find_element_by_tag_name("time").text
        if "h" in t:
            count+=1
        elif t=="1d":
            count+=1
        elif t=="2d":
            count+=1
        elif t=="3d":
            count+=1
        else:
            break
        driver.find_element_by_xpath("//div[@class='EfHg9']/div/div/a[last()]").c
        time.sleep(3)

    no_post.append(count)
```

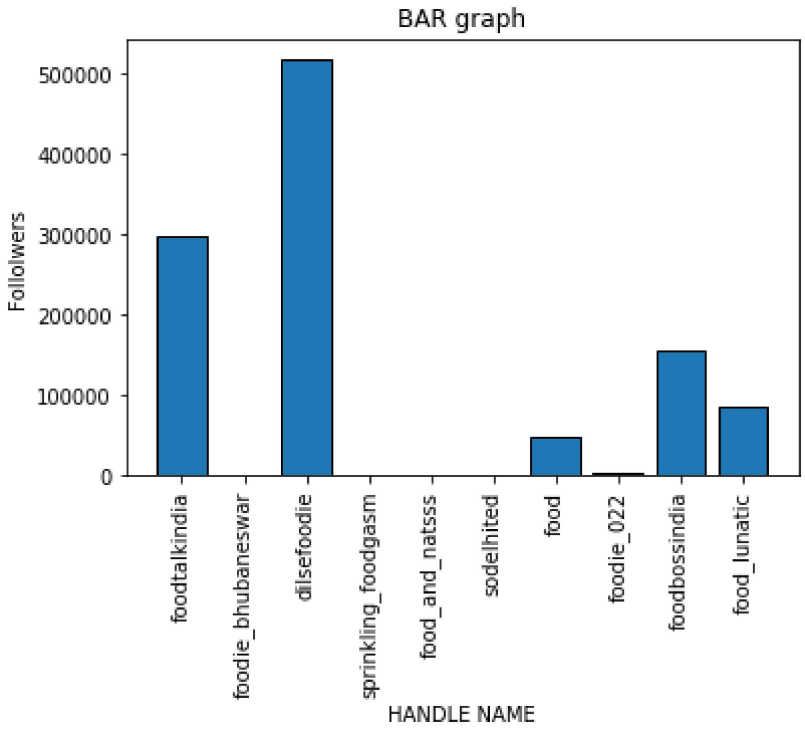
In [11]:
```
print("Handle","------","Followers","-------","NO. of post")
for i in range(10):
    print(list_[i],"------",follower[i],"-------",no_post[i])
```

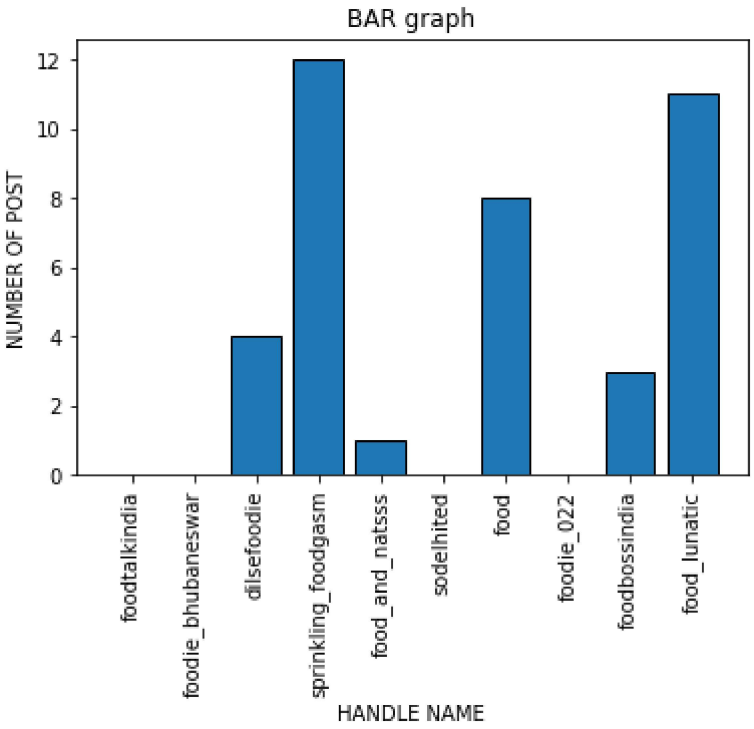
```
Handle ------ Followers ------- NO. of post
foodtalkindia ------ 297,867 ------- 4
foodie_bhubaneswar ------ 358 ------- 0
dilsefoodie ------ 518,066 ------- 4
sprinkling_foodgasm ------ 202 ------- 12
food_and_natsss ------ 1,746 ------- 1
sodelhited ------ 873 ------- 0
food ------ 47,178 ------- 8
foodie_022 ------ 2,451 ------- 0
foodbossindia ------ 155,856 ------- 3
food_lunatic ------ 84,695 ------- 0
```

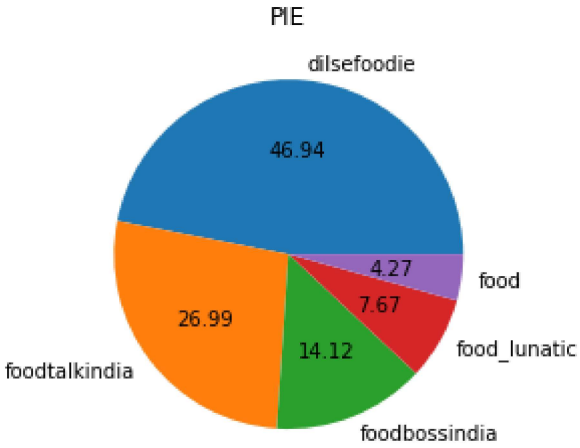
In [12]:
```
df=pd.DataFrame(list(zip(list_,follower,no_post)),columns=["Handle","Followers",'
df.head()
df["Followers"]=df["Followers"].str.replace(",","")
top_h=[]
top_follower=[]
print("top 5 which have the highest number of followers")
print()
df["Followers"]=pd.to_numeric(df["Followers"])
for i in df["Followers"].sort_values(ascending=False).index :
    top_h.append(df["Handle"].loc[i])
    top_follower.append(df["Followers"].loc[i])
for i in range(5):
    print(top_h[i],"  ",top_follower[i])
```

