National University of Computer and Emerging Sciences



In-Lab 4 Exercise

"Nested Queries"

Database Systems

Spring 2024

Department of Computer Science FAST-NU, Lahore, Pakistan

Total Time: 120 Minutes Schema:

For this exercise use the following schema, the script to create this schema and populate data is given in Twitter.SQL file.

	UserName	Age	Country					IIkID	Harlina	
1	Ali123	18	Pakistan	1			1	HashtagID 1	Hashtag #Census	
2	Aliza	40	USA	users			2	2	#ClassiqueM	Hashtags
3	Aysha	19	Iran				3	3	#MasseCritic	
	Donald Trump	60	USA					4	#piratage	
5	ImranKhan	55	Pakistar			5	5	#DrugMovie	S	
5	Natasha	28	USA					UserName	InterestID	
7	Samuel	37	Auetralia				1	Ali 123	10	
3	Sara	30	Iran				2	Ali 123	11	
							3	Ali123	13	user interests
	FollowerUserNa	me		UserName			4	Ali123	14	
1	Ali123		DonaldTi	rump		5	5	Aliza	10	
2	Aliza		Ali123				6	Aliza	11	
3	Niza		DonaldTi	•	Eol	lowing	7	Aliza	13	
1	Aliza		ImranKha		FUI	lowing	8	Aliza	14	
5	Aysha		ImranKha				9	ImranKhan	10	
ò	Donald Trump		ImranKha					InterestID	Description	
7	Imran Khan		DonaldTi				1	10	Politics	interests
3	Natasha		ImranKha				2	11	Sports	interests
9	Samuel		DonaldTi	•			3	12	Movies	
10	Samuel		ImranKha				4	13	Education	
11	Sara		DonaldTi	rump			5	14	Video Ga	
	TweetID	Like	ByUserN	ame Li	keOnDate					
1	1	Aliz	-		017-02-02	like	S			
2	2				2017-02-02					
		FVIZ			017-02-02					
	TweetID	Use	rName	Text						
1	1	Ali1	23	Pakistan	's largest-ev	er populatio	n#C	ensus sta	rt	
2	2	lmra	anKhan	Pakistan	's largest-ev	er populatio	n #C	ensus sta	rt	
3	3	Sar	а	Take the soldier who come to our door for #Cens			18			
4	4	lmra	anKhan	Pakistan is going to experience 6th #Census 2017.)17. t	tweets	
5	5	Sar	а	Only #census can reveal where this aunty lives						
6	6	lmra	anKhan	Quand tu te lèves 3h en avance (littéralement) po						
7	7	Sar					nd Yahoo accou			
8	8									
9		9 DonaldT LSDespicable Me #DrugMovies								
-										
10				Forrest Bump #DrugMovies @mid						
11			naldT		ı te lèves 3h	en avance	(litté	ralement) į	00	
12	2 13	Sar		#DrugMovies						
13	3 14	Dor	naldT	Quand tu te lèves 3h en avance ((litté	ralement) į	00	
	15	Aliz		Quand tu te lèves 3h en avance						

Exercise:

1. What is maximum, minimum, average and standard deviation of ages of the users? (Search Standard Dev function)

Expected Output:

	MaxAge	MinAge	StdevAge
1	60	18	15.431299362011

2. Give name of the user who has the highest number of followers.

Expected Output:

	UserName	NoOfFollowers
1	DonaldTrump	5
2	Imran Khan	5

3. Give name of the user who has second highest followers.

Expected Output:

	UserName	NoOfFollowers
1	Ali123	1

4. List names of all the users who have never tweeted.

Expected Output:

	UserName
1	Aysha
2	Natasha
3	Samuel

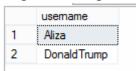
5. List all the hashtags and usernames and number of times that user used that hashtag.

Expected Output:

	hashtag	usemame	noOfTimes
1	#Census	Ali123	1
2	#MasseCritique	Aliza	1
3	#DrugMovies	DonaldTrump	1
4	#MasseCritique	DonaldTrump	2
5	#Census	Imran Khan	2
6	#DrugMovies	Imran Khan	1
7	#MasseCritique	Imran Khan	1
8	#Census	Sara	2
9	#DrugMovies	Sara	1
10	#piratage	Sara	1

6. Find the users who have never used the hashtag #Census.

Expected Output:



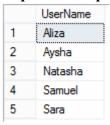
7. List all the usernames that have never been followed. Using Set operation

Expected Output:

	UserName
1	Aliza
2	Aysha
3	Natasha
4	Samuel
5	Sara

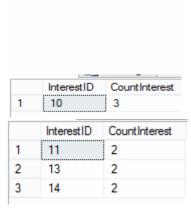
8. List all the usernames that have never been followed. Using Exist Clause.

Expected Output:



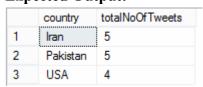
9. Find the most common interest of users. (The interest with largest number of users). Also find the least common interest.

Expected Output:



10. Show total tweets per country. The result should be in order of country name.

Expected Output:



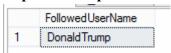
11. List names of all the users whose number of tweets is more than average number of tweets per user.

Expected Output:

	usemame	NumberOfTweets
1	DonaldTrump	3
2	Imran Khan	4
3	Sara	5

12. Give the name of the users who have at least one follower from Pakistan.

Expected Output:



13. Show the interest ID and description of interest with the most number of users.

Expected Output:

