

## Συστήματα Διαχείρισης και Ανάλυσης Δεδομένων Διδάσκων: Ιωάννης Κωτίδης

Εαρινό εξάμηνο 2023-2024

### Δεύτερη Εργασία

Ανάθεση: 24-05-2024

Παράδοση: 02-06-2024 Ώρα (23:55)

#### Οδηγίες

- Η εργασία είναι ατομική και υποχρεωτική.
- Η υποβολή της εργασίας πρέπει να γίνει στο *eClass*.
- Το παραδοτέο σας θα πρέπει να είναι ένα αρχείο PDF με όνομα *AM.pdf* (όπου *AM* είναι ο αριθμός μητρώου σας. π.χ. "3210001.pdf").
- Πιθανή αντιγραφή θα τιμωρείται με μηδενισμό όλων των εμπλεκομένων.

#### Λύση πρώτου ζητήματος

```
/* Load Data */
```

```
create table inspections_data  
(rid int,  
 lat float,  
 lon float,  
 insdate date,  
 insyear int,  
 insmonth int,  
 insday int,  
 insweekday int,  
 inscode int,  
 instype nvarchar(100),  
 criticalIssue int,  
 nonCriticalIssue int,  
 vcode int,  
 vdescription nvarchar(255),  
 vcategory nvarchar(255)  
);
```

```
BULK INSERT inspections_data  
FROM 'C:\MY_DATA\inspections_data.txt'  
WITH (DATAFILETYPE = 'widechar', FIRSTROW =2, FIELDTERMINATOR= '|',  
ROWTERMINATOR = '\n');
```

```
/* Create Star Schema */
```

```
create table restaurants  
(rid int primary key,  
 lat float,  
 lon float,  
 );
```

```
insert into restaurants select distinct rid, lat, lon from inspections_data
```

```

create table inspection_types
(inscore int primary key,
 instype nvarchar(100)
);

insert into inspection_types select distinct inscode, instype from
inspections_data

create table violations
(vcode int primary key,
 vdescription nvarchar(255),
 vcategory nvarchar(255)
);

insert into violations select distinct vcode, vdescription,vcategory from
inspections_data

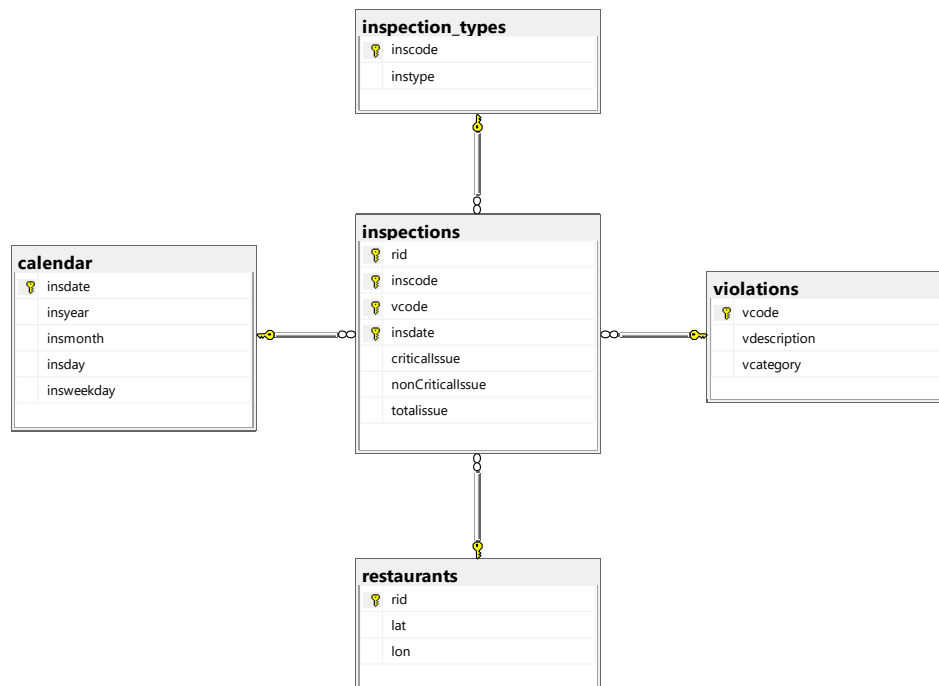
create table calendar
(insdate date primary key,
 insyear int,
 insmonth int,
 insday int,
 insweekday int
);

insert into calendar select distinct insdate, insyear, insmonth, insday,
insweekday from inspections_data

create table inspections
(rid int foreign key references restaurants (rid),
 inscode int foreign key references inspection_types(inscode),
 vcode int foreign key references violations (vcode),
 insdate date foreign key references calendar(insdate),
 criticalIssue int,
 nonCriticalIssue int,
 totalissue int,
 primary key (rid, inscode, insdate,vcode)
);

insert into inspections
select rid, inscode, vcode, insdate, criticalIssue, nonCriticalIssue,
(criticalIssue+nonCriticalIssue)
from inspections_data

```



### Λύση δεύτερου ζητήματος

1)

```

select insyear, instype, count(*)
  from inspection_types, calendar, inspections
  where calendar.insdate = inspections.insdate and
         inspection_types.inscode=inspections.inscode
 group by insyear, instype
  
```

2)

```

select restaurants.rid, lat,lon, sum (noncriticalIssue),
sum(criticalIssue), sum(totalIssue)
  from restaurants, inspections
  where restaurants.rid=inspections.rid
 group by restaurants.rid, lat,lon
 order by sum(totalissue) desc
  
```

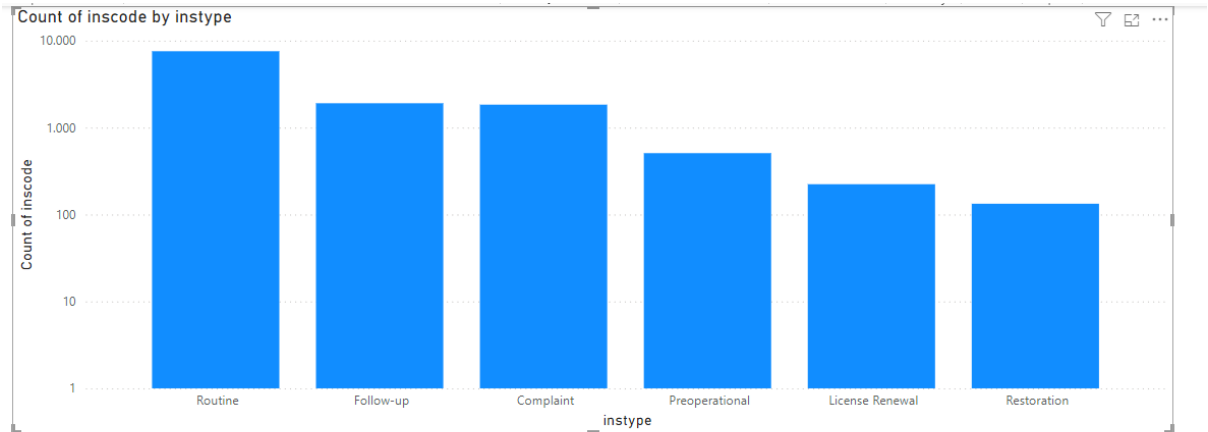
3)

```

select instype, vcategory, insyear, sum(criticalIssue)
  from inspection_types, violations, calendar, inspections
  where inspection_types.inscode=inspections.inscode and
         violations.vcode=inspections.vcode and
         inspections.insdate=calendar.insdate
  group by cube (instype,vcategory,insyear)
  
```

## Ενδεικτική λύση τρίτου ζητήματος

A)



B)

