

Project

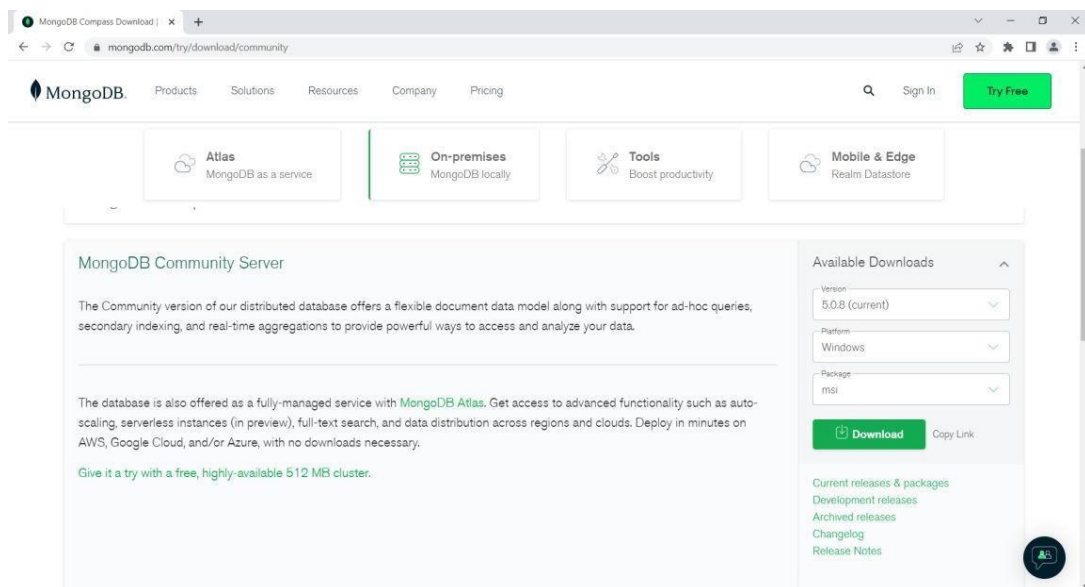
Εφαρμοσμένα Θέματα Δομών και Βάσεων Δεδομένων.

Παναγιώτης Χρονόπουλος, ΑΜ : 321/2015222

1) Εγκατάσταση της MongoDB.

Παρακάτω έχω το λίνκ για να κατεβάσω το αρχείο εγκατάστασης της MongoDB και μία εικόνα στην οποία βλέπουμε την ιστοσελίδα που κατέβασα το αρχείο εγκατάστασης.

<https://www.mongodb.com/try/download/community>



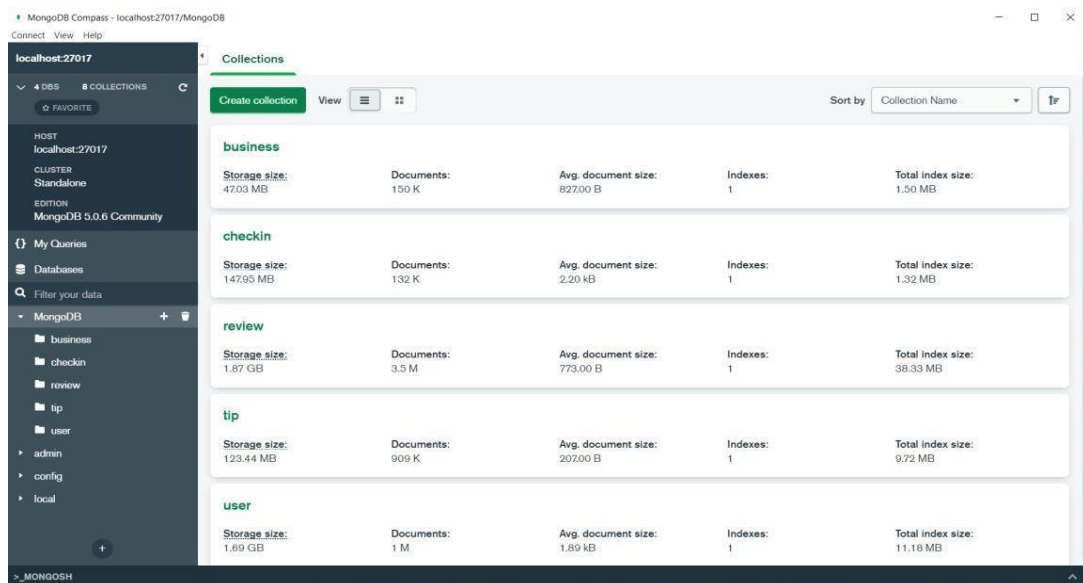
Στην παρακάτω εικόνα βλέπουμε το αρχείο που κατέβασα για να εγκαταστήσω την MongoDB.



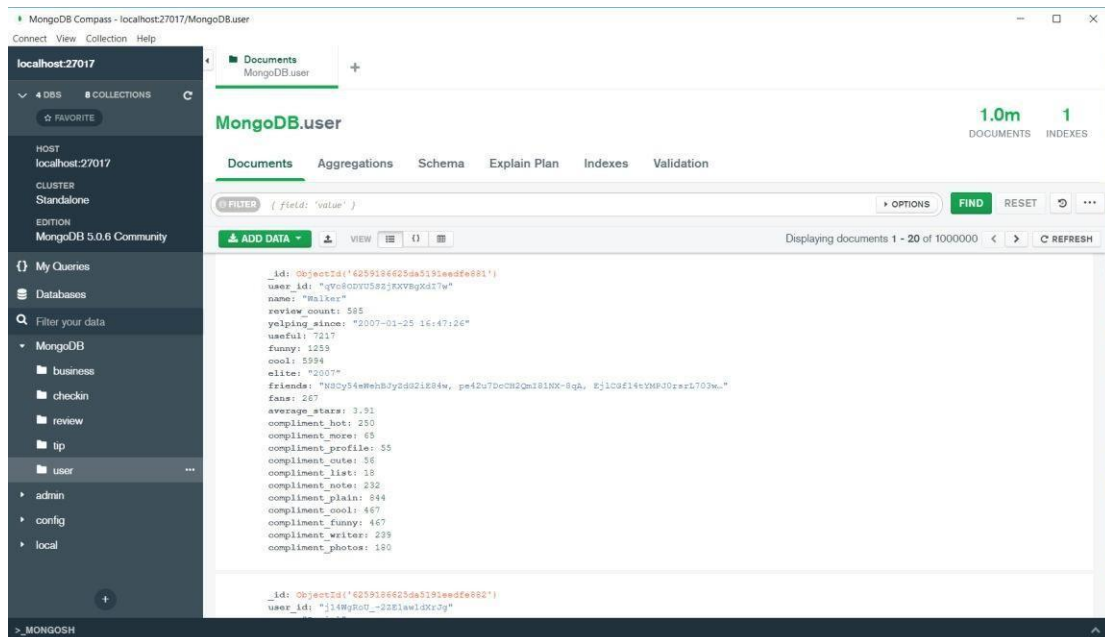
Στην παρακάτω εικόνα βλέπουμε τα δύο εικονίδια της MongoDB στην επιφάνεια εργασίας του υπολογιστή.



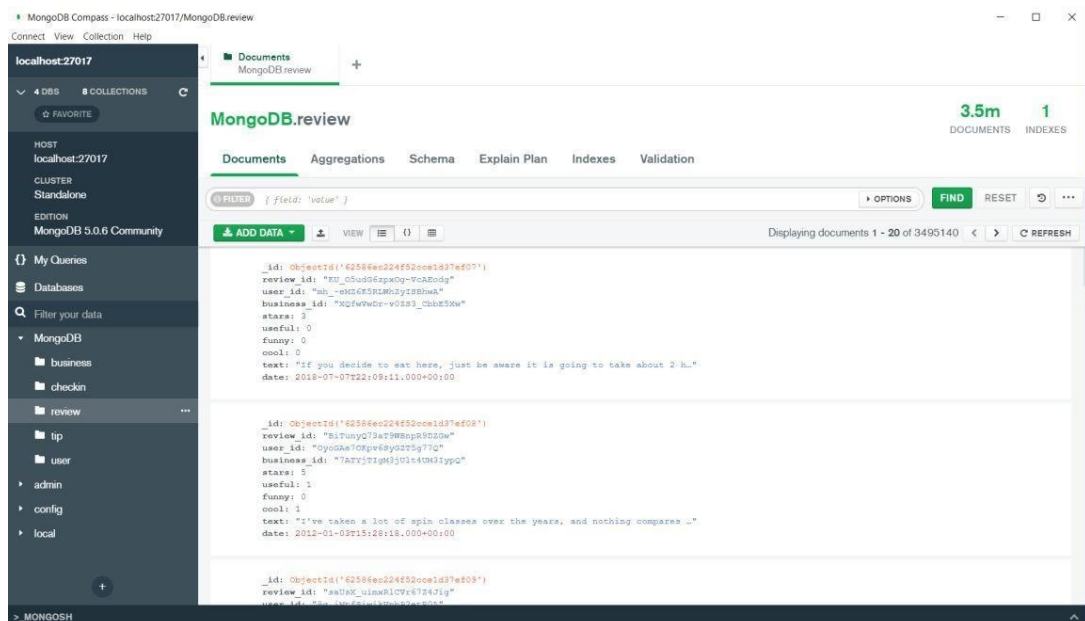
Στην παρακάτω εικόνα βλέπουμε την βάση δεδομένων με ονομασία MongoDB με τα 5 collections : user , review , business , checkin , tip.



