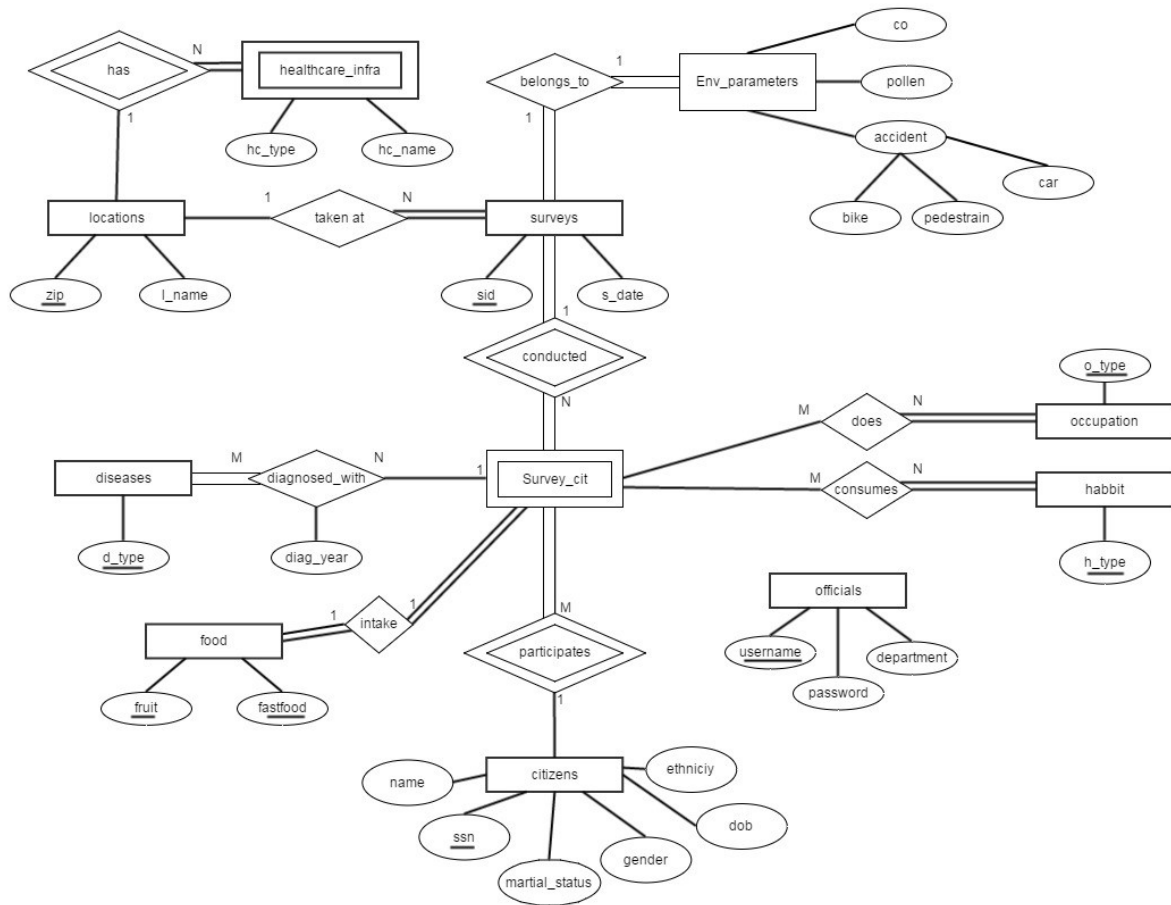


a.

ER diagram:



**b.**

**Step 1: convert all strong entities**

All the strong entities which are represented by rectangles in the ER Diagram are converted into relations.

Surveys

<u>Sid</u>	S_date
------------	--------

Env\_parameters

CO	Pollen	Car_acc	Bike_acc	Pedestrian_acc
----	--------	---------	----------	----------------

Locations

<u>Zip</u>	I_name
------------	--------

citizens

<u>Ssn</u>	Marital_status	Gender	Dob	Ethnicity
------------	----------------	--------	-----	-----------

officials

Username	Password	Department
----------	----------	------------

diseases

<u>d_type</u>
---------------

occupation

<u>O_type</u>
---------------

habit

<u>H_type</u>
---------------

food

<u>Fruit</u>	<u>Fast_food</u>
--------------	------------------

## Step2:

### Conversion on weak entities

All the weak entities, which are represented by double rectangles in the ER Diagram are converted into relations with the Primary keys of the tables on which they depend added into the newly made tables

healthcare\_infra

<u>Zip</u>	Hc_type	Hc_name
------------	---------	---------

cus\_sur\_rel

<u>Sid</u>	<u>Ssn</u>
------------	------------

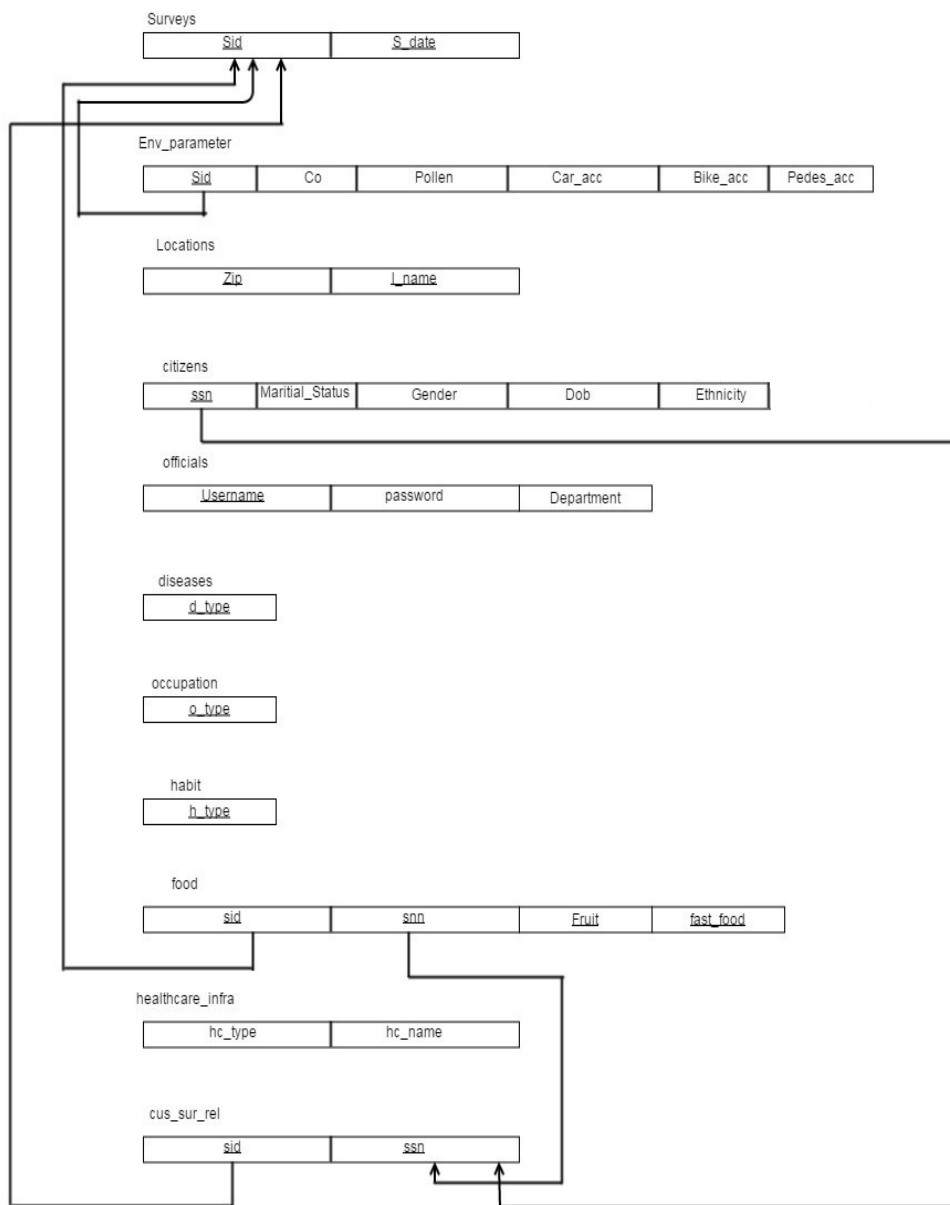
### Step 3:

All the 1:1 binary relationships represented in the schema are converted.

Here, we have two 1:1 relationships in the ER Diagram

One, the `cus_sur_rel` to the `food` relation. In order to convert this relation, we add as foreign key to the `food` relation, the primary key of `cus_sur_rel`.

second, the `survey` table and the `Env_parameters` table, in order to convert this table, we add the primary key of `survey` as the fkey in the `Env_parameters` table.



**Step 4:**

All the 1:N binary relationships represented in the schema are converted.

There are four 1:N relationships in the schema.

one,

The relationship between locations and healthcare\_infra

we add the pkey of the 1 side (locations table) as foreign key to the N side(healthcare\_infra)

Second,

The surveys taken at locations relation

To convert this, we add the primary key of the locations table as a foreign key to the surveys table

Third,

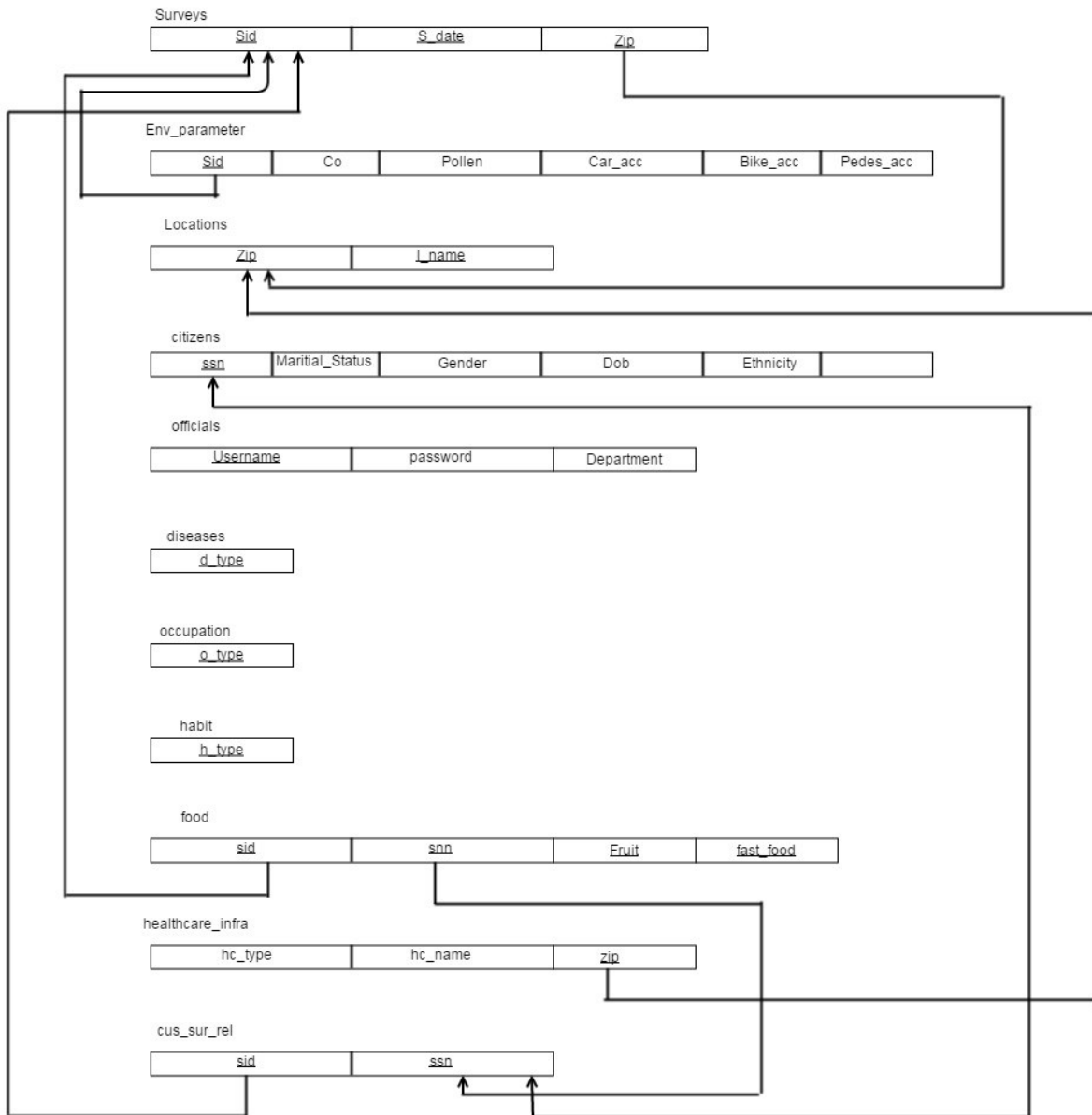
citizens participate in surveys relation

the primary key, ssno of citizen is put as foreign key in the cus\_sur\_rel table

fourth

surveys conducted relation

the primary key, sid of the survey table is introduced as foreign key in the cus\_sur\_rel table



### **Step 5: converting the binary M:N relationships**

we have three binary M:N relationships

First,

surveyed citizen diagnosed relationship,

to convert this we introduce a new relation `cus_dis_rel` and put the primary keys of both the participating relations into that table such that all the foreign keys in the new table together form the primary key of that table.

Second,

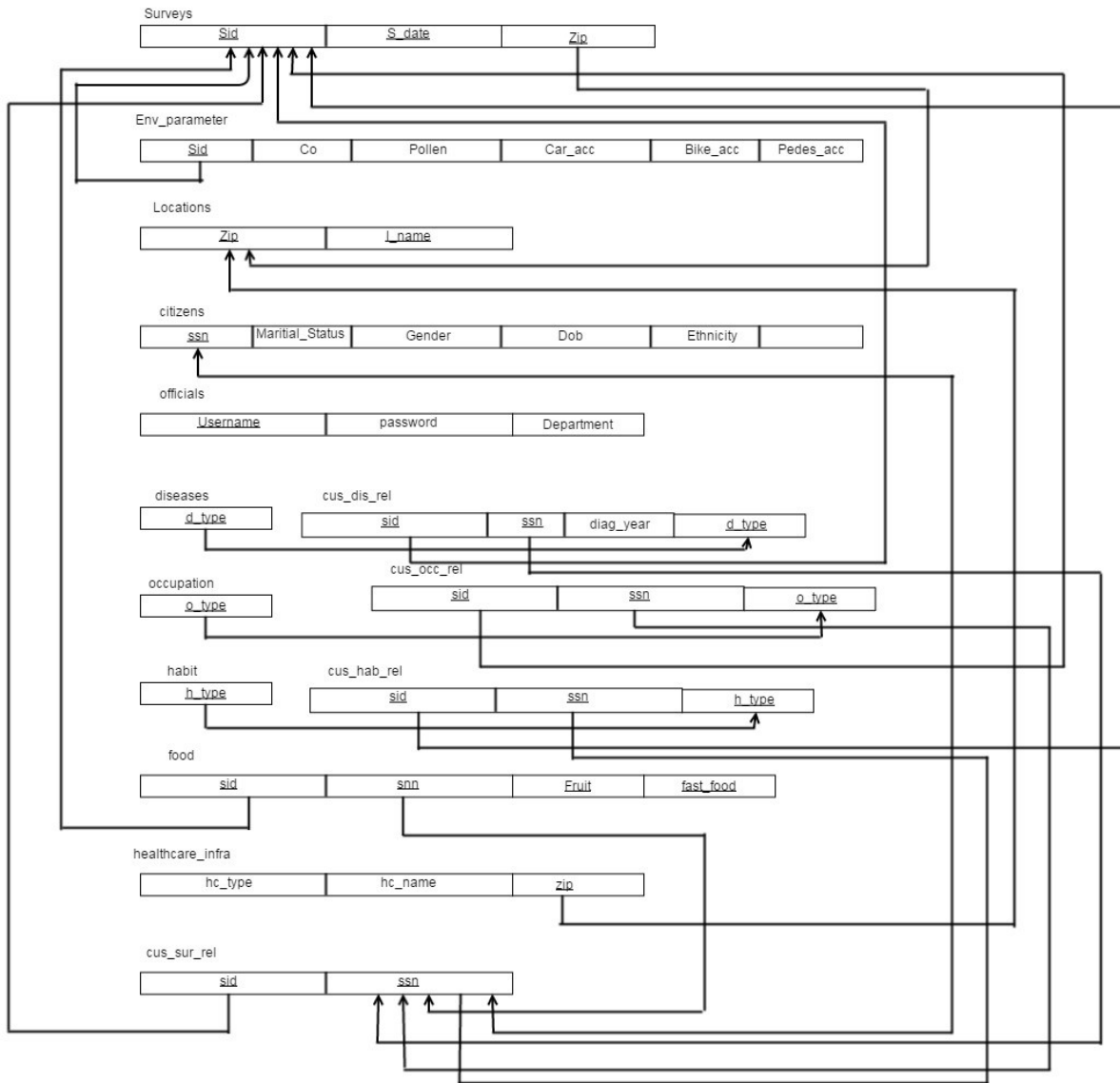
surveyed citizen does occupation relationship

to convert this we introduce a new table `cus_occ_rel` and put the primary keys of both the participating relations into that table such that all the foreign keys in the new table together form the primary key of that table.

Third,

surveyed citizen has habbit relationship

to convert this we introduce a new table `cus_hab_rel` and put the primary keys of both the participating relations into that table such that all the foreign keys in the new table together form the primary key of that table.





**c.**

CREATE TABLE occupations

```
(
    o_type      VARCHAR(30)      PRIMARY KEY
);
```

CREATE TABLE habbits

```
(
    h_type      VARCHAR(20)      PRIMARY KEY
);
```

CREATE TABLE diseases

```
(
    d_type      VARCHAR(30)      PRIMARY KEY
);
```

CREATE TABLE locations

```
(
    zip      INT(5) PRIMARY KEY,
    l_name VARCHAR(20)
);
```

CREATE TABLE surveys

```
(
    sid      INT      AUTO_INCREMENT PRIMARY KEY ,
    zip      INT(5),
    s_date   DATE,
    FOREIGN KEY (zip) REFERENCES locations (zip)
    ON DELETE SET NULL    ON UPDATE CASCADE
);
```

CREATE TABLE citizens

```
(
    ssn      INT(9)      PRIMARY KEY,
    c_name   VARCHAR(20) NOT NULL,
```

```

        marital_status    VARCHAR (20),
        gender            VARCHAR(20),
        dob               DATE,
        ethniciy          VARCHAR(20)
    );

CREATE TABLE officials
(
    username              VARCHAR(20)    PRIMARY KEY,
    passwd                VARCHAR(32)    NOT NULL,
    department            VARCHAR(20)    NOT NULL
);

```

```

CREATE TABLE healthcare_infra
(
    hc_name               VARCHAR(20)    PRIMARY KEY,
    hc_type               VARCHAR(30),
    zip                   INT(5),
    FOREIGN KEY(zip) REFERENCES locations (zip)
    ON DELETE SET NULL    ON UPDATE CASCADE
);

```

```

CREATE TABLE env_parameters
(
    sid                   INT,
    zip                   INT(5),
    CO_conc               FLOAT,
    pollen_conc           FLOAT,
    aid                   INT            AUTO_INCREMENT PRIMARY KEY,
    FOREIGN KEY(zip) REFERENCES locations(zip)
    ON DELETE SET NULL    ON UPDATE CASCADE,

```

```
        FOREIGN KEY(sid) REFERENCES surveys(sid)
        ON DELETE SET NULL    ON UPDATE CASCADE
    );
```

```
CREATE TABLE accidents
(
    aid                INT,
    car_acc            INT,
    motorcycle_acc     INT,
    ped_acc            INT,
    FOREIGN KEY(aid) REFERENCES env_parameters(aid)
    ON DELETE SET NULL    ON UPDATE CASCADE
);
```

```
CREATE TABLE cus_sur_rel
(
    ssn                INT(9),
    sid                INT,
    PRIMARY KEY (ssn, sid),
    FOREIGN KEY(ssn) REFERENCES citizens(ssn)
    ON UPDATE CASCADE ON DELETE CASCADE,
    FOREIGN KEY(sid) REFERENCES surveys(sid)
    ON UPDATE CASCADE ON DELETE CASCADE
);
```

```
CREATE TABLE cus_dis_rel
(
    ssn                INT(9),
    sid                INT,
    d_type             VARCHAR(30),
    diag_year          DATE,
```

```
PRIMARY KEY (ssn, sid, d_type),  
FOREIGN KEY(ssn, sid) REFERENCES cus_sur_rel(ssn, sid)  
ON UPDATE CASCADE ON DELETE CASCADE,  
FOREIGN KEY(d_type) REFERENCES diseases(d_type)  
ON UPDATE CASCADE ON DELETE CASCADE  
);
```

```
CREATE TABLE cus_occ_rel  
(  
    ssn            INT(9),  
    sid            INT,  
    o_type         VARCHAR(30),  
    PRIMARY KEY (ssn, sid, o_type),  
    FOREIGN KEY(ssn, sid) REFERENCES cus_sur_rel(ssn, sid)  
    ON UPDATE CASCADE ON DELETE CASCADE,  
    FOREIGN KEY(o_type) REFERENCES occupations(o_type)  
    ON UPDATE CASCADE ON DELETE CASCADE  
);
```

```
CREATE TABLE cus_hab_rel  
(  
    ssn            INT(9),  
    sid            INT,  
    h_type         VARCHAR(20),  
    PRIMARY KEY (ssn, sid, h_type),  
    FOREIGN KEY(ssn, sid) REFERENCES cus_sur_rel(ssn, sid)  
    ON UPDATE CASCADE ON DELETE CASCADE,  
    FOREIGN KEY(h_type) REFERENCES habbits(h_type)  
    ON UPDATE CASCADE    ON DELETE CASCADE  
);
```

```
CREATE TABLE food
(
    ssn INT(9),
    sid INT,
    fruit INT,
    fast_food INT,
    Primary KEY(ssn,sid, fruit, fast_food),
    FOREIGN KEY(ssn, sid) REFERENCES cus_sur_rel(ssn, sid)
    ON UPDATE CASCADE ON DELETE CASCADE
);
```

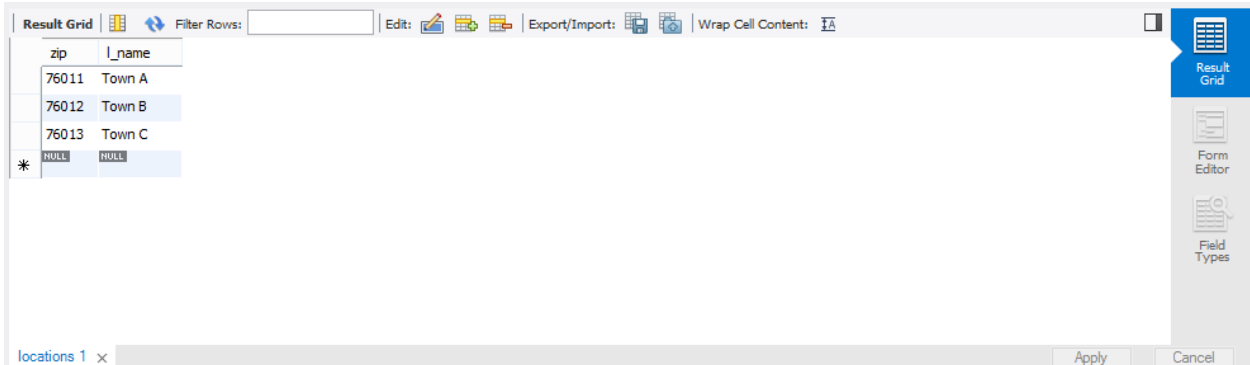
d.

#### INSERTING INTO locations table:

```
INSERT INTO locations(l_name, zip) VALUES ('Town A', 76011);
```

```
INSERT INTO locations(l_name, zip) VALUES ('Town B', 76012);
```

```
INSERT INTO locations(l_name, zip) VALUES ('Town C', 76013);
```



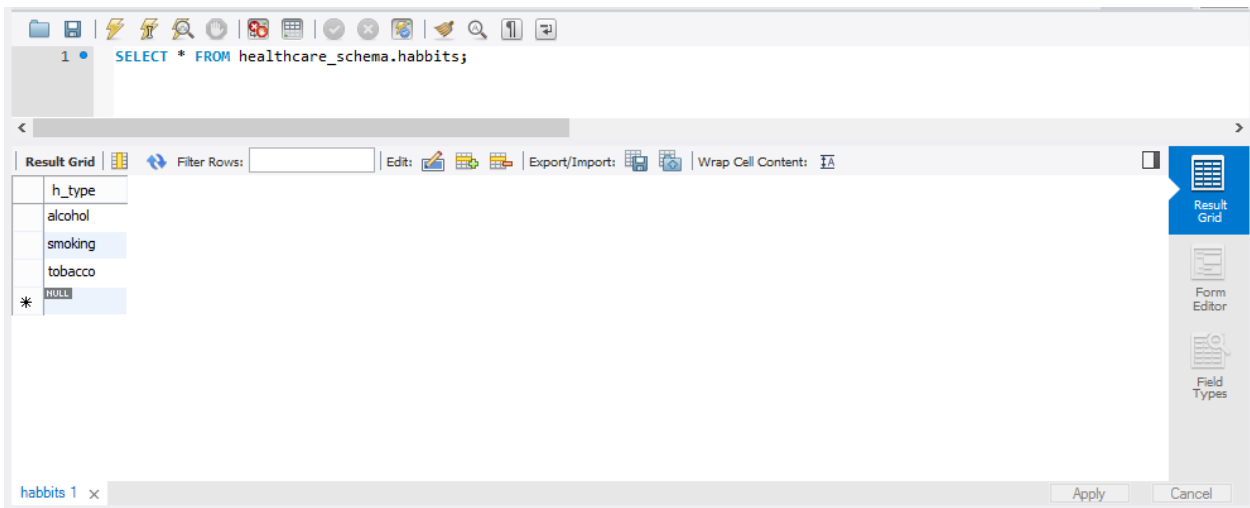
zip	l_name
76011	Town A
76012	Town B
76013	Town C
* NULL	NULL

#### INSERTING INTO Habbits table:

```
INSERT INTO `healthcare_schema`.`habbits` (`h_type`) VALUES ('tobacco');
```

```
INSERT INTO `healthcare_schema`.`habbits` (`h_type`) VALUES ('alcohol');
```

```
INSERT INTO `healthcare_schema`.`habbits` (`h_type`) VALUES ('smoking');
```



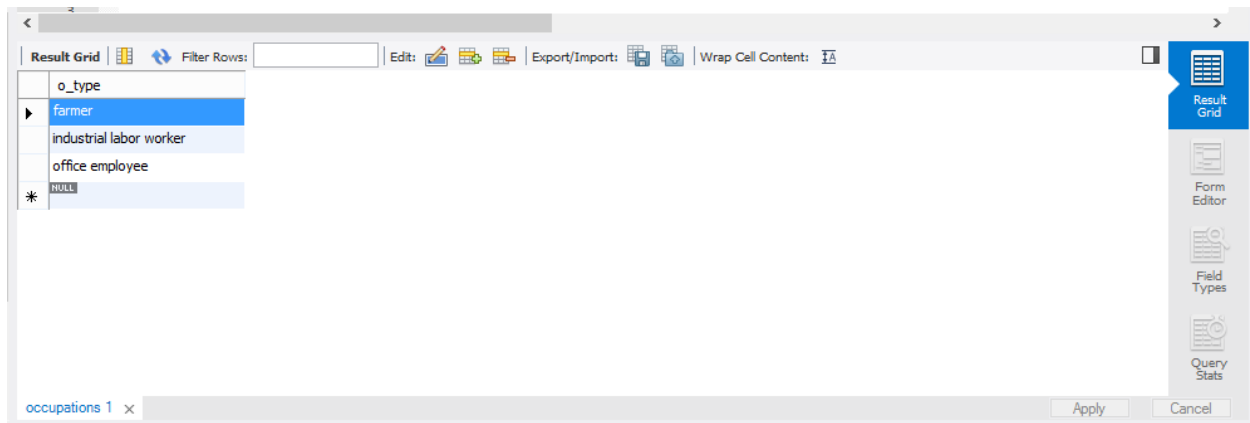
h_type
alcohol
smoking
tobacco
* NULL

#### INSERTING into occupations table:

```
INSERT INTO `healthcare_schema`.`occupations` (`o_type`) VALUES ('office employee');
```

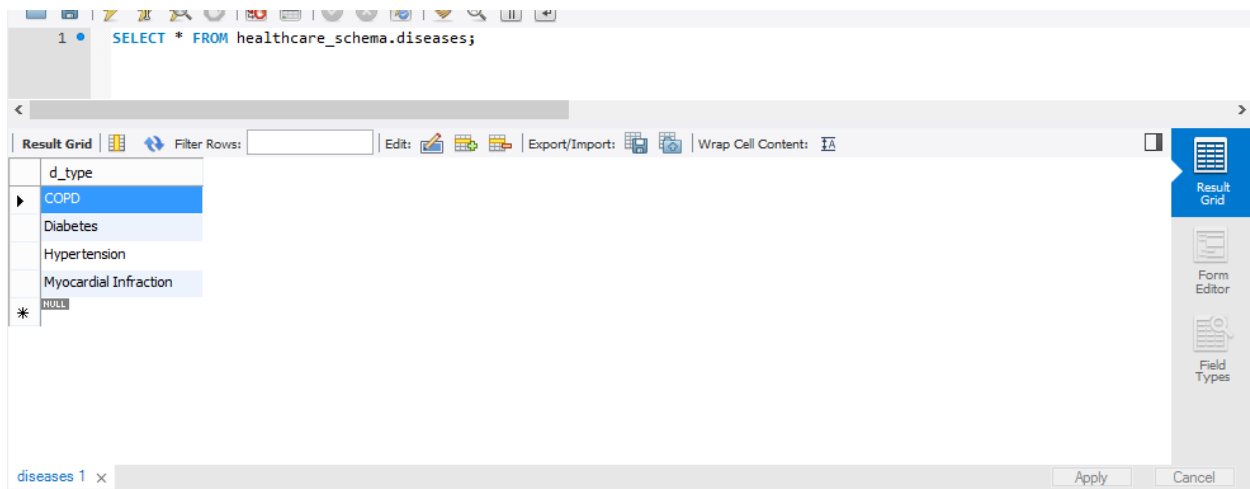
```
INSERT INTO `healthcare_schema`.`occupations` (`o_type`) VALUES ('farmer');
```

```
INSERT INTO `healthcare_schema`.`occupations` (`o_type`) VALUES ('industrial labor worker');
```



### INSERTING into diseases table:

```
INSERT INTO `healthcare_schema`.`diseases` (`d_type`) VALUES ('Diabetes');
INSERT INTO `healthcare_schema`.`diseases` (`d_type`) VALUES ('Hypertension');
INSERT INTO `healthcare_schema`.`diseases` (`d_type`) VALUES ('COPD');
INSERT INTO `healthcare_schema`.`diseases` (`d_type`) VALUES ('Myocardial
Infraction');
```

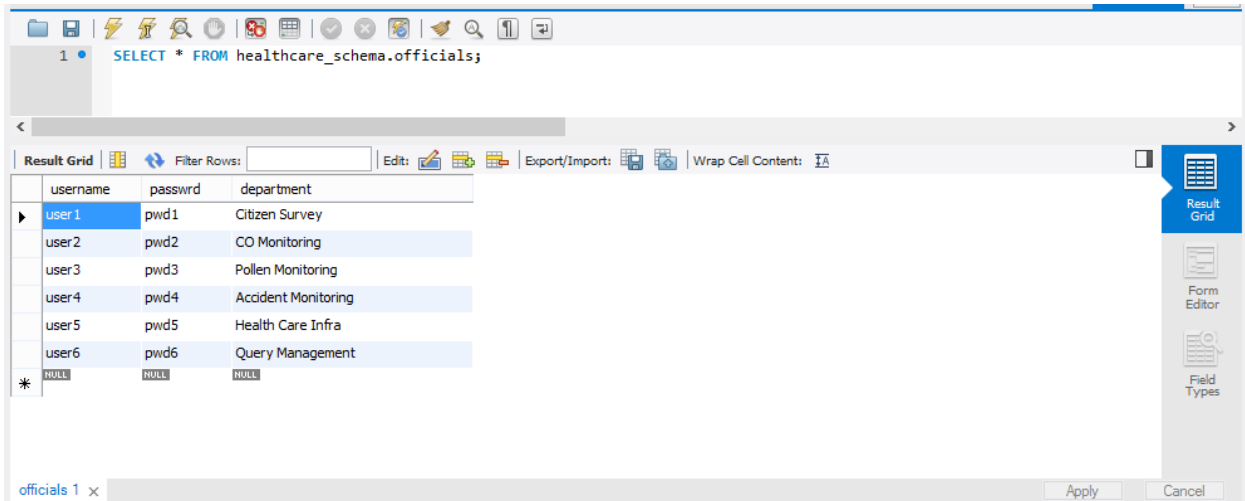


### INSERTING into officials table:

```
INSERT INTO `healthcare_schema`.`officials` (`username`, `passwrд`,
`department`) VALUES ('user1', 'pwd1', 'Citizen Survey');
INSERT INTO `healthcare_schema`.`officials` (`username`, `passwrд`,
`department`) VALUES ('user2', 'pwd2', 'CO Monitoring');
INSERT INTO `healthcare_schema`.`officials` (`username`, `passwrд`,
`department`) VALUES ('user3', 'pwd3', 'Pollen Monitoring');
INSERT INTO `healthcare_schema`.`officials` (`username`, `passwrд`,
`department`) VALUES ('user4', 'pwd4', 'Accident Monitoring');
```

```
INSERT INTO `healthcare_schema`.`officials` (`username`, `passwd`,  
`department`) VALUES ('user5', 'pwd5', 'Health Care Infra');
```

```
INSERT INTO `healthcare_schema`.`officials` (`username`, `passwd`,  
`department`) VALUES ('user6', 'pwd6', 'Query Management');
```



1 • SELECT \* FROM healthcare\_schema.officials;

Result Grid

username	passwd	department
user1	pwd1	Citizen Survey
user2	pwd2	CO Monitoring
user3	pwd3	Pollen Monitoring
user4	pwd4	Accident Monitoring
user5	pwd5	Health Care Infra
user6	pwd6	Query Management
NULL	NULL	NULL

officials 1 x

Apply Cancel

### INSERTING into healthcare\_infra table:

```
INSERT INTO `healthcare_schema`.`healthcare_infra` (`hc_name`, `hc_type`, `zip`)  
VALUES ('TA_hosp', 'Hospital', '76011');
```

```
INSERT INTO `healthcare_schema`.`healthcare_infra` (`hc_name`, `hc_type`, `zip`)  
VALUES ('TA_rehab', 'Rehabilitation center', '76011');
```

```
INSERT INTO `healthcare_schema`.`healthcare_infra` (`hc_name`, `hc_type`, `zip`)  
VALUES ('TB_hosp', 'Hospital', '76012');
```

```
INSERT INTO `healthcare_schema`.`healthcare_infra` (`hc_name`, `hc_type`, `zip`)  
VALUES ('TB_rehab', 'Hospital', '76012');
```

```
INSERT INTO `healthcare_schema`.`healthcare_infra` (`hc_name`, `hc_type`, `zip`)  
VALUES ('TC_hosp', 'Hospital', '76013');
```

```
INSERT INTO `healthcare_schema`.`healthcare_infra` (`hc_name`, `hc_type`, `zip`)  
VALUES ('TC_rehab', 'rehabilitation center', '76013');
```



Result Grid		
hc_name	hc_type	zip
TA_hosp	Hospital	76011
TA_rehab	Rehabilitation center	76011
TB_hosp	Hospital	76012
TB_rehab	Hospital	76012
TC_hosp	Hospital	76013
TC_rehab	rehabilitation center	76013
*	NULL	NULL

### INSERTING into surveys table:

```
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('1', '76011', '20140101');
```

```
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('2', '76011', '20140401');
```

```
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('3', '76011', '20140801');
```

```
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('4', '76011', '20141201');
```

```
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('5', '76012', '20140101');
```

```
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('6', '76012', '20140301');
```

```
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('7', '76012', '20140501');
```

```
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('8', '76012', '20140701');
```

```
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('9', '76012', '20140801');
```

```
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('10', '76013', '20140401');
```

```
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('11', '76013', '20140801');
```

```
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('12', '76013', '20141201');
```

```
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('13', '76011', '20130101');
```

```
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('14',  
'76011', '20130401');  
  
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('15',  
'76011', '20130801');  
  
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('16',  
'76011', '20131201');  
  
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('17',  
'76012', '20130101');  
  
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('18',  
'76012', '20130301');  
  
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('19',  
'76012', '20130501');  
  
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('20',  
'76012', '20130701');  
  
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('21',  
'76012', '20130901');  
  
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('22',  
'76013', '20130401');  
  
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('23',  
'76013', '20130801');  
  
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('24',  
'76013', '20131201');  
  
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('25',  
'76011', '20120101');  
  
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('26',  
'76011', '20120401');  
  
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('27',  
'76011', '20120801');  
  
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('28',  
'76011', '20121201');  
  
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('29',  
'76012', '20120101');  
  
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('30',  
'76012', '20120301');  
  
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('31',  
'76012', '20120501');
```

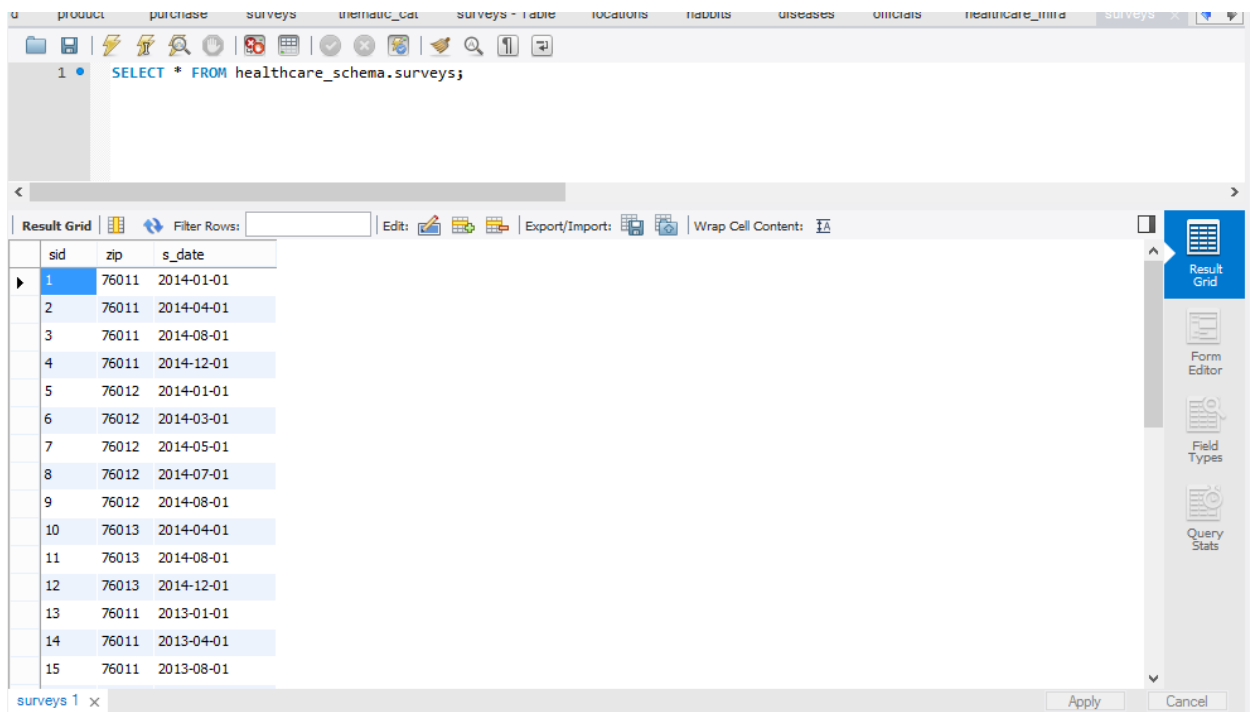
```
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('32', '76012', '20120701');
```

```
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('33', '76012', '20130901');
```

```
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('34', '76013', '20120401');
```

```
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('35', '76013', '20120801');
```

```
INSERT INTO `healthcare_schema`.`surveys` (`sid`, `zip`, `s_date`) VALUES ('36', '76013', '20121201');
```



SELECT \* FROM healthcare\_schema.surveys;

	sid	zip	s_date
1	76011	2014-01-01	
2	76011	2014-04-01	
3	76011	2014-08-01	
4	76011	2014-12-01	
5	76012	2014-01-01	
6	76012	2014-03-01	
7	76012	2014-05-01	
8	76012	2014-07-01	
9	76012	2014-08-01	
10	76013	2014-04-01	
11	76013	2014-08-01	
12	76013	2014-12-01	
13	76011	2013-01-01	
14	76011	2013-04-01	
15	76011	2013-08-01	

### INSERTING into env\_parameters table:

```
INSERT INTO `healthcare_schema`.`env_parameters` (`sid`, `zip`, `CO_conc`, `pollen_conc`) VALUES ('1', '76011', '4.5', '3.4');
```

```
INSERT INTO `healthcare_schema`.`env_parameters` (`sid`, `zip`, `CO_conc`, `pollen_conc`) VALUES ('5', '76012', '3.2', '1.4');
```

```
INSERT INTO `healthcare_schema`.`env_parameters` (`sid`, `zip`, `CO_conc`, `pollen_conc`) VALUES ('10', '76013', '6.1', '5.5');
```

```
INSERT INTO `healthcare_schema`.`env_parameters` (`sid`, `zip`, `CO_conc`, `pollen_conc`) VALUES ('13', '76011', '3.9', '3.0');
```

