

CSE 532 Theory of Database Systems, Spring 2020, Assignment 3: Readme

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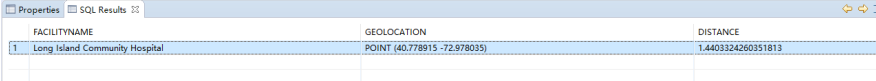
April 5, 2020

1 Task1

Just follow the instrction from the course website.

- (a) db2se enable_db sample
- (b) db2 -tf import_zip.sql
- (c) db2 -tf createfacilitytable.sql
- (d) db2 load from "Path\Health_Facility_Certification_Information.csv" of del MESSAGES load.msg
INSERT INTO cse532.facilityoriginal
- (e) db2 -tf facilityinsert.sql
- (f) db2 -tf createfacilitycertificationtable.sql
- (g) db2 -tf createindexes.sql

2 Task2



	FACILITYNAME	GEOLOCATION	DISTANCE
1	Long Island Community Hospital	POINT (40.778915 -72.978035)	1.4403324260351813

3 Task3

Properties

SQL Results

	ZIP
1	10028
2	10044
3	10303
4	10472
5	10473
6	10474
7	10516
8	10528
9	10543
10	10573
11	10577
12	10578

<

Fetched 208 records, 208 records shown

History

✓

Status

Result1

4 Task4

4.1 Task2 With Index

running time: 11ms

```
and facilityid in (select facilityid from cse532.facilitycertification
order by distance LIMIT 1
SELECT CURRENT_TIMESTAMP FROM SYSIBM.SYSDUMMY1

Total execution time => 11 ms

Script: D:\stonybrook\homework\database\hm3\Tianao%20Wang\nearester.sql
Database Name: CSE532
Authorization Id (Database): wta
```

4.2 Task2 Without Index

running time: 538ms

```
and facilityid in (select facilityid from cse532.facilitycertification where facilityid = 10028
order by distance LIMIT 1

Query execution time => 538 ms
```

4.3 Task3 With Index

running time: 5s477ms

```
and left(zipcode,5) in (select zcta5c10 from cse532.uszip)
and left(zipcode,1) <= '9'

Query execution time => 5 s: 477 ms
```

4.4 Task3 Without Index

running time: 7s480ms

```
and left(ZipCode,5) in (select zcta5cel0 from cse532.uszip)
and left(ZipCode,1)<='9'
```

```
Query execution time => 7 s: 480 ms
```

5 Task5

The main idea is to calculate the average of zippop and use loop to find all the zip whose population is below the average. Then merge these zip with their neighbors if the sum is beyond the average. I tried to write a procedure to do it but it still have bug. I hope the idea and partial code can get some partial credit.