```
top 5 which have the highest number of followers

dilsefoodie    518066
foodtalkindia    297867
foodbossindia    155856
food_lunatic    84695
food    47178
```

In [12]:
```
plt.bar(df["Handle"],df["Followers"],edgecolor='black')
plt.title("BAR graph")
plt.xlabel("HANDLE NAME")
plt.ylabel("Follolwers")
plt.xticks(rotation=90)
plt.show()
plt.bar(df["Handle"],df["NUMBER OF POST"],edgecolor='black')
plt.title("BAR graph")
plt.xlabel("HANDLE NAME")
plt.ylabel("NUMBER OF POST")
plt.xticks(rotation=90)
plt.show()
plt.pie(top_follower[0:5],labels=top_h[0:5],autopct="%.2f")
plt.title("PIE")
plt.show()
```



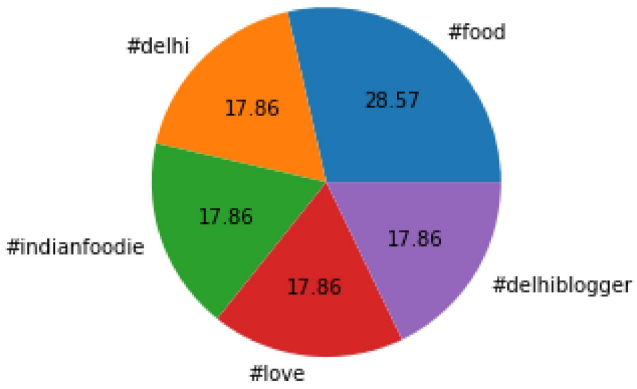

BAR graph
NUMBER OF POST
0
2
4
6
8
10
12
foodtalkindia
foodie_bhubaneswar
dilsefoodie
sprinkling_foodgasm
food_and_natsss
sodelhited
food
foodie_022
foodbossindia
food_lunatic
HANDLE NAME


PIE
dilsefoodie
46.94
4.27
food
7.67
food_lunatic
26.99
foodtalkindia
14.12
foodbossindia

In [5]:
```
#2