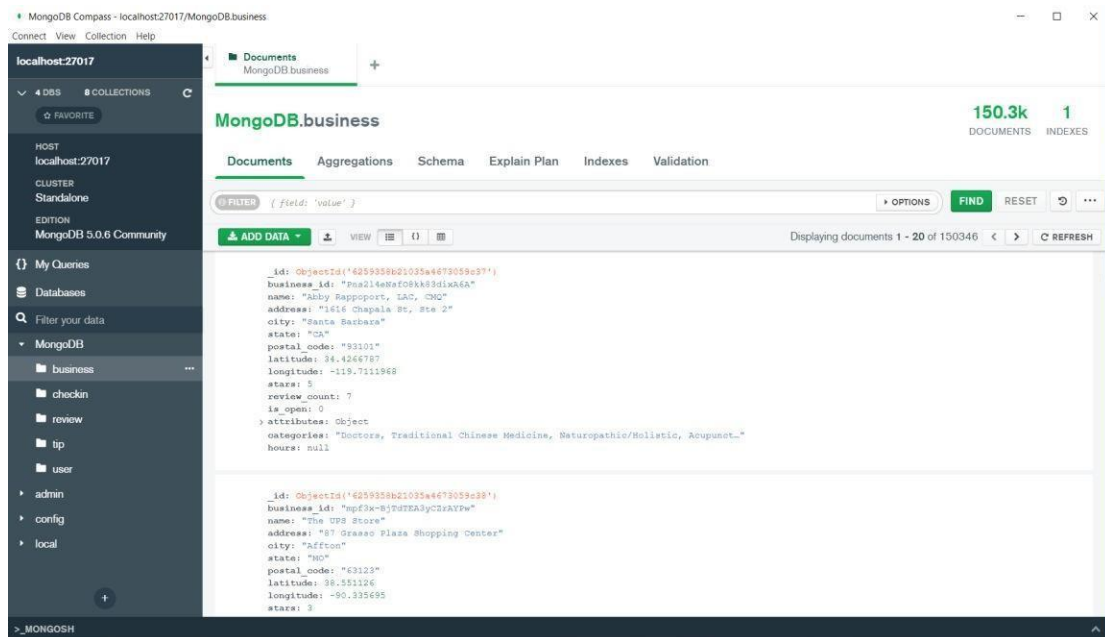
Στην παρακάτω εικόνα βλέπουμε τις εγγραφές του collection : user.



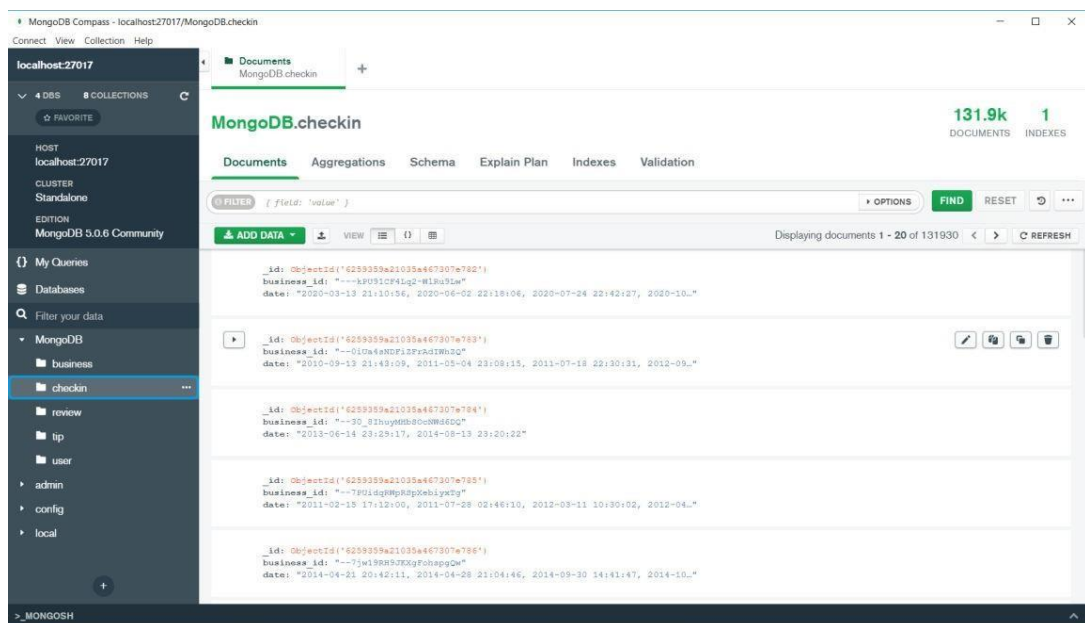
Στην παρακάτω εικόνα βλέπουμε τις εγγραφές του collection : review.



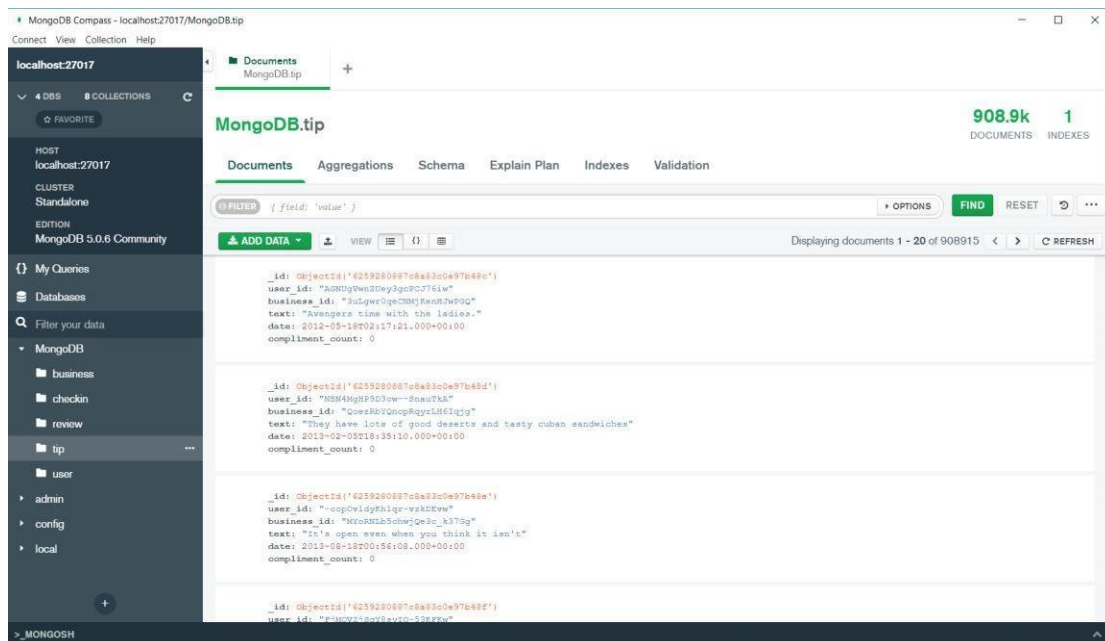
Στην παρακάτω εικόνα βλέπουμε τις εγγραφές του collection : business.



Στην παρακάτω εικόνα βλέπουμε τις εγγραφές του collection : checkin.



