CSC 455: Database Processing for Large-Scale Analytics
PROJECT

Due 11:59pm, Tuesday, November 26th.

Be sure to report the running time of each part of your project

1. Use the same file that we have for Assignment6:
   http://rasinsrv07.cstcis.cti.depaul.edu/CSC455/Twitter_2013_11_12.txt

   a. Use python to download from the web and save to a local text file at least 100,000 lines worth of tweets (you can use my posted code, but be sure to turn off the unnecessary functionality). Do not load the data into a database yet.

      ANSWER:

      Please see attached file for python code! The time cost is 422.95900011 seconds

   b. Repeat what you did in part-a, (save 100,000 tweets to a file reading from the web), but in addition to saving tweets to the file also populate the 3-table schema built in your previous assignments. Be sure to execute commit and verify that the data has been successfully loaded (report row counts for each of the 3 tables).
      You can use posted sample code, but be sure to turn off batching for this part. (i.e. batchRows set to 1)

      ANSWER:

      Please see attached file for python code! readTweets took 423.491999865 seconds.

   c. Use your locally saved tweet file to repeat the database population step from part-b. That is, load 100,000 tweets into a different 3-table database using your file from either part-a or part-b (instead of the URL). Was it faster to populate the database in this manner?

      ANSWER:

      Please see attached file for python code! Reading from local file is way better than reading from web, as you can see the results from python code below,

      readTweets from local file took 31.8310000896 seconds

d. Write python code that is going to determine the length of the longest line (entire tweet line) among those 100,000 tweets.

ANSWER:

Please see attached file for code. Finding the longest tweet took 6.24599981308 seconds.

e. Create a new single-column table that will hold the entire tweet string with no parsing – use the information from part d) to determine the size of the column. Populate that new table with 100,000 tweets.

ANSWER:

creating and populating the tweet_string table took 17.7309999466 seconds.

f. Pick any of the database loading steps above (b, c, or e) and re-run it with batching size of 100 and 1000 (i.e. by inserting 100/1000 rows at a time with executemany). You can use the posted code.

ANSWER:

This script is faster, 8.15700006485 seconds, than 1.e, which takes 17.7309999466 seconds to execute

2.

a. Write and execute SQL queries to do the following (don't forget to report the running time):

i. Find tweets where tweet ID ends in "300" or "700"

ANSWER:

finding ID by SQL query ending with 700 or 300 takes 0.0360000133514 seconds.
there are 202 id ending with 700 or 300!

ii. Find how many unique values are there in the "in_reply_to_user_id" column

ANSWER:

SQL query takes 0.301000118256 seconds, there 20497 distinct In_Reply_to_User_ID query found

iii. Find pairs of different tweet ids with the same value of "retweet_count" where one of the two tweets in the pair has geo coordinates (but not both of them do)

ANSWER:

I can't report run time when inserting 100000 values, because everytime I run it, I ended up with computer crash.

if just inserting 1000 values, it reports "SQL query takes 0.825000047684 seconds."

iv. Find the average longitude and latitude value for each user name.

ANSWER:

I can't report time if I insert 100000 values into table. If inserting just 1000 values,
it reports "SQL query takes 0.477999925613 seconds."

v. Re-execute the query in part iv) 10 times and 50 times in a row (in a for-loop, exact same query). Does the runtime scale linearly?

ANSWER:

If inserting just 1000 values, it reports "SQL query takes 4.74799990654 seconds.", which is linear scale!

b. Write python code that is going to read the tweet data file and perform the equivalent computation for parts i) and ii) above. How does the runtime compare?

ANSWER:

result : finding ID ending with 700 or 300 takes 4.36599993706 seconds, which is mucher longer than SQL query, there are 202 id ending with 700 or 300!

there are 20497 unique reply_to_user_id entries. finding unique reply_to_id takes 71.34565427504 seconds, which is mucher longer than SQL query

3.

a. Apply your code from Assignment 4, part-4 to the Tweet table and User table.