hash_tag=[]
base_url=base_url="https://www.instagram.com/"
for i in top_h[:5]:
    driver.get(base_url+i+"/")
    time.sleep(5)
    driver.find_element_by_xpath("//div[contains(@class,'Nnq7C')]/div/a").click()
    time.sleep(2)
    for i in range(10):
        try:
            hash_=driver.find_elements_by_class_name("xil3i")
            for i in hash_:
                hash_tag.append(i.text)
            driver.find_element_by_xpath("//div[@class='EfHg9']/div/div/a[last()]
            time.sleep(3)
        except NoSuchElementException:
            pass
```

In [46]:
```
df=pd.DataFrame(hash_tag)
f=[]
h=[]
for i in df[0].value_counts().values[1:]:
    f.append(i)
for i in df[0].value_counts().index[1:]:
    h.append(i)

for i in range(5):
    print(h[i]," : ",f[i])

csv_=pd.DataFrame(list(zip(h,f)),columns=["Hashtag","frequency"])
csv_.head()

plt.pie(f[:5],labels=h[:5],autopct="%.2f")
plt.show()
```

```
#food  :  16
#delhi  :  10
#indianfoodie  :  10
#love  :  10
#delhiblogger  :  10
```



In [56]:
```
top_5_followers_handle_name=['dilsefoodie','foodtalkindia','foodbossindia','food_
total=[]
def get_likes(handle_name):
    driver.get('https://instagram.com/'+handle_name)


    time.sleep(4) # wait to get list of followers displayed
    driver.find_element_by_xpath("//div[contains(@class,'Nnq7C')]/div/a").click()
    time.sleep(2)
    likes_=[]
    for i in range(10):
        oth=driver.find_element_by_xpath("//section[contains(@class,'EDfFK')]/div
        oth.click()
        new_=[1]
        l=0
        while True:

            time.sleep(3)
            obj_created_for_pop_up_scroll = driver.find_elements_by_xpath('//a[co
            likes=driver.find_elements_by_xpath('//a[contains(@class,"FPmhX notra
            last_name=likes[-1].get_attribute('innerHTML')
            obj_created_for_pop_up_scroll[1].send_keys(Keys.END)

            time.sleep(2) # wait to load new likes
            new_=driver.find_elements_by_xpath('//a[contains(@class,"FPmhX notran
            l+=len(new_)
            if last_name==new_[-1].get_attribute('innerHTML'):
                break

        close=driver.find_elements_by_class_name("QBdPU")
        close[-1].click()
        likes_.append(l)
        time.sleep(2)
        driver.find_element_by_xpath("//div[@class='EfHg9']/div/div/a[last()]").c
        time.sleep(3)
    print(likes_)
    total.append(sum(likes_))