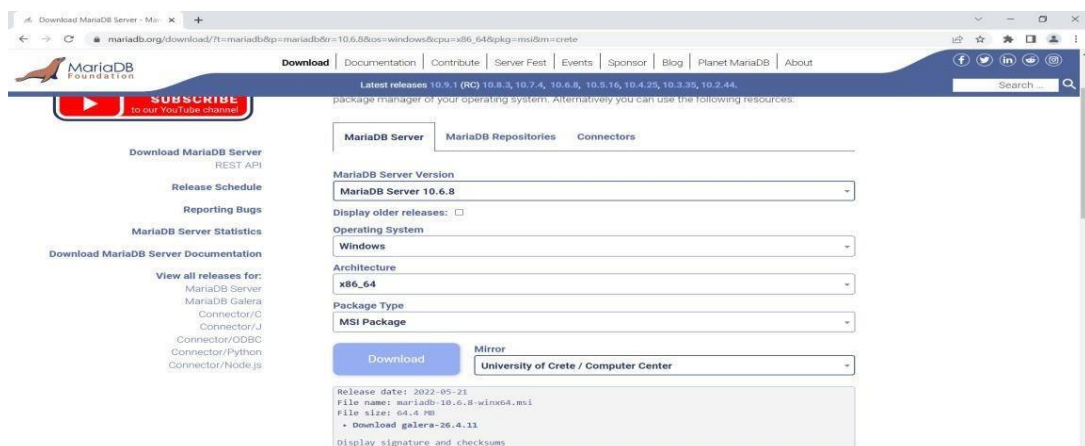
Στην παρακάτω εικόνα βλέπουμε τις εγγραφές του collection : tip.



2) Εγκατάσταση της MariaDB.

Παρακάτω έχω το λίνκ για να κατεβάσω το αρχείο εγκατάστασης της MariaDB και μία εικόνα στην οποία βλέπουμε την ιστοσελίδα που κατέβασα το αρχείο εγκατάστασης.

[https://mariadb.org/download/?t=mariadb&p=mariadb&r=10.6.8&os=windows
&cpu=x86_64&pkg=msi&m=crete](https://mariadb.org/download/?t=mariadb&p=mariadb&r=10.6.8&os=windows&cpu=x86_64&pkg=msi&m=crete)



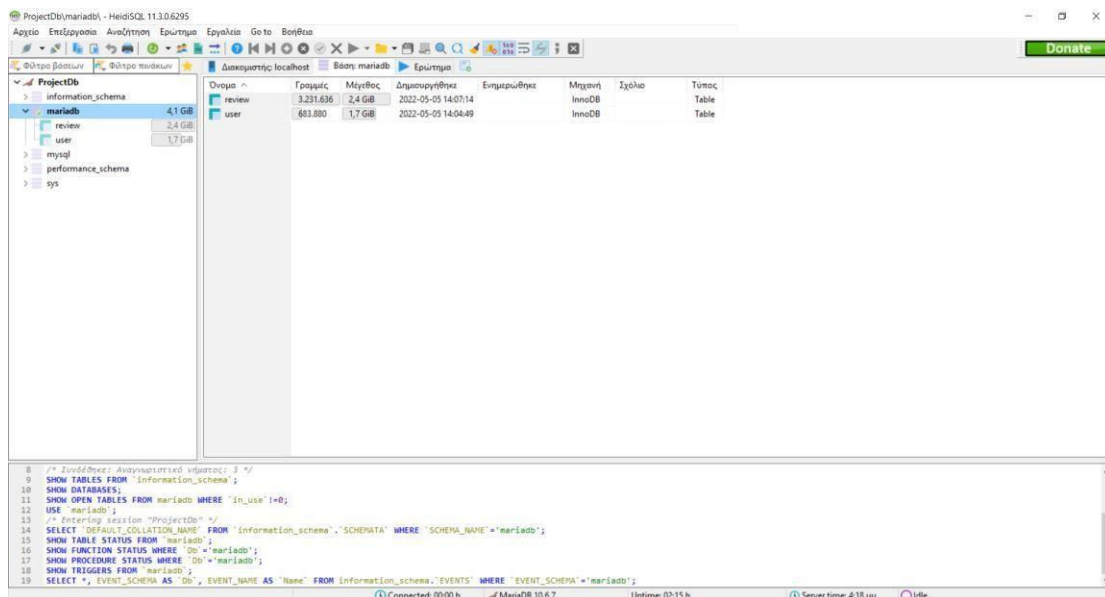
Στην παρακάτω εικόνα βλέπουμε το αρχείο που κατέβασα για να εγκαταστήσω την MariaDB.



Στην παρακάτω εικόνα βλέπουμε το εικονίδιο της MariaDB στην επιφάνεια εργασίας του υπολογιστή.



Στην παρακάτω εικόνα βλέπουμε την βάση δεδομένων με ονομασία MariaDB με τα 2 tables : user , review.



Στην παρακάτω εικόνα βλέπουμε το table : user.

ProjectDB/mariadb/user - HeidiSQL 11.3.0.6295

Αρχείο Επεξεργασία Αναζήτηση Ερωτήματα Εργαλεία Go to Βοήθεια

Φίλτρο βάσεων Φίλτρο πινάκων Διακομιστής localhost Βάση mariadb Πίνακας user Δεδομένα Ερωτήματα

ProjectDB

- information_schema 4.1 GB
- mariadb 2.4 GB
 - review 1.7 GB
 - user
- mysql
- performance_schema
- sys

Όνομα: user

Σχέση:

Στήλες: Προσθήκη Διόρθωση Up Down

#	Όνομα	Τύπος δεδομένων	Μήκος/Σύνολο...	Χωρίς...	Να υπε...	Με α...	Προεπιλογή	Σχέση	Collation	Εκφραση	Εκκωλύτητα
1	user_id	VARCHAR	50	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL		utf8mb4_general_ci		
2	name	VARCHAR	200	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL		utf8mb4_general_ci		
3	review_count	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
4	yelping_since	DATETIME		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
5	useful	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
6	funny	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
7	cool	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
8	elite	VARCHAR	200	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL		utf8mb4_general_ci		
9	friends	TEXT		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL		utf8mb4_general_ci		
10	fans	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
11	average_stars	FLOAT		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
12	compliment_hot	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
13	compliment_more	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
14	compliment_profile	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
15	compliment_cute	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
16	compliment_list	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
17	compliment_note	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
18	compliment_plain	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
19	compliment_cool	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
20	compliment_funny	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
21	compliment_writer	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
22	compliment_photos	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				

Βοήθεια Αποστολή Αναθώροισ

```

28 SELECT * FROM `mariadb`.`user` ORDER BY `compliment_note` ASC, `compliment_list` DESC, `compliment_cool` ASC, `user_id` DESC LIMIT 1000;
29 SHOW TABLE STATUS LIKE `user`;

```

Connected: 00:03 MariaDB 10.6.7 Uptime: 02:18 h Server time: 4:21 μμ Idle

Στην παρακάτω εικόνα βλέπουμε τις εγγραφές του table : user.

ProjectDB/mariadb/user - HeidiSQL 11.3.0.6295

Αρχείο Επεξεργασία Αναζήτηση Ερωτήματα Εργαλεία Go to Βοήθεια

Φίλτρο βάσεων Φίλτρο πινάκων Διακομιστής localhost Βάση mariadb Πίνακας user Δεδομένα Ερωτήματα

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Όνομα: user

Σχέση:

Στήλες: Προσθήκη Διόρθωση Up Down

#	Όνομα	Τύπος δεδομένων	Μήκος/Σύνολο...	Χωρίς...	Να υπε...	Με α...	Προεπιλογή	Σχέση	Collation	Εκφραση	Εκκωλύτητα
1	user_id	VARCHAR	50	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL		utf8mb4_general_ci		
2	name	VARCHAR	200	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL		utf8mb4_general_ci		
3	review_count	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
4	yelping_since	DATETIME		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
5	useful	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
6	funny	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
7	cool	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
8	elite	VARCHAR	200	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL		utf8mb4_general_ci		
9	friends	TEXT		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL		utf8mb4_general_ci		
10	fans	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
11	average_stars	FLOAT		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
12	compliment_hot	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
13	compliment_more	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
14	compliment_profile	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
15	compliment_cute	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
16	compliment_list	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
17	compliment_note	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
18	compliment_plain	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
19	compliment_cool	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
20	compliment_funny	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
21	compliment_writer	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				
22	compliment_photos	INT	11	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	NULL				

Βοήθεια Αποστολή Αναθώροισ

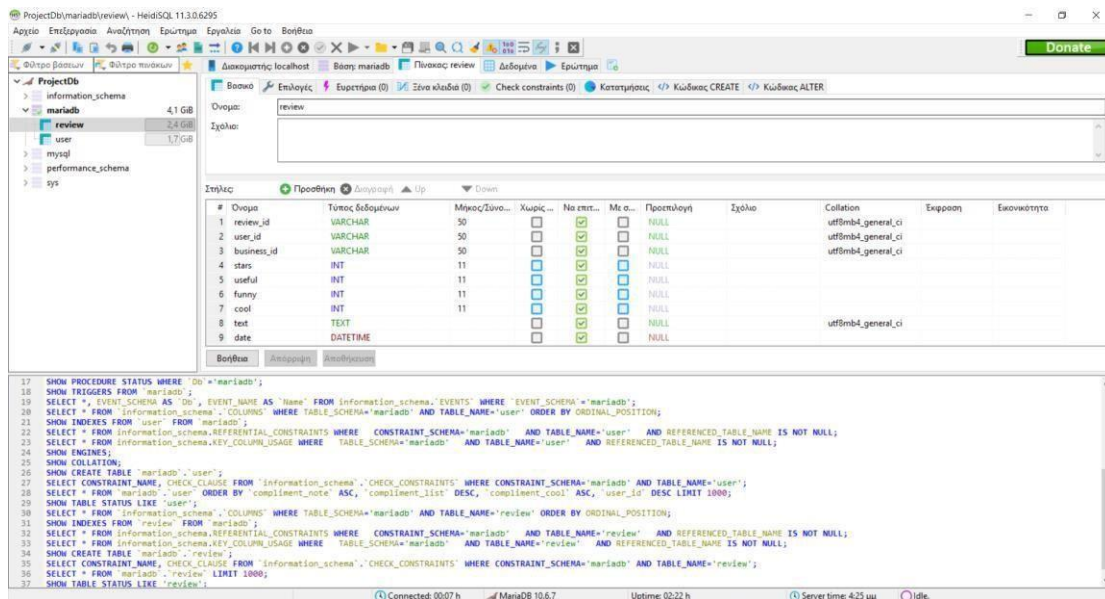
```

28 SELECT * FROM `mariadb`.`user` ORDER BY `compliment_note` ASC, `compliment_list` DESC, `compliment_cool` ASC, `user_id` DESC LIMIT 1000;
29 SHOW TABLE STATUS LIKE `user`;

```

Connected: 00:03 MariaDB 10.6.7 Uptime: 02:18 h Server time: 4:21 μμ Idle

Στην παρακάτω εικόνα βλέπουμε το table : review.



ProjectDB(mariaadb)review - HeidiSQL 11.3.0.6295

Database: mariaadb

Table: review

#	Όνομα	Τύπος δεδομένων	Μήκος/Ζώνη...	Χωρίς...	Να επι...	Με α...	Προεπιλογή	Σχόλιο	Collation	Εκπαίδευση	Εκκωδικοποίηση
1	review_id	VARCHAR	50						utf8mb4_general_ci		
2	user_id	VARCHAR	50						utf8mb4_general_ci		
3	business_id	VARCHAR	50						utf8mb4_general_ci		
4	stars	INT	11								
5	useful	INT	11								
6	funny	INT	11								
7	cool	INT	11								
8	text	TEXT							utf8mb4_general_ci		
9	date	DATETIME									

SHOW PROCEDURE STATUS WHERE 'Db'='mariaadb';

SHOW TRIGGERS FROM 'mariaadb';

SELECT * FROM 'information_schema'.'EVENTS' WHERE 'EVENT_SCHEMA'='mariaadb';

SELECT * FROM 'information_schema'.'COLUMNS' WHERE 'TABLE_SCHEMA'='mariaadb' AND 'TABLE_NAME'='user' ORDER BY 'ORDINAL_POSITION';

SHOW INDEXES FROM 'user' FROM 'mariaadb';

SELECT * FROM 'information_schema'.'REFERENTIAL_CONSTRAINTS' WHERE 'CONSTRAINT_SCHEMA'='mariaadb' AND 'TABLE_NAME'='user' AND 'REFERENCED_TABLE_NAME' IS NOT NULL;

SELECT * FROM 'information_schema'.'KEY_COLUMN_USAGE' WHERE 'TABLE_SCHEMA'='mariaadb' AND 'TABLE_NAME'='user' AND 'REFERENCED_TABLE_NAME' IS NOT NULL;

SHOW ENGINES;

SHOW COLLATION;

SHOW CREATE TABLE 'mariaadb'.'user';

SELECT CONSTRAINT_NAME, CHECK_CLAUSE FROM 'information_schema'.'CHECK_CONSTRAINTS' WHERE 'CONSTRAINT_SCHEMA'='mariaadb' AND 'TABLE_NAME'='user';

SELECT * FROM 'mariaadb'.'user' ORDER BY 'compliment_note' ASC, 'compliment_list' DESC, 'compliment_cool' ASC, 'user_id' DESC LIMIT 1000;

SHOW TABLE STATUS LIKE 'user';

SELECT * FROM 'information_schema'.'COLUMNS' WHERE 'TABLE_SCHEMA'='mariaadb' AND 'TABLE_NAME'='review' ORDER BY 'ORDINAL_POSITION';

SELECT * FROM 'information_schema'.'REFERENTIAL_CONSTRAINTS' WHERE 'CONSTRAINT_SCHEMA'='mariaadb' AND 'TABLE_NAME'='review' AND 'REFERENCED_TABLE_NAME' IS NOT NULL;

SELECT * FROM 'information_schema'.'KEY_COLUMN_USAGE' WHERE 'TABLE_SCHEMA'='mariaadb' AND 'TABLE_NAME'='review' AND 'REFERENCED_TABLE_NAME' IS NOT NULL;

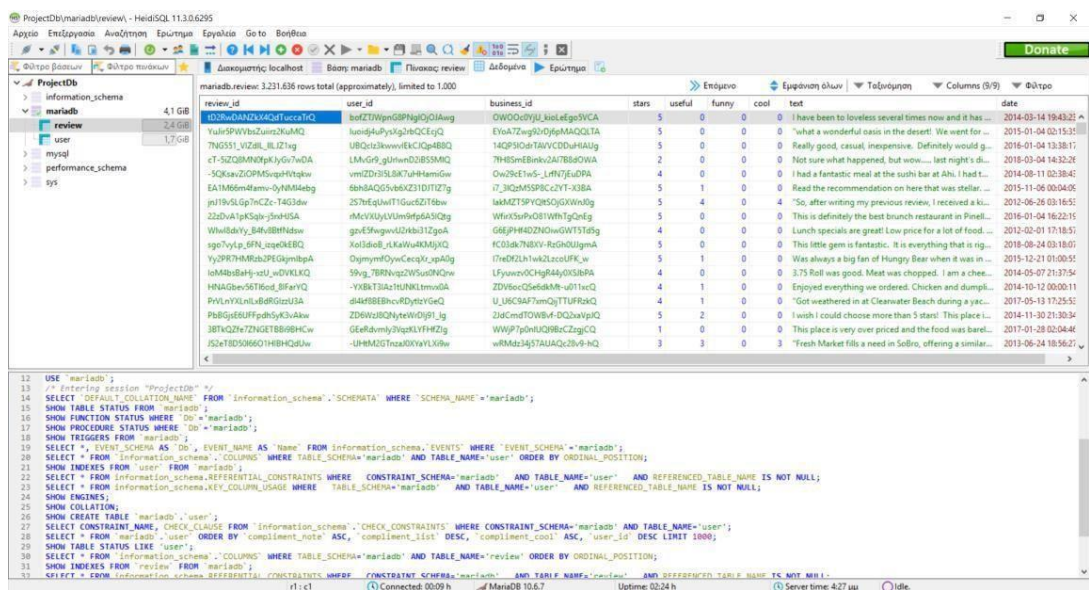
SHOW TABLE STATUS LIKE 'review';

SELECT CONSTRAINT_NAME, CHECK_CLAUSE FROM 'information_schema'.'CHECK_CONSTRAINTS' WHERE 'CONSTRAINT_SCHEMA'='mariaadb' AND 'TABLE_NAME'='review';

SELECT * FROM 'mariaadb'.'review' LIMIT 1000;

SHOW TABLE STATUS LIKE 'review';

Στην παρακάτω εικόνα βλέπουμε τις εγγραφές του table : review.



ProjectDB(mariaadb)review - HeidiSQL 11.3.0.6295

Database: mariaadb

Table: review

review_id	user_id	business_id	stars	useful	funny	cool	text	date
1020WdGAMZ4Gd7uccaTQC	bofZT7WpG8P9yQJ0IAuag	OW000v7JLXisLe9e9VCA	5	0	0	0	I have been to loveless several times now and it has ...	2014-03-14 19:43:22
YurSPWbZuuz2uKulMQ	kuq94uylg2n6CQeIQ	EY0aTZw9vZ0p9pMAQZLIA	5	0	0	0	What a wonderful oasis in the desert. We went for ...	2015-01-04 00:15:05
7WGS1I_VZSL_RLZ7ag	UBQz43wvWfECQp489Q	1aQ9H0vTAVCD0uMAuag	5	0	0	0	Really good, casual, inexpensive. Definitely would g...	2016-01-04 13:38:17
cT-5ZQZMMNp3yG7u0A	LMuGr9_gJWnD2B5SMQ	7H5DnE8viku2AT7B8uOWA	2	0	0	0	Not sure what happened, but wow... last night's di...	2018-03-04 16:33:29
-5C0kaZCOPM5vqHvltgw	vmtZDv3SL8K7uH4m4dw	OW29c1wS_-lH7JEU0PA	4	0	0	0	I had a fantastic meal at the sushi bar at Ahl. I had t...	2014-08-11 02:38:45
EA1M6m64m5v-0yN4M4ebg	4bh8AQ5v6k6XZ1DITZ7g	l7_3IQpMS9RCzYt-X3BA	5	1	0	0	Read the recommendation on here that was stellar. ...	2015-11-06 00:04:05
jai19v5Lp7nCZc-T4Q3dw	257h4qUwT1GucZ2T8bw	1aM2TSPY9QSGXWw0bQ	5	4	0	4	"So, after writing my previous review, I received a ki...	2012-06-26 03:16:51
22d0vA4p3q3v-3n4HSA	nMcVUyUvUm9h6p6A3Qbg	Wfn3Swv081WH7gQeJg	5	0	0	0	This is definitely the best brunch restaurant in Pinell...	2016-01-04 16:22:15
WvWldvdy_84v8BffHdbw	gnv4ShgmvU2k6v31ZgoA	G6EjPH4D2N0w0W1T5f8g	4	0	0	0	Lunch specials are great! Low price for a lot of food. ...	2012-02-01 17:18:51
sgo7vyp,6Fh_zqo4EBQ	Xo1d0b8_JkKw40M3yQ	IC03a87H8VY-Reg00uJgmA	5	0	0	0	This little gem is fantastic. It is everything that is rig...	2018-08-24 03:18:01
y9P7H8R0aSP02p9h8pA	Qymymf0yW4Cq3Lz-q4bQg	17u4DZL1u42Ecu0Pw_u	5	1	0	0	Was always a big fan of Hungry Bear when it was in...	2015-12-21 01:00:05
1aM4Bv8d4g-vU-uDVLKQ	59vg_7B7Bvq2v9v0u9Q2w	LFyuvw0C4H9A4y0X3kR4	4	0	0	0	3.75 Bull was good. Meat was chopped. I am a chee...	2014-05-07 21:37:54
HNAG3v6S7f6od_BFavVQ	-YX8AT3a21u1N0k1m0dA	ZDV5ocC26d6Mh-w011vcQ	4	1	0	0	Enjoyed everything we ordered. Chicken and dumpli...	2014-10-12 00:00:11
PVLYX1uL8d9G0zU3A	d4H4B8EBhvcRDyztvGeQ	U_0C9A77mQJ7TUF8vQ	4	1	0	0	"Got weathered in at Clearwater Beach during a yac...	2017-05-13 17:25:51
PR8d96Uffp8dy5K3u4kw	ZD6w8Q2HvW0y9tJg	ZiaCmndTOWBv-DQ2avpJQ	5	2	0	0	I wish I could choose more than 5 stars! This place i...	2014-11-30 21:30:34
3BTKvZ7N27GETB8B8Hcw	GE4dvmy2vgKLYFHZJg	WWP7p0uU0Q9B8CZzgCQ	1	0	0	0	This place is very over priced and the food was barel...	2017-01-28 02:04:46
J5a7ED50M601HBH02duw	-LPHAMZTca0VXvX3K9w	wRMAz345AUACq28v4-HQ	3	3	0	3	"Fresh Market fills a need in Sebring, offering a simil...	2013-06-24 18:56:27

USE 'mariaadb';

/* entering session 'ProjectDB' */

SELECT 'DEFAULT' COLLATION NAME FROM 'information_schema'.'SCHEMATA' WHERE 'SCHEMA_NAME'='mariaadb';

SHOW TABLE STATUS FROM 'mariaadb';

SHOW FUNCTION STATUS WHERE 'Db'='mariaadb';

SHOW PROCEDURE STATUS WHERE 'Db'='mariaadb';

SHOW TRIGGERS FROM 'mariaadb';

SELECT * FROM 'information_schema'.'EVENTS' WHERE 'EVENT_SCHEMA'='mariaadb';

SELECT * FROM 'information_schema'.'COLUMNS' WHERE 'TABLE_SCHEMA'='mariaadb' AND 'TABLE_NAME'='user' ORDER BY 'ORDINAL_POSITION';

SHOW INDEXES FROM 'user' FROM 'mariaadb';

SELECT * FROM 'information_schema'.'REFERENTIAL_CONSTRAINTS' WHERE 'CONSTRAINT_SCHEMA'='mariaadb' AND 'TABLE_NAME'='user' AND 'REFERENCED_TABLE_NAME' IS NOT NULL;

SELECT * FROM 'information_schema'.'KEY_COLUMN_USAGE' WHERE 'TABLE_SCHEMA'='mariaadb' AND 'TABLE_NAME'='user' AND 'REFERENCED_TABLE_NAME' IS NOT NULL;

SHOW ENGINES;

SHOW COLLATION;

SHOW CREATE TABLE 'mariaadb'.'user';

SELECT CONSTRAINT_NAME, CHECK_CLAUSE FROM 'information_schema'.'CHECK_CONSTRAINTS' WHERE 'CONSTRAINT_SCHEMA'='mariaadb' AND 'TABLE_NAME'='user';

SELECT * FROM 'mariaadb'.'user' ORDER BY 'compliment_note' ASC, 'compliment_list' DESC, 'compliment_cool' ASC, 'user_id' DESC LIMIT 1000;

SHOW TABLE STATUS LIKE 'user';

SELECT * FROM 'information_schema'.'COLUMNS' WHERE 'TABLE_SCHEMA'='mariaadb' AND 'TABLE_NAME'='review' ORDER BY 'ORDINAL_POSITION';

SHOW INDEXES FROM 'review' FROM 'mariaadb';

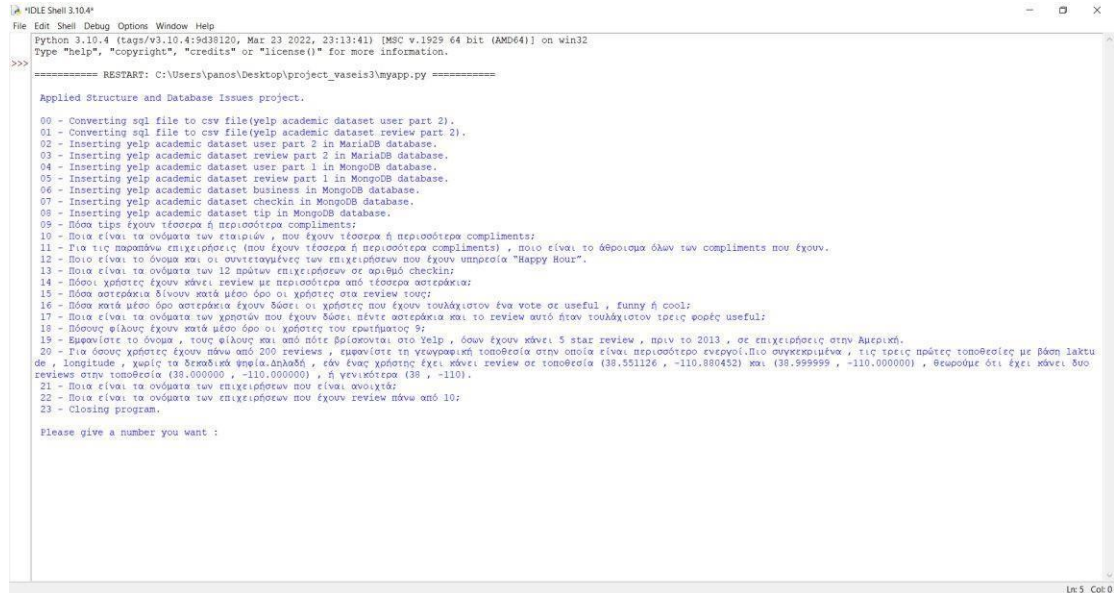
SELECT * FROM 'information_schema'.'REFERENTIAL_CONSTRAINTS' WHERE 'CONSTRAINT_SCHEMA'='mariaadb' AND 'TABLE_NAME'='review' AND 'REFERENCED_TABLE_NAME' IS NOT NULL;

r1:c1

Connected: 00:09 h MariaDB 10.6.7 Uptime: 02:24 h Server time: 4:27 μμ Idle.

3) Ερωτήματα και απαντήσεις.

Την εργασία την υλοποίησα σε γλώσσα προγραμματισμού python και για ευκολία έφτιαξα ένα μενού για να τρέξω τα 14 ερωτήματα όπως βλέπουμε στην παρακάτω εικόνα(09-22 κουμπιά).



```
Python 3.10.4 (tags/v3.10.4:9d38120, Mar 23 2022, 23:13:41) [MSC v.1929 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
===== RESTART: C:\Users\panos\Desktop\project_vaseis3\myapp.py =====
Applied Structure and Database Issues project.

00 - Converting sql file to csv file(yelp academic dataset user part 2).
01 - Converting sql file to csv file(yelp academic dataset review part 2).
02 - Inserting yelp academic dataset user part 2 in MariaDB database.
03 - Inserting yelp academic dataset review part 2 in MariaDB database.
04 - Inserting yelp academic dataset user part 1 in MongoDB database.
05 - Inserting yelp academic dataset review part 1 in MongoDB database.
06 - Inserting yelp academic dataset business in MongoDB database.
07 - Inserting yelp academic dataset checkin in MongoDB database.
08 - Inserting yelp academic dataset tip in MongoDB database.
09 - Πόσα tips έχουν τέσσερα ή περισσότερα compliments;
10 - Ποια είναι τα ονόματα των εταιριών, που έχουν τέσσερα ή περισσότερα compliments;
11 - Για τις παραπάνω επιχειρήσεις (που έχουν τέσσερα ή περισσότερα compliments), ποιο είναι το άρροισμα όλων των compliments που έχουν.
12 - Ποιο είναι το όνομα και οι συντεταγμένες των επιχειρήσεων που έχουν μπροστά "Happy Hour".
13 - Ποια είναι τα ονόματα των 12 πρώτων επιχειρήσεων σε αριθμό checking;
14 - Πόσοι χρήστες έχουν κάνει review με περισσότερα από τέσσερα αστέρια;
15 - Πόσα αστέρια δίνουν κατά μέσο όρο οι χρήστες στα review τους;
16 - Πόσα κατά μέσο όρο αστέρια έχουν δώσει οι χρήστες που έχουν τουλάχιστον ένα vote σε useful, funny ή cool;
17 - Ποια είναι τα ονόματα των χρηστών που έχουν δώσει πέντε αστέρια και το review αυτό ήταν τουλάχιστον τρεις φορές useful;
18 - Πόσους φίλους έχουν κατά μέσο όρο οι χρήστες του τριμήνου 9;
19 - Εμφανίστε το όνομα, τους φίλους και από πότε βρίσκονται στο Yelp, όσων έχουν κάνει 5 star review, πριν το 2013, σε επιχειρήσεις στην Αμερική.
20 - Για όσους χρήστες έχουν πάνω από 200 reviews, εμφανίστε τη γεωγραφική τοποθεσία στην οποία είναι περισσότερο ενεργοί.Πιο συγκεκριμένα, τις τρεις πρώτες τοποθεσίες με βάση latitude, longitude, χωρίς το δεκαδικό ψηφίο.Απλά, εάν ένας χρήστης έχει κάνει review σε τοποθεσία (38.551126, -110.880452) και (38.999999, -110.000000), θεωρούμε ότι έχει κάνει δυο reviews στην τοποθεσία (38.000000, -110.000000), ή γενικότερα (38, -110).
21 - Ποια είναι τα ονόματα των επιχειρήσεων που είναι ανοιχτά;
22 - Ποια είναι τα ονόματα των επιχειρήσεων που έχουν review πάνω από 10;
23 - Closing program.

Please give a number you want :
```

Σημαντικό : Για να τρέξω όλα τα ερωτήματα και να βγάλω εικόνες σε κάποια ερωτήματα έχω χρησιμοποιήσει limit 10 γιατί κάποια ερωτήματα είναι τεράστια.

1. Πόσα tips έχουν τέσσερα ή περισσότερα compliments;

Please give a number you want : 9

Connected to MongoDB database!

The documents of tip is : 19

The time running of search is : 0:00:00.754005

2. Ποια είναι τα ονόματα των εταιριών, που έχουν τέσσερα ή περισσότερα compliments;

```
Please give a number you want : 10
Connected to MongoDB database!
The company of business is : {'name': 'AMC Sundial 12'}
The company of business is : {'name': 'The Loving Cup'}
The company of business is : {'name': 'Country Squire Diner'}
The company of business is : {'name': 'Holman INFINITI'}
The company of business is : {'name': 'Hattie's Cafe and Beanery'}
The company of business is : {'name': 'Hendricks BBQ'}
The company of business is : {'name': 'Lure Fish House'}
The company of business is : {'name': 'Chakana Soho'}
The company of business is : {'name': 'Walmart'}
The company of business is : {'name': 'St. Joseph's Women's Hospital'}
The company of business is : {'name': 'Empress Hotel'}
The company of business is : {'name': 'The Ritz-Carlton, New Orleans'}
The company of business is : {'name': 'Michelle Faedo's Tampeño Cuisine'}
The company of business is : {'name': 'Doc B's Restaurant + Bar'}
The company of business is : {'name': 'Bern's Steak House'}
The company of business is : {'name': 'Publix'}
The company of business is : {'name': 'Gratzzi Italian Grille'}
The company of business is : {'name': 'Regal Cinebarre Canal Place'}
The company of business is : {'name': 'First Choice Southern Bar-B Que'}
The time running of search is : 0:00:03.499863
```

3. Για τις παραπάνω επιχειρήσεις (που έχουν τέσσερα ή περισσότερα compliments), ποιο είναι το άθροισμα όλων των compliments που έχουν.

```
Please give a number you want : 11
Connected to MongoDB database!
The total compliments of tip is : {'_id': 'null', 'compliment_count': 83}
The total compliments of tip is : 83
The time running of search is : 0:00:00.786270
```

4. Ποιο είναι το όνομα και οι συντεταγμένες των επιχειρήσεων που έχουν υπηρεσία “Happy Hour”.

```
"IDLE Shell 3.10.4"
File Edit Shell Debug Options Window Help
Please give a number you want : 12

Connected to MongoDB database!

The company of business is : {'name': 'Tuna Bar', 'latitude': 39.953949, 'longitude': -75.1432262}
The company of business is : {'name': 'Romano's Macaroni Grill', 'latitude': 39.4761165, 'longitude': -119.7893392}
The company of business is : {'name': 'The Green Pheasant', 'latitude': 36.1598958, 'longitude': -86.7731974}
The company of business is : {'name': 'Bar One', 'latitude': 39.8398245705, 'longitude': -75.1574465632}
The company of business is : {'name': 'Craft Hall', 'latitude': 39.9625821, 'longitude': -75.1356571}
The company of business is : {'name': 'Cheeseburger In Paradise', 'latitude': 40.029962, 'longitude': -75.630607}
The company of business is : {'name': 'Tony's Restaurant & 3rd Street Cafe', 'latitude': 38.896563, 'longitude': -90.1862032987}
The company of business is : {'name': 'Caviar & Bananas', 'latitude': 36.1483712, 'longitude': -86.7988947}
The company of business is : {'name': 'Twin Peaks', 'latitude': 39.9062952, 'longitude': -86.0474634}
The company of business is : {'name': 'Doc Magroan's Oyster House - West Chester', 'latitude': 39.9615417, 'longitude': -75.6036042}
The company of business is : {'name': '39 North Taproom & Grill', 'latitude': 39.9036968861, 'longitude': -75.2949812448}
The company of business is : {'name': 'Top Shelf Sports Lounge', 'latitude': 28.1962523878, 'longitude': -82.3806153496}
The company of business is : {'name': 'Copper Wine', 'latitude': 29.9506467229, 'longitude': -90.0744274301}
The company of business is : {'name': 'Ricardo's Italian Cafe', 'latitude': 36.6172724, 'longitude': -90.2127841}
The company of business is : {'name': 'Mahony's Po-Boys & Seafood', 'latitude': 29.9554151, 'longitude': -90.0700619}
The company of business is : {'name': 'Sunset 44 Bistro', 'latitude': 38.5832229, 'longitude': -90.4071872}
The company of business is : {'name': 'Altamura', 'latitude': 29.933877563, 'longitude': -90.079498291}
The company of business is : {'name': 'Home Plate Sports Pub', 'latitude': 32.206315, 'longitude': -110.887843}
The company of business is : {'name': 'Cerveza Jack's', 'latitude': 36.162799, 'longitude': -86.776016}
The company of business is : {'name': 'Gaylord Opryland Resort & Convention Center', 'latitude': 36.2115923083, 'longitude': -86.6943191727}
The company of business is : {'name': 'The Handlebar Boise', 'latitude': 43.62001, 'longitude': -116.21279}
The company of business is : {'name': 'The Mad Griddle', 'latitude': 39.781126, 'longitude': -86.1241235}
```

```
"IDLE Shell 3.10.4"
File Edit Shell Debug Options Window Help

The company of business is : {'name': 'Green Eggs Cafe', 'latitude': 39.95224, 'longitude': -75.169541}
The company of business is : {'name': 'Capital Tacos', 'latitude': 28.1866293218, 'longitude': -82.3661844841}
The company of business is : {'name': 'Cask Social Kitchen', 'latitude': 27.9426685, 'longitude': -82.4827162}
The company of business is : {'name': 'The Garage On Central', 'latitude': 27.771231561, 'longitude': -82.6706063747}
The company of business is : {'name': 'Great Basin Brewing', 'latitude': 39.5350952044, 'longitude': -119.7541334637}
The company of business is : {'name': 'Sports Legends Bar & Grill', 'latitude': 27.967356, 'longitude': -82.7311224}
The company of business is : {'name': 'Oat Bakery', 'latitude': 34.4165478074, 'longitude': -119.6956258296}
The company of business is : {'name': 'Angell's Bar & Grill', 'latitude': 43.6163619, 'longitude': -116.2055328}
The company of business is : {'name': 'Rudy's Sports Bar', 'latitude': 27.8741223, 'longitude': -82.73051}
The company of business is : {'name': 'The Station Pub & Grill', 'latitude': 32.3562660217, 'longitude': -111.1123504639}
The company of business is : {'name': 'Crave Cafe', 'latitude': 39.4958107, 'longitude': -119.7988388}
The company of business is : {'name': 'John Rich's Redneck Riviera', 'latitude': 36.1617232219, 'longitude': -86.7757476}
The company of business is : {'name': 'Sen Bistro Grill + Sushi', 'latitude': 27.9640468, 'longitude': -82.5216049}
The company of business is : {'name': 'Smokey Bones', 'latitude': 39.626847, 'longitude': -86.121427}
The company of business is : {'name': 'AAA Chinese Restaurant & Lounge', 'latitude': 53.5883458, 'longitude': -113.5649096}
The company of business is : {'name': 'El Cap Restaurant', 'latitude': 27.8041396, 'longitude': -82.6388547}
The company of business is : {'name': 'Café Ventana', 'latitude': 38.6380297, 'longitude': -90.2421335}
The company of business is : {'name': 'Connexions Cafe', 'latitude': 53.6005726434, 'longitude': -113.5402728691}
The company of business is : {'name': 'Plantation Pub', 'latitude': 36.070748, 'longitude': -86.947891}
The company of business is : {'name': 'HighWire Lounge', 'latitude': 32.2218278, 'longitude': -110.9679691}
The company of business is : {'name': 'Pizza Guru', 'latitude': 34.4406893, 'longitude': -119.7396807}
The company of business is : {'name': 'Crescent No Lawyers Bar-Grill', 'latitude': 43.6033677673, 'longitude': -116.2500630319}
The company of business is : {'name': 'The Melting Pot - Nashville', 'latitude': 36.1638754, 'longitude': -86.776311}

The time running of search is : 0:04:09.980949
```

5. Ποια είναι τα ονόματα των 12 πρώτων επιχειρήσεων σε αριθμό checkin;

Please give a number you want : 13

Connected to MongoDB database!

The name of business is : {'name': 'Frankie's Raw Bar'}

The name of business is : {'name': 'Pupuseria Y Restaurant Melba'}

The name of business is : {'name': 'Action Karate'}

The name of business is : {'name': 'Humpty's Family Restaurant'}

The name of business is : {'name': 'McIlwain Family Dentistry & Ahrens Orthodontics'}

The name of business is : {'name': 'The Original Italian Pie'}

The name of business is : {'name': 'Will You Escape?'}

The name of business is : {'name': 'Traveling Corks'}

The name of business is : {'name': 'Blue River Canyon Day Spa & Store'}

The name of business is : {'name': 'Victory Car Wash'}

The name of business is : {'name': 'Studio G Salon'}

The name of business is : {'name': 'Sweet Lizard'}

The time running of search is : 0:00:01.912935

6. Πόσοι χρήστες έχουν κάνει review με περισσότερα από τέσσερα αστεράκια;

Please give a number you want : 14

Connected to MongoDB database!

Connected to MariaDB database!

The users of review is : 3231627

The time running of search is : 0:00:29.900588

7. Πόσα αστεράκια δίνουν κατά μέσο όρο οι χρήστες στα review τους;

```
Please give a number you want : 15

Connected to MongoDB database!

Connected to MariaDB database!

The total average stars of review is : 37452854535192046

The time running of search is : 0:00:38.869914
```

8. Πόσα κατά μέσο όρο αστεράκια έχουν δώσει οι χρήστες που έχουν τουλάχιστον ένα vote σε useful, funny ή cool;

```
Please give a number you want : 16

Connected to MongoDB database!

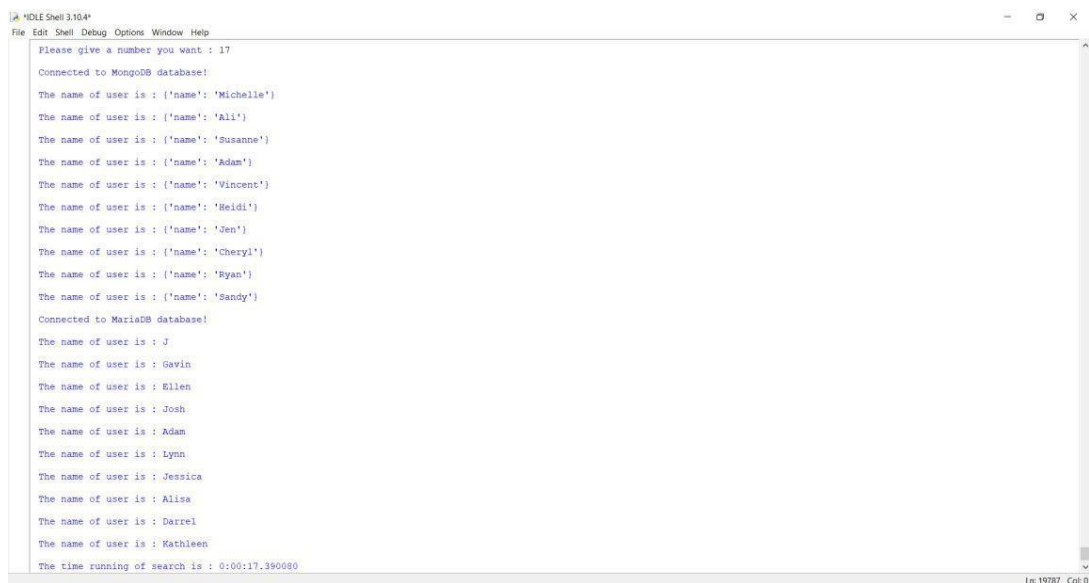
Connected to MariaDB database!

The total average stars of user is : 2.473153411506587e+16

The time running of search is : 0:00:13.604144
```

9. Ποια είναι τα ονόματα των χρηστών που έχουν δώσει πέντε αστεράκια και το review αυτό ήταν τουλάχιστον τρεις φορές useful;

Χρησιμοποίησα limit 10.



```
IDLE Shell 3.10.4
File Edit Shell Debug Options Window Help

Please give a number you want : 17

Connected to MongoDB database!
The name of user is : {'name': 'Michelle'}
The name of user is : {'name': 'Ali'}
The name of user is : {'name': 'Susanne'}
The name of user is : {'name': 'Adam'}
The name of user is : {'name': 'Vincent'}
The name of user is : {'name': 'Heidi'}
The name of user is : {'name': 'Jen'}
The name of user is : {'name': 'Cheryl'}
The name of user is : {'name': 'Ryan'}
The name of user is : {'name': 'Sandy'}
Connected to MariaDB database!
The name of user is : J
The name of user is : Gavin
The name of user is : Ellen
The name of user is : Josh
The name of user is : Adam
The name of user is : Lynn
The name of user is : Jessica
The name of user is : Alisa
The name of user is : Darrel
The name of user is : Kathleen
The time running of search is : 0:00:17.390080

Ln: 19787 Col: 0
```


Connected to MongoDB database

File path: C:\Users\user\Documents\5 - 1 - 2019 - 0 - 00 - 01 - 045065

12. Για όσους χρήστες έχουν πάνω από 200 reviews, εμφανίστε τη γεωγραφική τοποθεσία στην οποία είναι περισσότερο ενεργοί. Πιο συγκεκριμένα, τις τρεις πρώτες τοποθεσίες με βάση latitude, longitude, χωρίς τα δεκαδικά ψηφία. Δηλαδή, εάν ένας χρήστης έχει κάνει review σε τοποθεσία (38.551126, -110.880452) και (38.999999, -110.000000), θεωρούμε ότι έχει κάνει δυο reviews στην τοποθεσία (38.000000, -110.000000), ή γενικότερα (38, -110).