ANSWER:

result: output the table from SQLITE# takes 34.9079999924 seconds. Here is a screen shot on the output.

```
https://t.co/2gORsNyYL3,Twitter for iPhone,nan,0,None,92760418
26. Tue Nov 12 00:00:05 +0000 2013,1714727941,I've accomplished nothing this 4 day weekend,Twitter for iPhone,nan,0,None,1714727941
27. Tue Nov 12 00:00:05 +0000 2013,923598469,Me voy a ba?ar, otra vez,Twitter for BlackBerry?,nan,0,None,923598469
28. Tue Nov 12 00:00:05 +0000 2013,143539764,ROARS FACEBOOK YOU LIL SHIT WHY YOU CRASH AJSHJSKSKAKA,Twitter for Android,nan,0,None,143539764
29. Tue Nov 12 00:00:05 +0000 2013,330456202,@ro_qa @Basma_Jamil 7afzy 3lyaa b2a &lt;33 ;) w mtzh2esh mny :D :D :P :*,Twitter for Android,611798758.0,0,None,330456202
30. Tue Nov 12 00:00:05 +0000 2013,724939956,*Gemini *ZodiacPeople - A Gemini man has the tendency to speak his mind without thinking first.,IFTTT,nan,0,None,724939956
31. Tue Nov 12 00:00:05 +0000 2013,432669216,Nog steeds wakker man,Twitter for BlackBerry?,nan,0,None,432669216
32. Tue Nov 12 00:00:05 +0000 2013,1924642777,isso aqui ta xato to qze dormindo,Twitter for Android,nan,0,None,1924642777
33. Tue Nov 12 00:00:05 +0000 2013,252289809,RT @tinlin21: Soldier homecomings get me every time.,Twitter for Android,nan,0,None,252289809
34. Tue Nov 12 00:00:05 +0000 2013,282838005,RT @VereMenjivar_: ?En su mirada se nota la tristeza... Pero sus sonrisas te enga?an.?,Twitter Web
Client,nan,0,None,282838005
35. Tue Nov 12 00:00:05 +0000 2013,393588565,RT @leidybaez01: @the_joker30 ok,Twitter for iPhone,nan,0,None,393588565
36. Tue Nov 12 00:00:05 +0000 2013,476062424,RT @LuucasOliveir4: Vem cá, deixa eu cuidar de você. Deita no meu colo, que eu te fa?o carinho e refa?o todas aquelas
promessas ao pé do te…,Twitter for Android,nan,0,None,476062424
37. Tue Nov 12 00:00:05 +0000 2013,985839770,RT @absolutelyjdb: we miss you mama jan #MamaJanComeBackToTeamBieber http://t.co/EOsupi6Eky,Twitter for
iPad,nan,0,None,985839770
38. Tue Nov 12 00:00:05 +0000 2013,1695120758,@UniqueJacqueg si , asi veo yo voy a votar por laura :'),Twitter for BlackBerry?,1138417584.0,0,None,1695120758
39. Tue Nov 12 00:00:05 +0000 2013,1559723304,Vou postar uma foto de uma menina,Twitter for Android,nan,0,None,1559723304
40. Tue Nov 12 00:00:05 +0000 2013,972213944,Me gustan la canciones de Miley Cyrus @MileyCyrus,Twitter for BlackBerry?,nan,0,None,972213944
41. Tue Nov 12 00:00:05 +0000 2013,1118124738,RT @Micaelamaldon13: Somos 11 en el cole :s
#MicaelaCopa.,Twitter for Android,nan,0,None,1118124738
42. Tue Nov 12 00:00:05 +0000 2013,72802511,@rossstringer gains,Twitter for iPhone,813931620.0,0,None,72802511
43. Tue Nov 12 00:00:05 +0000 2013,444766639,@DomFacci and me :),Twitter for Android,612609799.0,0,None,444766639
44. Tue Nov 12 00:00:05 +0000 2013,310979705,RT @poxaevertown: passei o dia comendo uehue,Motorola mTweet,nan,0,None,310979705
45. Tue Nov 12 00:00:05 +0000 2013,556873783,プロ野球の監督の基準はなんだろう,we,nan,0,None,556873783
46. Tue Nov 12 00:00:05 +0000 2013,1885494128,@790000Groooh  ???? ????????????? ??? ??????? ???? ???????  ????,Twitter for Android,2177174794.0,0,None,1885494128
47. Tue Nov 12 00:00:05 +0000 2013,1899908198,@Ninesmafia @detectivsauvage Nines a ti a querido q t reportaran no?? xDD,Twitter for
Android,208403377.0,0,None,1899908198
48. Tue Nov 12 00:00:05 +0000 2013,553256694,Donde esta el control,Twitter for Android,nan,0,None,553256694
49. Tue Nov 12 00:00:05 +0000 2013,1910265600,?????? : ??? ????? ????? ???? ?????
???? ??? ?????? ?? ?????? ?????? ???? ???? ???? ???? ??????
????? ??????? ????? ????? ????? ??????????,Twitter for Android,nan,0,None,1910265600
50. Tue Nov 12 00:00:05 +0000 2013,235872202,sdadad,we,nan,0,None,235872202
51. Tue Nov 12 00:00:05 +0000 2013,577681859,RT @GlitterDaGabi: @puroamorju sim,Twitter for Android,nan,0,None,577681859
52. Tue Nov 12 00:00:06 +0000 2013,617601229,Subtweet towards my princess,Twitter for iPhone,nan,0,None,617601229
53. Tue Nov 12 00:00:06 +0000 2013,602540242,I want to talk about other things. Both serous and funny but something new,Twitter for iPad,nan,0,None,602540242
54. Tue Nov 12 00:00:06 +0000 2013,356878822,#GrandeWilder,we,nan,0,None,356878822
55. Tue Nov 12 00:00:06 +0000 2013,180273048,I Needa Call My Fav Bro I Gotta Tell Him Something,Twitter for Android,nan,0,None,180273048
56. Tue Nov 12 00:00:06 +0000 2013,483597199,Cobalah kauu mengerti, cobalah kauu mengerti bahwa akuu ini telah mengetahui arti memilikimu ~,Twitter for
BlackBerry?,nan,0,None,483597199
57. Tue Nov 12 00:00:06 +0000 2013,125274206,……。,凰華女学院分校談話室,nan,0,None,125274206
58. Tue Nov 12 00:00:06 +0000 2013,257262657,Días de mierda, que son de mierda porque sí. Porque el mundo te detesta y conspira en tu contra.,we,nan,0,None,257262657
59. Tue Nov 12 00:00:06 +0000 2013,449954360,?Recordar es volver a vivir?,we,nan,0,None,449954360
60. Tue Nov 12 00:00:06 +0000 2013,1100201629,今日は昨日よりも寒さ対策ばっちりの防備で、昨日のaxesのコートとは一味違ってリズリサの中が超絶もこもこのコートだから本当あ
ったかい( ? 3?)? クローゼット見たら去年コート買いすぎて全部で6～7着あったからうまく使い回しましょ（笑）,jigtwi,nan,0,None,1100201629
61. Tue Nov 12 00:00:06 +0000 2013,945089862,even keyla said u were ugly Cx,Twitter for iPhone,nan,0,None,945089862
62. Tue Nov 12 00:00:06 +0000 2013,312324340,Prender el tele y ver que dice 'estaba dado vuelta de alcohol y droga' me da una bronca, pueden dejar de decir pelotudeces
un segundo?,Twitter for BlackBerry?,nan,0,None,312324340
63. Tue Nov 12 00:00:06 +0000 2013,1921825074,@kekelpoxa viado, n esquece de fazer o trabalho de Geografia, é p amanh?... n é p sexta n
rs,we,1967949596.0,0,None,1921825074
64. Tue Nov 12 00:00:06 +0000 2013,53268444,@MaxStarAkakita (Lv169)は　リーフストームを　となえた！　スライムCに　562の　ダメージ！
スライムCは　メラガイアーを　となえた！　@MaxStarAkakita は　548の　ダメージをうけた！,スライムBOT,1290654817.0,0,None,53268444
```

b. Apply your code from Assignment 5, part-4 to the Tweet file (use the list of IDs that end in 700 as your skipList – you can use any method you wish, but you must generate the list of IDs first).

ANSWER:

output the table from SQLITE# takes 0.3407352420 seconds.


```
0. [contributors]:None,[truncated]:False,[text]:RT @guccibrendana: @perksofserena lmao love you too□,[in_reply_to_status_id]:None,[id]:400050324767272960,
[favorite_count]:0,[source]:<a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a>,[retweeted]:False,[coordinates]:None,[entities]:
{u'symbols': [], u'user_mentions': [{u'id': 406649564, u'indices': [3, 17], u'id_str': u'406649564', u'screen_name': u'guccibrendana', u'name': u'guccibrendana'},
{u'id': 500436071, u'indices': [19, 33], u'id_str': u'500436071', u'screen_name': u'perksofserena', u'name': u'serena '}], u'hashtags': [], u'urls': []},
[in_reply_to_screen_name]:None,[id_str]:400050324767272961,[retweet_count]:0,[in_reply_to_user_id]:None,[favorited]:False,[retweeted_status]:{u'contributors': None,
u'truncated': False, u'text': u'@perksofserena lmao love you too\U0001f618', u'in_reply_to_status_id': 400049989273268200L, u'id': 400050275958157300L,
u'favorite_count': 0, u'source': u'<a href="http://twitter.com/download/iphone" rel="nofollow">Twitter for iPhone</a>', u'retweeted': False, u'coordinates': None,
u'entities': {u'symbols': [], u'user_mentions': [{u'id': 500436071, u'indices': [0, 14], u'id_str': u'500436071', u'screen_name': u'perksofserena', u'name': u'serena
'}], u'hashtags': [], u'urls': []}, u'in_reply_to_screen_name': u'perksofserena', u'id_str': u'400050275958157312', u'retweet_count': 1, u'in_reply_to_user_id':
500436071, u'favorited': False, u'user': {u'follow_request_sent': None, u'profile_use_background_image': True, u'default_profile_image': False, u'id': 406649564,
u'verified': False, u'profile_image_url_https': u'https://pbs.twimg.com/profile_images/378800000717654653/e6e6f78ea2ac5a0472a099fdd6efb33e_normal.jpeg',
u'profile_sidebar_fill_color': u'DDEEF6', u'profile_text_color': u'333333', u'followers_count': 317, u'profile_sidebar_border_color': u'C0DEED', u'id_str':
u'406649564', u'profile_background_color': u'C0DEED', u'listed_count': 0, u'profile_background_image_url_https': u'https://abs.twimg.com/images/themes/theme1/bg.png',
u'utc_offset': None, u'statuses_count': 20258, u'description': u'Instagram ; guccibrendana', u'friends_count': 250, u'location': u'#Sisterhood', u'profile_link_color':
u'0084B4', u'profile_image_url': u'http://pbs.twimg.com/profile_images/378800000717654653/e6e6f78ea2ac5a0472a099fdd6efb33e_normal.jpeg', u'following': None,
u'geo_enabled': True, u'profile_banner_url': u'https://pbs.twimg.com/profile_banners/406649564/1382482068', u'profile_background_image_url':
u'http://abs.twimg.com/images/themes/theme1/bg.png', u'name': u'guccibrendana', u'lang': u'en', u'profile_background_tile': False, u'favourites_count': 1247,
u'screen_name': u'guccibrendana', u'notifications': None, u'url': None, u'created_at': u'Mon Nov 07 00:37:29 +0000 2011', u'contributors_enabled': False, u'time_zone':
None, u'protected': False, u'default_profile': True, u'is_translator': False}, u'geo': None, u'in_reply_to_user_id_str': u'500436071', u'lang': u'en', u'created_at':
u'Mon Nov 11 23:59:53 +0000 2013', u'in_reply_to_status_id_str': u'400049989273268224', u'place': None},[user]:{u'follow_request_sent': None,
u'profile_use_background_image': True, u'default_profile_image': False, u'id': 500436071, u'verified': False, u'profile_image_url_https':
u'https://pbs.twimg.com/profile_images/378800000707365258/06cd13187a179c7e78d399125e305d99_normal.jpeg', u'profile_sidebar_fill_color': u'DDEEF6',
u'profile_text_color': u'333333', u'followers_count': 1232, u'profile_sidebar_border_color': u'FFFFFF', u'id_str': u'500436071', u'profile_background_color':
u'C0DEED', u'listed_count': 4, u'profile_background_image_url_https':
u'https://si0.twimg.com/profile_background_images/378800000026942622/99ce41fc9a937874cc8c09d093a5e211.jpeg', u'utc_offset': -21600, u'statuses_count': 63808,
u'description': u'Let it go & Let it be.', u'friends_count': 1005, u'location': u'', u'profile_link_color': u'0084B4', u'profile_image_url':
u'http://pbs.twimg.com/profile_images/378800000707365258/06cd13187a179c7e78d399125e305d99_normal.jpeg', u'following': None, u'geo_enabled': True,
u'profile_banner_url': u'https://pbs.twimg.com/profile_banners/500436071/1383856595', u'profile_background_image_url':
u'http://a0.twimg.com/profile_background_images/378800000026942622/99ce41fc9a937874cc8c09d093a5e211.jpeg', u'name': u'serena ', u'lang': u'en',
u'profile_background_tile': True, u'favourites_count': 17292, u'screen_name': u'perksofserena', u'notifications': None, u'url': None, u'created_at': u'Thu Feb 23
04:10:48 +0000 2012', u'contributors_enabled': False, u'time_zone': u'Central Time (US & Canada)', u'protected': False, u'default_profile': False, u'is_translator':
False},[geo]:None,[in_reply_to_user_id_str]:None,[lang]:en,[created_at]:Tue Nov 12 00:00:04 +0000 2013,[filter_level]:medium,[in_reply_to_status_id_str]:None,
[place]:None

1. [contributors]:None,[truncated]:False,[text]:Diaaaaaa largoooooo.,[in_reply_to_status_id]:None,[id]:400050328990531600,[favorite_count]:0,[source]:web,
[retweeted]:False,[coordinates]:None,[entities]:{u'symbols': [], u'user_mentions': [], u'hashtags': [], u'urls': []},[in_reply_to_screen_name]:None,
[id_str]:400050328990531584,[retweet_count]:0,[in_reply_to_user_id]:None,[favorited]:False,[user]:{u'follow_request_sent': None, u'profile_use_background_image':
False, u'default_profile_image': False, u'id': 56624774, u'verified': False, u'profile_image_url_https':
u'https://pbs.twimg.com/profile_images/378800000716674133/d1e3f41702c03a0fd02dc4ca095f2ccf_normal.jpeg', u'profile_sidebar_fill_color': u'000000',
u'profile_text_color': u'424142', u'followers_count': 232, u'profile_sidebar_border_color': u'FFFFFF', u'id_str': u'56624774', u'profile_background_color': u'030103',
u'listed_count': 1, u'profile_background_image_url_https': u'https://si0.twimg.com/profile_background_images/871033866/ad4bde9f0dacd5aa88127b52823039bc.jpeg',
u'utc_offset': -28800, u'statuses_count': 14501, u'description': u'\u201cEs un muchacho sin importancia colectiva, exactamente un individuo\u201d    | Irracional y ca
\xf3tico. | XX | UPRM \u03a8', u'friends_count': 188, u'location': u'Trinidad Imp\xeda', u'profile_link_color': u'ABA9AB', u'profile_image_url':
u'http://pbs.twimg.com/profile_images/378800000716674133/d1e3f41702c03a0fd02dc4ca095f2ccf_normal.jpeg', u'following': None, u'geo_enabled': False,
u'profile_banner_url': u'https://pbs.twimg.com/profile_banners/56624774/1384015169', u'profile_background_image_url':
u'http://a0.twimg.com/profile_background_images/871033866/ad4bde9f0dacd5aa88127b52823039bc.jpeg', u'name': u'Salazar.', u'lang': u'en', u'profile_background_tile':
False, u'favourites_count': 5092, u'screen_name': u'rharmas', u'notifications': None, u'url': u'http://r-harmas.tumblr.com/', u'created_at': u'Tue Jul 14 06:14:49
+0000 2009', u'contributors_enabled': False, u'time_zone': u'Pacific Time (US & Canada)', u'protected': False, u'default_profile': False, u'is_translator': False},
[geo]:None,[in_reply_to_user_id_str]:None,[lang]:en,[created_at]:Tue Nov 12 00:00:05 +0000 2013,[filter_level]:medium,[in_reply_to_status_id_str]:None,[place]:None

2. [contributors]:None,[truncated]:False,[text]:Minha perna ta doendo pra crlh.,[in_reply_to_status_id]:None,[id]:400050328982134800,[favorite_count]:0,[source]:web,
[retweeted]:False,[coordinates]:None,[entities]:{u'symbols': [], u'user_mentions': [], u'hashtags': [], u'urls': []},[in_reply_to_screen_name]:None,
```

c. If you skipped either Assignment 4 or Assignment 5, you can use Assignment6 part-4 code as a substitute.

ANSWER:

I will skip that!

4. Export all three tables (Tweet, User and Geo data) from the database into comma-separated text files

   a. For Geo table, create a default entry which will replace NULLs in Tweet table.

   ANSWER:

   Please see part c of question 4

   b. For User table add a column (true/false) that specifies whether “screen_name” or “description” attribute contains within it the “name” attribute.

   ANSWER:

   output the table from SQLITE# takes 1.93799996376 seconds.

```
id,name,screen_name,description,friends_count
0. 500436071,serena ,perksofserena,Let it go & Let it be.,1005,True
1. 56624774,Salazar.,rharmas,"Es un muchacho sin importancia colectiva, exactamente un individuo"    | Irracional y caótico. | XX | UPRM ¥,188,False
2. 294352297,19 dias,heyJuGomes,N?o devo nada a ninguém, ninguém me deve nada também.Ent?o ta tudo bem.,98,False
3. 395608365,André Sime?o. ? ,andresimeao_,Só pe?o mais SAPIêNCIA.,289,False
4. 1940491789,Elevate247,ElevateRadio247,None,0,False
5. 358515925,RIRIN,trymulyalestary,I ? my self| I ? my mine|cintaku untuk para dakoters |hater's is make me pick it up not make me down,94,False
6. 793869037,@Hira_apriana,Hira_apriana,25041995 // A Student Be a Professional Singer... Amien :))) Love my Sizztt @ayu_hardianti and Love Ade @bastiansteel
@Teukuryzki99 @iqbaale @AlvaroMaldini1,169,False
7. 135326467,Bekah Caffey,rbkhmay,None,469,False
8. 450324709,honey bee   ,_gorditaa,my life is a mess,106,False
9. 358448939,Xena Putri Leviyanti,xenaptr,@GaemGyu only{} emmmwahhh?,342,False
10. 1450977852,Video TV Indonesia,IndonesiaVideo,Dapatkan video Terbaru disini: http://goo.gl/r8Xsq,0,False
11. 1368555272,??????? ~,Noura_xz,???? ????? ???? ?? ???? ??? ??? ??????? ????? ??? ?????? ???? ???? ????? ??? ????? ??? ?? ??? ?? ???? ??????? ????? ??? ??????? ??? ?? ????? ?~,121,False
12. 149223401,Romi Brosio - BOEDO,RomiBrosio,Hincha, socia refundadora y eterna enamorada del CASLA. Me viste volver a Boedo. Nadie es capaz de matarte en mi alma...
#15N,472,False
13. 407485811,Lintang Lailinsia,Len_Airiz,#MabaUB2013
#FTP UB ||Bioteknologi Pangan dan Agroindustri

JAPAN TOTTEMO DAISUKI o)/

holla.... atashi wa Leny desu.. yoroshiku na~ ^o^,142,False
14. 1010157270,_____,Hafiz_Hanafi_,Pehal nak baca bio orang....hahaha,231,False
15. 491026630,????? ???????#?????,su223ltan,None,45,False
16. 565416277,恋愛雑学BOT,renaidoctor,恋愛や男女の心理についての雑学をつぶやくBOT,32436,False
17. 2161190212,f o r e v e r N ??,bitchthatsNENE_,shawty got a cold heart #riplilsnupe,256,False
18. 1651633088,ツン川デレ子(bot),bot45657583,完全オリキャラのツンデレbotです。動作の不具合などございましたら返信にて伝えていただけると助かります。鯛あんま可愛くないは禁句です（笑）中に人がいる時は荒ぶっています。どうかデレ子をよろしくおねがいします。フォローも解除もブロックも自由です。お気軽にコメントください。フォローはされたら返します。,1,False
19. 1673233082,Nama saya,Titisaing,?jesusChrist ?mom&dad ?guitarinstrumen ?life ?love medical record UEU'13,35,False
20. 1591225633,Lu,OliveeiraLuana,Jhonatan Gomes,122,True
21. 2177499077,Raelene Battle,raelenewdu,None,0,False
22. 360515769,Rainbow.,LetMeSunshine,La dose d'humour quotidienne de ta TL!,20471,False
23. 554409391,Zudidt?,Kamilaa_Asyifaa,Ini hidup saya,saya yang menjalaninya,dan saya tak akan meminta kedua kali untuk perminta'an saya,terimakasih atas respon anda ?
KECE,333,False
24. 560705285,目次　湊(もくつぎ　みなと),mokutugi_minato,もそもそと絵を書いております、歌を歌うのが好きです。ボカロと創作よく書きますので趣味の合う方はお友達に(*ω`*)
支部もやってます。ふぉろばは仲良くなってからしますねー(*'? `),2236,False
25. 92760418,C $,Cmoneymontana,IG:cmoneymontana #imgood,391,False
26. 1714727941,Aly Serrano,aly_serrano,All that we see or seem is but a dream within a dream,130,False
27. 923598469,mica,MicaCiurleo,bb pin:26658679
wpp:1133982503,266,False
28. 143539764,' ? oujijobby ',mishyiam,i only cry freestyle,843,False
29. 330456202,?????,Aliaa_Eslam,#16 #Egyptian #TPS #So7aby ?? & Travelling To #Paris is My #Dream ??,1026,False
30. 724939956,DAILY HOROSCOPES ,HoroSCOOPes,Daily scoop of horoscope from different sources on the web. Click links to get full overview of your horoscope.,5,False
31. 432669216,€?...!!,Dallas_RGMG,#RGMG,215,False
32. 1924642777,Guilherme Batista,Pguilherme_93,None,111,False
33. 252289809,Zack Kaminski,Zackski91,I Tweet for the People,279,False
34. 282838005,Airjologera,beluh_Carp,-Hincha de RIVER -Rock,Rap & Pop. -Futura Presidenta de la Nacion Argentina -#Stay Strong,1144,False
35. 393588565,? AdicT Al Sex?,the_joker30,?LoCo SociAl FustRadO con los TaTToo & La MuSix & La NBA & El JokEr\ MY pin:\mY Mail @bebaleche?/ ?/Mente Dańa de
Nacimiento/,582,False
36. 476062424,ツ Lecah,PooxaLecah,Uma Potterheard ? Casada com o Harry Potter ? / wpp 5196283330,808,False
```