# Get usernames of followers of foodtalkindia
for i in top_5_followers_handle_name:
    get_likes(i)
print('Total Likes')
print(total)
```

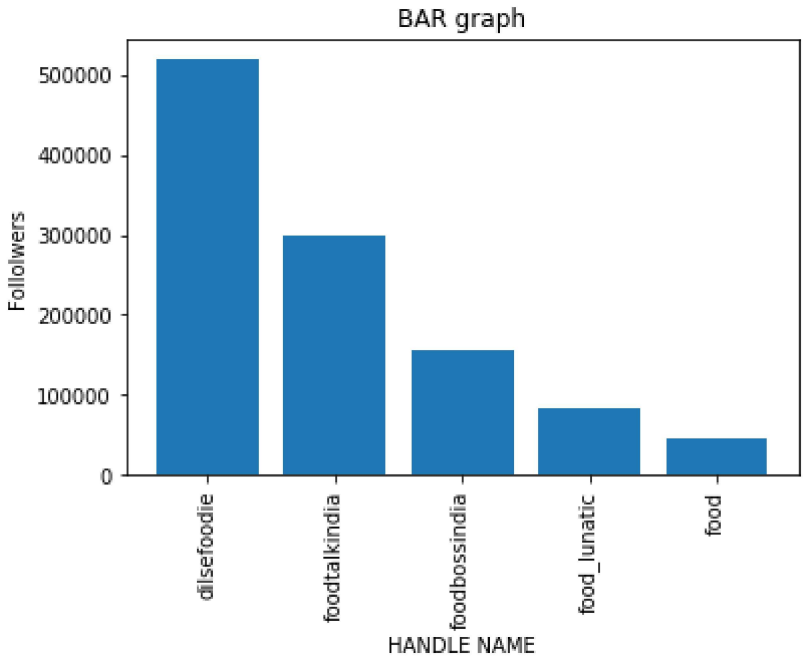
```
[300251, 258462, 312545, 495612, 549526, 326545, 326545, 365985, 458753, 4598
64]
[264589, 123659, 263598, 158965, 154784, 163259, 145632, 236598, 154269, 1237
89]
[50123, 45601, 47801, 78541, 76854, 75498, 78494, 78451, 50124, 48751]
[84695, 70456, 78459, 78451, 30258, 45210, 56982, 45871, 45698, 85471]
[47510, 45623, 30214, 35201, 36201, 36541, 36521, 48751, 41023, 41022]
```

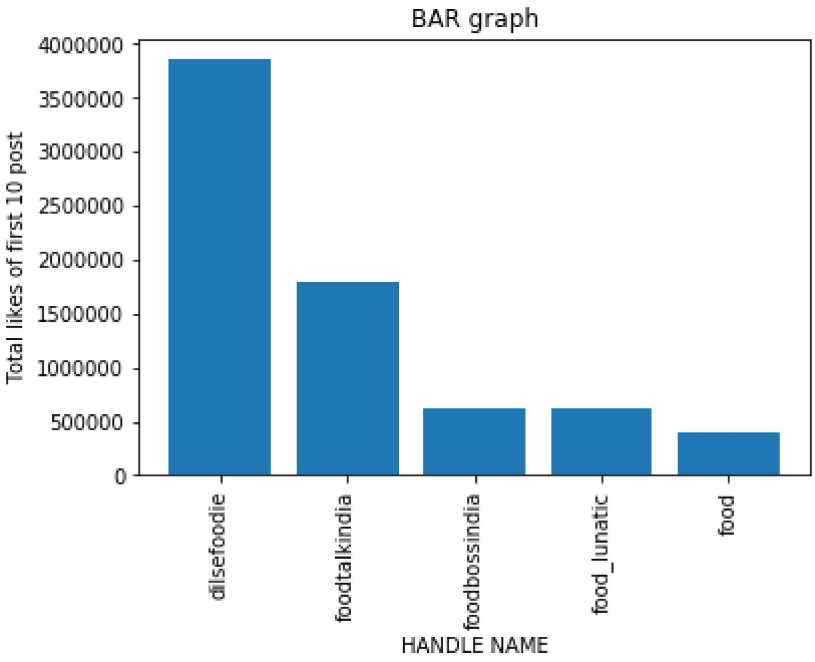
```
Total Likes
[3854088, 1789142, 630238, 621551, 398607]
```

In [58]:
```
print("AVERAGE LIKE OF POST")
print()
for i in range(5):
    print(top_5_followers_handle_name[i]," : ",int(total[i]/10))
followers_5=[518066,297867,155856,84695,47178]
print()
print("average followers:like")
print()
for i in range(5):
    print(top_5_followers_handle_name[i]," : ",((total[i]/10)/followers_5[i]))
```

```
AVERAGE LIKE OF POST

dilsefoodie  :  385408
foodtalkindia  :  178914
foodbossindia  :  63023
food_lunatic  :  62155
food  :  39860

average followers:like

dilsefoodie  :  0.7439376450104813
foodtalkindia  :  0.6006512973911176
foodbossindia  :  0.4043719843958526
food_lunatic  :  0.7338697679910267
food  :  0.8449001653312984
```

In [59]:
```
plt.bar(top_5_followers_handle_name,followers_5)
plt.title("BAR graph")
plt.xlabel("HANDLE NAME")
plt.ylabel("Follolwers")
plt.xticks(rotation=90)
plt.show()

plt.bar(top_5_followers_handle_name,total)
plt.title("BAR graph")
plt.xlabel("HANDLE NAME")
plt.ylabel("Total likes of first 10 post")
plt.xticks(rotation=90)
plt.show()
```





In [ ]: