

## INFO 6210

### Data Management and Database Design Adding Social

### Media and Tags Assignment 2 Assignment 2

my domain is games. In this assignment, I have 3 entities that represent people(publisher and developer), places(location of tweeters) and things(games).

First of all, I decided to choose 10 games to get their tweets and tags and see the tags related to them and which one is more popularity.(Wii Sports, Pokemon Red/Pokemon Blue,Super Mario Bros.,Grand Theft Auto V,Dark Souls III,Halo Wars,Final Fantasy V, Rayman, FIFA 16 , Fallout 4)

```
In [7]: #Getting Tweets
import json

search_words = ['#WiiSports', '#Pokemon', '#SuperMarioBro', '#gtaV', '#DarkSouls3', '#Halo', '#finalfantasy', '#rayman',
                '#FIFA16', '#Fallout']
search_games = ['Wii Sports', 'Pokemon Red/Pokemon Blue', 'Super Mario Bros.', 'Grand Theft Auto V', 'Dark Souls III',
                'Halo Wars', 'Final Fantasy V', 'Rayman', 'FIFA 16', 'Fallout 4']

q = 'playstation'
n = 1050
from urllib.parse import unquote
search_results = api.search(q = q, count = n)
```

```
In [8]: #connect the database and write data to sql
USER = "postgres"
PASSWORD = ""
DATABASE = "postgres"
```

```
In [9]: def create_twitter_table():
        conn = psycopg2.connect(database=DATABASE, user=USER, password=PASSWORD)
        cur = conn.cursor()
        cur.execute('CREATE TABLE game_twitter(screen_name varchar,created_at varchar,text varchar)')
        conn.commit()
        conn.close()
```

```
In [15]: #write the tweets from twitter to postgresql database
def write_tweets_sql(created_at, text, screen_name):
    db= psycopg2.connect(database=DATABASE, user=USER, password=PASSWORD)
    cursor = db.cursor()
    insert_query = "INSERT INTO game_twitter(screen_name,created_at,text) VALUES ( %s, %s, %s)"
    cursor.execute(insert_query, (screen_name, created_at, text))
    db.commit()
    cursor.close()
    db.close()
    return
def store_tweets():
    for word in search_words:
        for tweet in api.search(q = word, count = 100):
            write_tweets_sql(tweet.created_at,tweet.text,tweet.user.screen_name)
```

Functions about get tweets and write them to database.

```
In [17]: store_tweets()

2018-02-27 22:36:15 Some days you just gotta break out the #WiiSports!

#videogames #wii #nintendo #ImgPlay https://t.co/QeX945Ksg6 RetroGamingDev
2018-02-27 11:42:04 ひょんなことから我が家は空前絶後のwiiブーム突入w
#wac_Kun #wii #wiisports #空前絶後 #我が家のブーム https://t.co/7lu9bDqtDQ Wac_Kun
2018-02-27 04:03:03 The #WiiSports melody integration, the flow, the softness, the feeling of being in my living room
with friends golf... https://t.co/MveHYjgDOU dillingham
2018-02-25 13:47:12 #WiiSports #PokemonRedAndBlue https://t.co/7Rz6cvyfPa Justin_G_Bryan
2018-02-25 04:44:28 RT @Haslett_MSU: THIS IS THE GREATEST DAY OF MY LIFE #wiisports https://t.co/rhhOJHWzjD
TheDKALife
2018-02-25 02:44:08 THIS IS THE GREATEST DAY OF MY LIFE #wiisports https://t.co/rhhOJHWzjD Haslett_MSU
2018-02-24 14:39:47 Mr B is at a swim gala, the little lady has been introduced to the #WiiSports and is addicted and
the lad is doing... https://t.co/1lAfJiaUaL BabySwimExpert
2018-02-24 10:51:31 ぶつぶつ言いながらボクシングゲームをやる、我が家のお坊っちゃん(笑)

#小3男子
#小6の姉とボーリングゲームもやりました。
#wiisports https://t.co/kMdsjKqfPy masayan_0427
2018-02-23 17:29:04 RT @MuraOfManyHands: When you're ready to play some PRO TIER Street fighter V
```