   c. For tweet table, replace NULLs by foreign key reference to the default location (created in part 4-a above) and add a new column with tweet (i.e. text field) length.

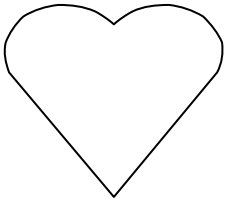
   ANSWER:

output the table from SQLITE# takes 2.11500000954 seconds.

```
Created_At,ID,Text,Source,In_Reply_to_User_ID,Retweet_Count,geo_id,user_id,tweet_length
0. Tue Nov 12 00:00:04 +0000 2013,500436071,RT @guccibrendana: @perksofserena lmao love you too??,Twitter for iPhone,None,0,1,500436071,55
1. Tue Nov 12 00:00:05 +0000 2013,56624774,Diaaaaaa largoooooo.,we,None,0,1,56624774,20
2. Tue Nov 12 00:00:05 +0000 2013,294352297,Minha perna ta doendo pra crlh.,we,None,0,1,294352297,31
3. Tue Nov 12 00:00:05 +0000 2013,395608365,Vou janta,we,None,0,30.268806951.3061478,395608365,9
4. Tue Nov 12 00:00:05 +0000 2013,1940491789,#nowPlaying Roxette - Listen To Your Heart,wavepanel,None,0,1,1940491789,42
5. Tue Nov 12 00:00:05 +0000 2013,358515925,Wi santai mako cewek. Kayak apa s????a????a???? :p,Twitter for BlackBerry?,None,0,1,358515925,64
6. Tue Nov 12 00:00:05 +0000 2013,793869037,Apa qt krja deng? RT "@ayu_hardianti: Pagiiiiiii :) RT @Hira_apriana: Pagi deng ku syg @.ayu_hardianti ...",Twitter for
BlackBerry?,None,0,1,793869037,107
7. Tue Nov 12 00:00:05 +0000 2013,135326467,RT @GrumpyyyCat: If Britney Spears can get through 2007, you can get through today.,Twitter for iPhone,None,0,1,135326467,82
8. Tue Nov 12 00:00:05 +0000 2013,450324709,RT @LetAGirlBitch: Sometimes I wonder if you would actually care if I was hurt &amp;amp; in the hospital..,Twitter for
Android,None,0,1,450324709,102
9. Tue Nov 12 00:00:05 +0000 2013,358448939,RT @dwitasaridwita: Ada yang sebenarnya gak mau kehilangan, tapi dengan sangat terpaksa harus melepaskan. Ada.,Twitter for
Android,None,0,1,358448939,110
10. Tue Nov 12 00:00:05 +0000 2013,1450977852,#Video Seorang anggota Dishub DKI JakartaTodongkan Pistol ke Orang Tua Murid http://t.co/3zRDZFxpWX
#Indonesia,fortweetonline,None,0,1,1450977852,110
11. Tue Nov 12 00:00:05 +0000 2013,1368555272,????? ????? ??? ????? ??? ??? ?? ????? ???? ??? ?????? ???? ????? ?????..
 ????: http://t.co/zsTW232OGB
#???_????_????
#??? _??????,??? ??????,None,0,1,1368555272,214
12. Tue Nov 12 00:00:05 +0000 2013,149223401,Me mantienen al tanto del partido de Lanus Arsenal, que tengo que salir (?),Twitter for BlackBerry?,None,0,1,149223401,75
13. Tue Nov 12 00:00:05 +0000 2013,407485811,bingung q lama'' ==' @Erwindgazerock,we,597471700,0,1,407485811,36
14. Tue Nov 12 00:00:05 +0000 2013,1010157270,Good morning =),Twitter for Android,None,0,1,1010157270,15
15. Tue Nov 12 00:00:05 +0000 2013,491026630,?????? ?????? ?? ????????? ??? ?????? ??????? ????? ??????? ????..
 ????: http://t.co/TvDI4uOK7I
#???_????_????