Χρησιμοποίησα limit 10.

```
Please give a number you want : 20
Connected to MongoDB database!

The id of user is : {'user_id': 'qVc8ODU5SEjKXVBgXd17w'}
The geographical location in which they are most active is : {'address': '3765 Santa Claus Ln', 'city': 'Carpinteria', 'state': 'CA', 'postal_code': '93013', 'latitude': 34.0, 'longitude': -120.0}
The geographical location in which they are most active is : {'address': '2955 Market St', 'city': 'Philadelphia', 'state': 'PA', 'postal_code': '19104', 'latitude': 40.0, 'longitude': -75.0}
The geographical location in which they are most active is : {'address': '2201 Laguna St', 'city': 'Santa Barbara', 'state': 'CA', 'postal_code': '93105', 'latitude': 34.0, 'longitude': -120.0}
The id of user is : {'user_id': 'j14WgRoJ_-2SElavidKzJg'}
The geographical location in which they are most active is : {'address': '542 Frenchmen St', 'city': 'New Orleans', 'state': 'LA', 'postal_code': '70116', 'latitude': 30.0, 'longitude': -90.0}
The geographical location in which they are most active is : {'address': '809 Ewing Ave', 'city': 'Nashville', 'state': 'TN', 'postal_code': '37203', 'latitude': 36.0, 'longitude': -87.0}
The geographical location in which they are most active is : {'address': '200 N 19th St', 'city': 'Philadelphia', 'state': 'PA', 'postal_code': '19102', 'latitude': 40.0, 'longitude': -75.0}
The id of user is : {'user_id': '2WnXYQFK0hXEO7zFtV2rvy'}
The geographical location in which they are most active is : {'address': '953 W 5th St', 'city': 'Reno', 'state': 'NV', 'postal_code': '89503', 'latitude': 40.0, 'longitude': -120.0}
The geographical location in which they are most active is : {'address': '953 W 5th St', 'city': 'Reno', 'state': 'NV', 'postal_code': '89503', 'latitude': 40.0, 'longitude': -120.0}
The geographical location in which they are most active is : {'address': '3800 S Virginia St', 'city': 'Reno', 'state': 'NV', 'postal_code': '89502', 'latitude': 39.0, 'longitude': -120.0}
The id of user is : {'user_id': 'SZDeASXq7o05mNMLshsdIA'}
The geographical location in which they are most active is : {'address': '812 Royal St', 'city': 'New Orleans', 'state': 'LA', 'postal_code': '70116', 'latitude': 30.0, 'longitude': -90.0}
The geographical location in which they are most active is : {'address': '542 Frenchmen St', 'city': 'New Orleans', 'state': 'LA', 'postal_code': '70116', 'latitude': 30.0, 'longitude': -90.0}
The geographical location in which they are most active is : {'address': '3112 Magazine St', 'city': 'New Orleans', 'state': 'LA', 'postal_code': '70115', 'latitude': 30.0, 'longitude': -90.0}
```

```
Idle Shell 3.10.4
File Edit Shell Debug Options Window Help

The id of user is : {'user_id': 'FT9CF839sjZxVJCTrDhmdg'}
The geographical location in which they are most active is : {'address': '2909 22nd Ave N', 'city': 'Saint Petersburg', 'state': 'FL', 'postal_code': '33713', 'latitude': 28.0, 'longitude': -83.0}
The geographical location in which they are most active is : {'address': '2613 Laurel St', 'city': 'New Orleans', 'state': 'LA', 'postal_code': '70130', 'latitude': 30.0, 'longitude': -90.0}
The geographical location in which they are most active is : {'address': '45 French Market Pl', 'city': 'New Orleans', 'state': 'LA', 'postal_code': '70116', 'latitude': 30.0, 'longitude': -90.0}
Connected to MariaDB database!
The geographical location in which they are most active is : {'address': '1005 Canal St', 'city': 'New Orleans', 'state': 'LA', 'postal_code': '70112', 'latitude': 30.0, 'longitude': -90.0}
The geographical location in which they are most active is : {'address': '601 American Legion Drive', 'city': 'Madeira Beach', 'state': 'FL', 'postal_code': '33708', 'latitude': 28.0, 'longitude': -83.0}
The geographical location in which they are most active is : {'address': '123 Baronne St', 'city': 'New Orleans', 'state': 'LA', 'postal_code': '70112', 'latitude': 30.0, 'longitude': -90.0}
The geographical location in which they are most active is : {'address': '1800 E Speedway Blvd', 'city': 'Tucson', 'state': 'AZ', 'postal_code': '85719', 'latitude': 32.0, 'longitude': -111.0}
The geographical location in which they are most active is : {'address': '15 W Ortega St', 'city': 'Santa Barbara', 'state': 'CA', 'postal_code': '93101', 'latitude': 34.0, 'longitude': -120.0}
The geographical location in which they are most active is : {'address': '905 State St', 'city': 'Santa Barbara', 'state': 'CA', 'postal_code': '93101', 'latitude': 34.0, 'longitude': -120.0}
The geographical location in which they are most active is : {'address': '117 Harbor Way', 'city': 'Santa Barbara', 'state': 'CA', 'postal_code': '93109', 'latitude': 34.0, 'longitude': -120.0}
The geographical location in which they are most active is : {'address': '905 State St', 'city': 'Santa Barbara', 'state': 'CA', 'postal_code': '93101', 'latitude': 34.0, 'longitude': -120.0}
The geographical location in which they are most active is : {'address': '22222 Mt Rose Hwy', 'city': 'Reno', 'state': 'NV', 'postal_code': '89511', 'latitude': 39.0, 'longitude': -120.0}
The geographical location in which they are most active is : {'address': '216 E Yanonali St', 'city': 'Santa Barbara', 'state': 'CA', 'postal_code': '93101', 'latitude': 34.0, 'longitude': -120.0}
The time running of search is : 0:00:38.179366
```

13. 2 επιπλέον ερωτήματα που εσείς θα προτείνετε και περιγραφή τους.

Χρησιμοποίησα limit 10.

21 - Ποια είναι τα ονόματα των επιχειρήσεων που είναι ανοιχτά;

```
Please give a number you want : 21
Connected to MongoDB database!
The company of business is : {'name': 'The UPS Store'}
The company of business is : {'name': 'St Honore Pastries'}
The company of business is : {'name': 'Perkiomen Valley Brewery'}
The company of business is : {'name': 'Sonic Drive-In'}
The company of business is : {'name': 'Famous Footwear'}
The company of business is : {'name': 'Temple Beth-El'}
The company of business is : {'name': 'Sonic Drive-In'}
The company of business is : {'name': 'Marshalls'}
The company of business is : {'name': 'Vietnamese Food Truck'}
The company of business is : {'name': 'Denny's'}
The time running of search is : 0:00:00.385967
```

22 - Ποια είναι τα ονόματα των επιχειρήσεων που έχουν review πάνω από 10;

Χρησιμοποίησα limit 10.

```
Please give a number you want : 22
Connected to MongoDB database!
The company of business is : {'name': 'The UPS Store'}
The company of business is : {'name': 'Target'}
The company of business is : {'name': 'St Honore Pastries'}
The company of business is : {'name': 'Perkiomen Valley Brewery'}
The company of business is : {'name': 'Famous Footwear'}
The company of business is : {'name': "Tsevi's Pub And Grill"}
The company of business is : {'name': "Denny's"}
The company of business is : {'name': "Zio's Italian Market"}
The company of business is : {'name': 'Tuna Bar'}
The company of business is : {'name': 'Nifty Car Rental'}
The time running of search is : 0:00:00.411939
```

Τέλος.