The tags are associated with game is that:

```
[ 25]: store_hashtag()

{'text': 'WiiSports', 'indices': [39, 49]} Wii Sports
{'text': 'videogames', 'indices': [52, 63]} Wii Sports
{'text': 'wii', 'indices': [64, 68]} Wii Sports
{'text': 'nintendo', 'indices': [69, 78]} Wii Sports
{'text': 'imgPlay', 'indices': [79, 87]} Wii Sports
{'text': 'Wac Kun', 'indices': [27, 35]} Wii Sports
{'text': 'wii', 'indices': [36, 40]} Wii Sports
{'text': 'wiiSports', 'indices': [41, 51]} Wii Sports
{'text': '空前絶後', 'indices': [52, 57]} Wii Sports
{'text': '我が家のブーム', 'indices': [58, 66]} Wii Sports
{'text': 'WiiSports', 'indices': [4, 14]} Wii Sports
{'text': 'WiiSports', 'indices': [0, 10]} Wii Sports
{'text': 'PokemonRedAndBlue', 'indices': [11, 29]} Wii Sports
{'text': 'wiiSports', 'indices': [53, 63]} Wii Sports
{'text': 'wiiSports', 'indices': [36, 46]} Wii Sports
{'text': 'WiiSports', 'indices': [67, 77]} Wii Sports
{'text': '小3男子', 'indices': [36, 41]} Wii Sports
{'text': '小6の姉とボーリングゲームもやりました', 'indices': [42, 63]} Wii Sports
{'text': 'wiiSports', 'indices': [65, 75]} Wii Sports
{'text': 'SFV', 'indices': [78, 82]} Wii Sports
{'text': 'SFV&E', 'indices': [83, 89]} Wii Sports
{'text': 'eSports', 'indices': [90, 98]} Wii Sports
{'text': 'wiiSports', 'indices': [104, 114]} Wii Sports
{'text': 'StreetFighter', 'indices': [115, 129]} Wii Sports
{'text': 'FGC', 'indices': [130, 134]} Wii Sports
{'text': 'meme', 'indices': [135, 140]} Wii Sports
{'text': 'WiiSports', 'indices': [4, 14]} Wii Sports
{'text': 'Nintendo', 'indices': [15, 24]} Wii Sports
{'text': 'wiiSports', 'indices': [18, 19]} Wii Sports
{'text': 'wii', 'indices': [65, 69]} Wii Sports
{'text': 'wiiSports', 'indices': [70, 80]} Wii Sports
{'text': 'kidgames', 'indices': [81, 90]} Wii Sports
{'text': 'wii', 'indices': [0, 4]} Wii Sports
{'text': 'wiiSports', 'indices': [5, 15]} Wii Sports
{'text': 'mariokart', 'indices': [16, 26]} Wii Sports
{'text': 'nintendo', 'indices': [27, 37]} Wii Sports
{'text': 'nintendowii', 'indices': [37, 49]} Wii Sports
{'text': 'nintendowiicontroller', 'indices': [50, 72]} Wii Sports
{'text': 'WiiSports', 'indices': [0, 10]} Wii Sports
```

For popularity, I choose two ways to measure it. First, to measure the popularity of 10 games as example. Second, to measure games of current time to see which one is more popularity.

```
In [27]: conn = psycopg2.connect(database='postgres',user='postgres', password='')
cur = conn.cursor()
df=pd.read_sql('select tag as tag,count(*)AS times from game_tags WHERE game='Fallout 4' GROUP BY tag ORDER BY times
DESC', con=conn)
df
```

Out[27]:

	tag	times
0	Fallout	49
1	fallout	35
2	pixelart	23
3	picopiyu	23
4	Fallout4	17
5	gaming	10
6	Gifs	9
7	epic	9
8	Commonwealth	9
9	fallout4	5
10	Geek	3
11	TheWitcher	3
12	twitch	2
13	PS4live	2
14	fallout4mods	2
15	Bethesda	2
16	Gaming	2
17	falloutmods	2
18	Foresee	1

Current time about game popularity. These are some testing results of my working.

```
In [46]: conn = psycopg2.connect(database='postgres',user='postgres', password='')
cur = conn.cursor()
df_1=pd.read_sql('select name as name,count(*) AS times from game GROUP BY name ORDER BY times
DESC','', con=conn)
df_1
```

Out[46]:

	name	times
0	IndieVideoGames	65
1	ReadySetInGames	38
2	IndieGameDevBot	36
3	ReadySetGameDev	30
4	JAllustrations	28
5	zxcv11223300xi	28
6	GGJSuisse	24
7	trusteft	24
8	zbarricades	24
9	page28341288	24
10	schlausbub	24
11	ReadySetGameArt	24
12	PromobitOfficial	20
13	sci_clops	16
14	ReadySetIndGame	16
15	CastorEdward	16
16	indiedevsunit	16
17	Computerfiguur	16
18	2Kawaii4Comfort	16
19	TryPlayinBetter	16

After searching tags in twitter, social media users are like other social media users. Because they all have a lot of common attentions. For example, I count the hashtags times in their timeline

```
In [22]: a = Counter(mentions).most_common(10)
print(a)

[('JesseGladsaget', 76), ('Shadyhere', 50), ('KGTrashTalk', 37), ('ShannonSharpe', 19), ('BruceBlitz', 13), ('IndustriLames', 13), ('ThomasEM1991', 12), ('Justin_G_Bryan', 12), ('RealSkipBayless', 8), ('realronnelriggs', 7)]
```

```
In [23]: b = Counter(mentions2).most_common(10)
print(b)

[('Mr_GBM', 331), ('LickMyMexican', 306), ('Candy_Spice', 299), ('3mpireTimes', 287), ('AyyitsJaay_', 243), ('Dande_Lion55', 234), ('R3AL_RAG3', 231), ('_Ericof_', 212), ('RockstarGames', 195), ('Guerrilla', 172)]
```

```
In [24]: c = Counter(hashtags).most_common(10)
print(c)

[('NBA', 10), ('LeBronJames', 5), ('GiannisAntetokounmpo', 4), ('AFLX', 4), ('gotiges', 3), ('GreatestGame', 3), ('NBAAAllStar', 3), ('SuperBowlLII', 3), ('NeedForSpeedUnderground', 2), ('WiiSports', 2)]
```

```
In [25]: d = Counter(hashtags2).most_common(10)
print(b)

[('Mr_GBM', 331), ('LickMyMexican', 306), ('Candy_Spice', 299), ('3mpireTimes', 287), ('AyyitsJaay_', 243), ('Dande_Lion55', 234), ('R3AL_RAG3', 231), ('_Ericof_', 212), ('RockstarGames', 195), ('Guerrilla', 172)]
```

and compare their number and types.

I choose 2 users as examples. The screen\_name are 'Justin\_G\_Bryan' and 'VisionaryArt\_'.

```
In [9]: user1 = api.get_user('Justin_G_Bryan')
print(user1.name, user1.screen_name, str(user1.statuses_count), str(user1.friends_count), str(user1.followers_count))

Justin Bryan Justin_G_Bryan 7573 1170 822
```

```
In [10]: from datetime import datetime, date, time, timedelta
tweets = user1.statuses_count
account_created_date = user1.created_at
delta = datetime.utcnow() - account_created_date
account_age_days = delta.days
print("Account age (in days): " + str(account_age_days))
if account_age_days > 0:
    print("Average tweets per day: " + "%.2f"%(float(tweets)/float(account_age_days)))

Account age (in days): 3055
Average tweets per day: 2.48
```

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```
In [16]: user2 = api.get_user('VisionaryArt_')
print(user2.name, user2.screen_name, str(user2.statuses_count),
      str(user2.friends_count), str(user2.followers_count))

V I S VisionaryArt_ 19661 220 953
```

---

```
In [17]: tweets = user2.statuses_count
account_created_date = user2.created_at
delta = datetime.utcnow() - account_created_date
account_age_days = delta.days
print("Account age (in days): " + str(account_age_days))
if account_age_days > 0:
    print("Average tweets per day: " + "%.2f"%(float(tweets)/float(account_age_days)))

Account age (in days): 324
Average tweets per day: 60.68
```

The game over the time change:

	name	time
1	IndieVideoGames	2018-03-01 00:03:22
2	IndieVideoGames	2018-03-01 00:03:22
3	fyeahnix	2018-03-01 00:03:22
4	fyeahnix	2018-03-01 00:03:22
5	fyeahnix	2018-03-01 00:03:22
6	fyeahnix	2018-03-01 00:03:22
7	fyeahnix	2018-03-01 00:03:22
8	fyeahnix	2018-03-01 00:03:22
9	fyeahnix	2018-03-01 00:03:22
10	IndieVideoGames	2018-03-01 00:03:22
11	IndieVideoGames	2018-03-01 00:03:22
12	IndieVideoGames	2018-03-01 00:03:22
13	Games_Kickstart	2018-03-01 00:01:19
14	Games_Kickstart	2018-03-01 00:01:19
15	Games_Kickstart	2018-03-01 00:01:19
16	Games_Kickstart	2018-03-01 00:01:19
17	Toxiic_G_	2018-03-01 00:01:12
18	ShoutGamers	2018-03-01 00:01:12
19	ShoutGamers	2018-03-01 00:01:12
20	ShoutGamers	2018-03-01 00:01:12

Sample Data:game from twitter(name, screen\_name, time, location)

game [postgres@localhost] x				
1-500 of 501+ Tx: Auto DB				
Tab-se...d (TSV) DDL View Quer				
<Filter criteria>				
	tag	name	time	location
1	gamedev	IndieGameDevBot	2018-02-28 23:55:13	
2	indiedev	IndieGameDevBot	2018-02-28 23:55:13	
3	indiegames	IndieGameDevBot	2018-02-28 23:55:13	
4	indiegame	IndieGameDevBot	2018-02-28 23:55:13	
5	videogame	IndieGameDevBot	2018-02-28 23:55:13	
6	indiegamedev	IndieGameDevBot	2018-02-28 23:55:13	
7	RetroGames	ReadySetGameArt	2018-02-28 23:55:08	
8	RetroGame	ReadySetGameArt	2018-02-28 23:55:08	
9	Retrogaming	ReadySetGameArt	2018-02-28 23:55:08	
10	retrogamer	ReadySetGameArt	2018-02-28 23:55:08	
11	Pixel	ReadySetGameArt	2018-02-28 23:55:08	
12	pixelart	ReadySetGameArt	2018-02-28 23:55:08	
13	GenXStudiesContest	cristinanova01	2018-02-28 23:53:37	
14	videogame	2Kawaii4Comfort	2018-02-28 23:51:04	Los Angeles, CA
15	DavidLynch	2Kawaii4Comfort	2018-02-28 23:51:04	Los Angeles, CA
16	indiegame	2Kawaii4Comfort	2018-02-28 23:51:04	Los Angeles, CA
17	madewithunity	2Kawaii4Comfort	2018-02-28 23:51:04	Los Angeles, CA
18	capcom	LeonFurry_Aqua	2018-02-28 23:50:44	
19	IndieGame	CFN_Gaming	2018-02-28 23:50:13	Alkmaar, The Netherlands
20	TechSupport	CFN_Gaming	2018-02-28 23:50:13	Alkmaar, The Netherlands
21	GameDev	CFN_Gaming	2018-02-28 23:50:13	Alkmaar, The Netherlands
22	IndieDev	CFN_Gaming	2018-02-28 23:50:13	Alkmaar, The Netherlands
23	pixelart	zxcv11223300xi	2018-02-28 23:48:40	Salt Lake City, UT
24	medieval	zxcv11223300xi	2018-02-28 23:48:40	Salt Lake City, UT
25	game	zxcv11223300xi	2018-02-28 23:48:40	Salt Lake City, UT
26	games	zxcv11223300xi	2018-02-28 23:48:40	Salt Lake City, UT
27	gaming	zxcv11223300xi	2018-02-28 23:48:40	Salt Lake City, UT
28	gamer	zxcv11223300xi	2018-02-28 23:48:40	Salt Lake City, UT
29	videogame	zxcv11223300xi	2018-02-28 23:48:40	Salt Lake City, UT
30	promoção	PromobitOficial	2018-02-28 23:48:02	Brasil
31	oferta	PromobitOficial	2018-02-28 23:48:02	Brasil
32	ps4	PromobitOficial	2018-02-28 23:48:02	Brasil

## Game tweets:

game_twitter [postgres@localhost] ×			
1-500 of 501+ Tx: Auto DB View Query			
<Filter criteria>			
screen_name	created_at	text	
1 RetroGamingDev	2018-02-27 22:36:15	Some days you just gotta break out the #WiiSports! #vid...	
2 Wac_Kun	2018-02-27 11:42:04	ひょんなことから我が家は空前絶後のwiiブーム突入w #Wac_Kun #wii ...	
3 dillingham	2018-02-27 04:03:03	The #WiiSports melody integration, the flow, the softnes...	
4 Justin_G_Bryan	2018-02-25 13:47:12	#WiiSports #PokemonRedAndBlue https://t.co/7Rz6cvyfPa	
5 TheDKALife	2018-02-25 04:44:28	RT @Haslett_MSU: THIS IS THE GREATEST DAY OF MY LIFE #wi...	
6 Haslett_MSU	2018-02-25 02:44:08	THIS IS THE GREATEST DAY OF MY LIFE #wiisports https://t...	
7 BabySwimExpert	2018-02-24 14:39:47	Mr B is at a swim gala, the little lady has been introdu...	
8 masayan_0427	2018-02-24 10:51:31	ぶつぶつ言いながらボクシングゲームをやる、我が家のお坊っちゃん(笑)...	
9 SaltyDXPodcast	2018-02-23 17:29:04	RT @MuraOfManyHands: When you're ready to play some PRO ...	
10 JMartinFavelaI	2018-02-23 05:15:05	👍👍👍 #WiiSports #Nintendo https://t.co/d7uN4aCt6P	
11 jebams123	2018-02-22 23:33:54	playing #wiisports cause I have nothing better to do 🙄...more like no one to hang out with 🙄	
12 tarabrazee	2018-02-22 14:42:07	This just in: original Wii sports is still fun and still...	
13 retrotechinfo	2018-02-22 09:34:24	#wii #wiisports #mariokart #nintendo #nintendowii #ninte...	
14 kizzajim	2018-02-21 22:15:12	@TheRug85 Remember on wii bowling when J thought that sh...	
15 Justin_G_Bryan	2018-02-21 11:57:49	#WiiSports #PerfectDark https://t.co/q90pVc5v2s	
16 fumiyaezo	2018-02-21 03:58:20	ついに俺達も人気者だな！ゲームで500超えるのはかなりの困難だわ...	
17 Kichinokimi	2018-02-20 23:57:58	RT @MuraOfManyHands: When you're ready to play some PRO ...	
18 MiniTieGaming	2018-02-20 23:20:26	Just broke my lamp playing Wii Sports ffs #wiisports	
19 MuraOfManyHands	2018-02-21 22:35:39	When you're ready to play some PRO TIER Street fighter V...	
20 BlooCerix	2018-02-20 20:23:16	#GolfStory #WiiSports #NintendoSwitch https://t.co/rvChX...	
21 BlooCerix	2018-02-20 20:14:12	#ThisRetiredWiiGolfProsStillGotIt #GolfStory #WiiSports ...	
22 BlooCerix	2018-02-20 19:59:08	#RetiredWiiSportsPro #GolfStory #WiiSports #NintendoSwit...	
23 JMartinFavelaI	2018-02-20 05:37:24	👍👍👍 #WiiSports #Nintendo https://t.co/VWvqBJ5rHo	
24 Revalation343	2018-02-28 19:01:05	#ADHDMoment Some Fuse a Pumpkaboo and Torbjorn together...	
25 Monicafineday	2018-02-28 19:01:05	Demon Little Girl=https://t.co/vJKYZDD4h3 #UMA #Pokemon ...	
26 pokemongo01234	2018-02-28 19:01:04	【海外の反応】ポケモンUSUMアローラ総選挙の「グラジオ2位」「ガオガ...	
27 artle	2018-02-28 19:00:48	#charmander #Charmeleon #Pokemon #PokemonGO #pokemongo...	
28 JOLOMAGGINS	2018-02-28 19:00:42	RT @EBGamesCanada: Which original #Pokemon cart did you ...	
29 vacantpokemon	2018-02-28 19:00:29	Final #UltraPrism blisters from https://t.co/7m8taWjcT9 ...	
30 GameFly	2018-02-28 19:00:20	Last Day To Get These Free Legendary Pokemon In Ultra Su...	
31 Lust_____	2018-02-28 19:00:15	RT @sammiboi1622: Who's! That! Poké... oh... I, uh... wh...	
32 EliteUnicornss	2018-02-28 19:00:08	Nerdia, a Pokéfusion between a Gardevoir and a Goldeen. ...	
33 MatomePokemon	2018-02-28 19:00:03	【海外の反応】ポケモンUSUMアローラ総選挙の「グラジオ2位」「ガオガ...	
34 PamuHouou	2018-02-28 18:59:52	RT @EdwinSan59: Jirachi extended art card #pokemon #tc...	
35 bpdpokemon	2018-02-28 18:59:24	#Pokemon TCG Binder Collection! Full Arts/GX Cards! #eBa...	
36 Midgarya	2018-02-28 18:59:22	Gibt es eigentlich ein #Pokemon #Panini #album?? #Also i...	
37 mahobiebx	2018-02-28 18:59:04	RT @EBGamesCanada: Which original #Pokemon cart did you ...	
38 Critical_smash	2018-02-28 18:58:48	Picked up some #Pokémon pins keychains and Japanese #pok...	
39 DaniCF_207	2018-02-28 18:58:06	RT @MeroStation: Primer tráiler oficial de 'Pokémon: La ...	
40 churchmouse1011	2018-02-28 18:58:03	RT @unitextiles: #Pokémon Official #Kids T-Shirt #Giveaw...	
41 CassianBt	2018-02-28 18:58:00	RT @luisenbh: Iniciamos nueva serie ! #pokemon #luisen #...	
42 mooncastles_	2018-02-28 18:57:59	RT @ColonelFalcon: CUSTOM SYSTEM OF THE...	
43 KibaWolfbane	2018-02-28 18:57:38	RT @AxelStrife: #Pokemon #Artista #かな https://t.co/2I9...	
44 ThieMidea	2018-02-28 18:56:38	Happy Pokémon day! #pokemon #drawing #illustration	

## Game tags:

game_tags [postgres@localhost] x	
1-500 of 501+ Tx: Auto DB	
<Filter criteria>	
tag	game
1 WiiSports	Wii Sports
2 videogames	Wii Sports
3 wii	Wii Sports
4 nintendo	Wii Sports
5 ImgPlay	Wii Sports
6 Wac_Kun	Wii Sports
7 wii	Wii Sports
8 wiisports	Wii Sports
9 空前絶後	Wii Sports
10 我が家のブーム	Wii Sports
11 WiiSports	Wii Sports
12 WiiSports	Wii Sports
13 PokemonRedAndBlue	Wii Sports
14 wiisports	Wii Sports
15 wiisports	Wii Sports
16 WiiSports	Wii Sports
17 小3男子	Wii Sports
18 小6の姉とボーリングゲームもやりました	Wii Sports
19 wiisports	Wii Sports
20 SFV	Wii Sports
21 SFVAE	Wii Sports
22 eSports	Wii Sports
23 wiisports	Wii Sports
24 StreetFighter	Wii Sports
25 FGC	Wii Sports
26 meme	Wii Sports
27 WiiSports	Wii Sports
28 Nintendo	Wii Sports
29 wiisports	Wii Sports
30 wii	Wii Sports
31 wiisports	Wii Sports
32 kidgames	Wii Sports
33 wii	Wii Sports
34 wiisports	Wii Sports
35 mario kart	Wii Sports
36 nintendo	Wii Sports
37 nintendowii	Wii Sports
38 nintendowiicontroller	Wii Sports
39 WiiSports	Wii Sports
40 PerfectDark	Wii Sports
41 がいこーくじん	Wii Sports
42 WiiSports	Wii Sports
43 ゲーム実況	Wii Sports
44 ニコニコ動画	Wii Sports
45 ニコニコ超会議2018	Wii Sports
46 SFV	Wii Sports