#???_??????,??? ??????,None,0,1,491026630,203
16. Tue Nov 12 00:00:05 +0000 2013,565416277,いろいろメールのやりとりをしてて、初めて会うことになってドキドキ緊張でした。優しくて笑顔の素敵な女性で凄く好きになってしまいました。（男性　40代前半　三重県）？ http://t.co/zASMJHdGU8 ◎登録無料,Tweet Tool 001,None,0,1,565416277,278
17. Tue Nov 12 00:00:05 +0000 2013,2161190212,RT @Lahtal_: "@bitchthatsNENE_: my circle , tighter than a booty hole"?? you lame,Twitter for
iPhone,None,0,1,2161190212,87
18. Tue Nov 12 00:00:05 +0000 2013,1651633088,時刻９時。まだまだやることはいっぱいあるわ！,ツン川デレ子,None,0,1,1651633088,66
19. Tue Nov 12 00:00:05 +0000 2013,1673233082,@febri_any95 maka.a kka n abg gue nyuruh cepet,karna busway biasa.a lama,Mobile Web (M2),134083730,0,1,1673233082,72
20. Tue Nov 12 00:00:05 +0000 2013,1591225633,Vontade de jogar tudo pro alto,Twitter for Android,None,0,1,1591225633,30
21. Tue Nov 12 00:00:05 +0000 2013,2177499077,??????? ???? ??? ????????? ????? ???",Twitter for Android,None,0,1,2177499077,66
22. Tue Nov 12 00:00:05 +0000 2013,360515769,à la fin nous regrettons seulement les chances que nous n'avons pas prises.,AutoQuote-5,None,0,1,360515769,76
23. Tue Nov 12 00:00:05 +0000 2013,554409391,Sebenernya hubungan itu sama kek puzzle, kitanya udah susah2 nata eh adek dateng ngeberantakin.,dan butuh waktu lama lg
untuk merangkainya,Twitter for BlackBerry?,None,0,1,554409391,138
24. Tue Nov 12 00:00:05 +0000 2013,560705285,@marina_mpd

絵が下手な奴に言われるのが一番腹立つ,Twitter for Android,514182164,0,1,560705285,68
25. Tue Nov 12 00:00:05 +0000 2013,92760418,RT @NerdDowitzki: One if my fave vines RT @TJLACEDUP: Soulja Boy gotta stay off that White ??..
https://t.co/2gORsNyYL3,Twitter for iPhone,None,0,1,92760418,121
26. Tue Nov 12 00:00:05 +0000 2013,1714727941,I've accomplished nothing this 4 day weekend,Twitter for iPhone,None,0,1,1714727941,44
27. Tue Nov 12 00:00:05 +0000 2013,923598469,Me voy a ba?ar, otra vez,Twitter for BlackBerry?,None,0,1,923598469,25
28. Tue Nov 12 00:00:05 +0000 2013,143539764,ROARS FACEBOOK YOU LIL SHIT WHY YOU CRASH AJSHJSKSKAKA,Twitter for Android,None,0,1,143539764,54
29. Tue Nov 12 00:00:05 +0000 2013,330456202,@ro_qa @Basma_Jamil 7afzy 3lyaa b2a &amp;lt;33 ;) w mtzh2esh mny :D :D :P :*,Twitter for Android,611798758,0,1,330456202,72
30. Tue Nov 12 00:00:05 +0000 2013,724939956,*Gemini *ZodiacPeople - A Gemini man has the tendency to speak his mind without thinking
first.,IFTTT,None,0,1,724939956,95
31. Tue Nov 12 00:00:05 +0000 2013,432669216,Nog steeds wakker man,Twitter for BlackBerry?,None,0,1,432669216,21
32. Tue Nov 12 00:00:05 +0000 2013,1924642777,isso aqui ta xato to qze dormindo,Twitter for Android,None,0,1,1924642777,33
33. Tue Nov 12 00:00:05 +0000 2013,252289809,RT @tinlin21: Soldier homecomings get me every time..Twitter for Android,None,0,1,252289809,52
```

PART 5 - THANK YOU ALEX!



Maybe I should skip this.....^_^