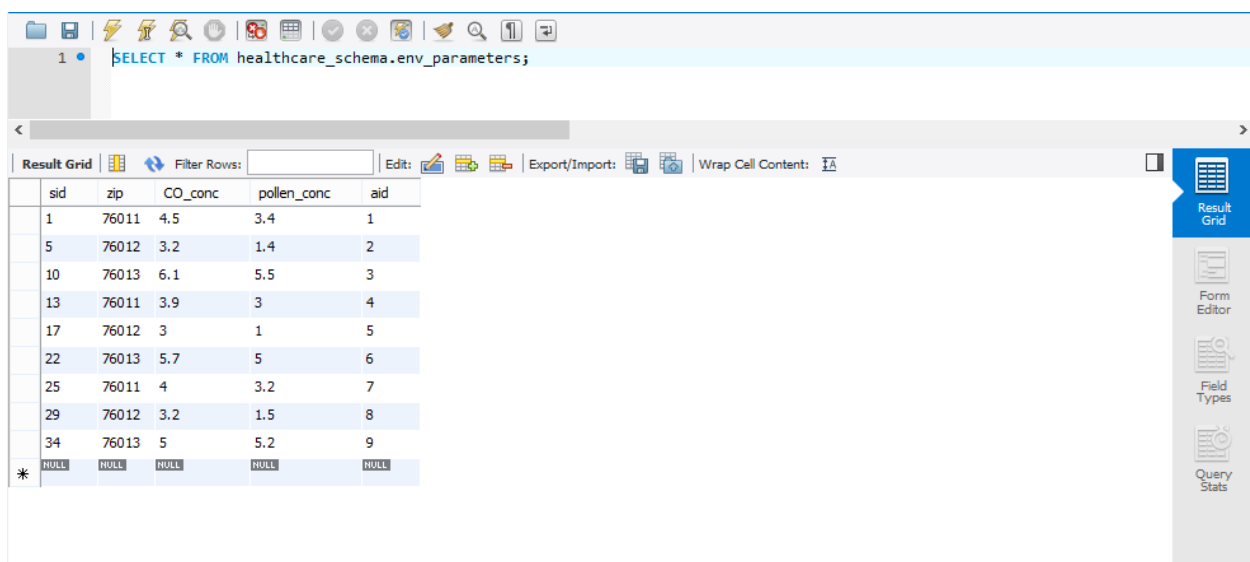
```
INSERT INTO `healthcare_schema`.`env_parameters` (`sid`, `zip`, `CO_conc`,  
`pollen_conc`) VALUES ('17', '76012', '3.0', '1.0');
```

```
INSERT INTO `healthcare_schema`.`env_parameters` (`sid`, `zip`, `CO_conc`,  
`pollen_conc`) VALUES ('22', '76013', '5.7', '5.0');
```

```
INSERT INTO `healthcare_schema`.`env_parameters` (`sid`, `zip`, `CO_conc`,  
`pollen_conc`) VALUES ('25', '76011', '4.0', '3.2');
```

```
INSERT INTO `healthcare_schema`.`env_parameters` (`sid`, `zip`, `CO_conc`,  
`pollen_conc`) VALUES ('29', '76012', '3.2', '1.5');
```

```
INSERT INTO `healthcare_schema`.`env_parameters` (`sid`, `zip`, `CO_conc`,  
`pollen_conc`) VALUES ('34', '76013', '5.0', '5.2');
```



The screenshot shows a database management interface. At the top, a SQL query is entered: `SELECT * FROM healthcare_schema.env_parameters;`. Below the query, a table of results is displayed. The table has five columns: `sid`, `zip`, `CO_conc`, `pollen_conc`, and `aid`. The results show 10 rows of data, with the last row marked with an asterisk (\*). The interface includes a toolbar with various icons for file operations, editing, and viewing. On the right side, there is a sidebar with buttons for 'Result Grid', 'Form Editor', 'Field Types', and 'Query Stats'.

	sid	zip	CO_conc	pollen_conc	aid
	1	76011	4.5	3.4	1
	5	76012	3.2	1.4	2
	10	76013	6.1	5.5	3
	13	76011	3.9	3	4
	17	76012	3	1	5
	22	76013	5.7	5	6
	25	76011	4	3.2	7
	29	76012	3.2	1.5	8
	34	76013	5	5.2	9
*	NULL	NULL	NULL	NULL	NULL

### INSERTING into accidents table:

```
insert into accidents values (1,1,1,0);
```

```
insert into accidents values (4,0,1,0);
```

```
insert into accidents values (7,0,0,1);
```

```
insert into accidents values (2,0,1,0);
```

```
insert into accidents values (5,0,0,0);
```

```
insert into accidents values (8,0,1,1);
```

```
insert into accidents values (3,0,0,0);
```

```
insert into accidents values (6,0,1,0);
```

```
insert into accidents values (9,0,1,0);
```

locations	occupations	officials	post_card	product	purchase	surveys	thematic_cat	surveys - Table	env_parameters	accidents
-----------	-------------	-----------	-----------	---------	----------	---------	--------------	-----------------	----------------	-----------

1 •

SELECT \* FROM healthcare\_schema.accidents;

Result Grid

Filter Rows:

Export:

Wrap Cell Content: [IA](#)

aid	car_acc	motorcycle_acc	ped_acc
1	1	1	0
4	0	1	0
7	0	0	1
2	0	1	0
5	0	0	0
8	0	1	1
3	0	0	0
6	0	1	0
9	0	1	0

Result Grid

Form Editor

Field Types

Query Stats

### INSERTING into citizens table:

```
INSERT INTO `healthcare_schema`.`citizens` (`ssn`, `c_name`, `marital_status`,
`gender`, `dob`, `ethnicity`) VALUES ('100000001', 'cit1', 'married', 'female',
'19870303', 'Asian');
```

```
INSERT INTO `healthcare_schema`.`citizens` (`ssn`, `c_name`, `marital_status`,
`gender`, `dob`, `ethnicity`) VALUES ('100000002', 'cit2', 'single', 'male',
'19660912', 'Latino');
```

```
INSERT INTO `healthcare_schema`.`citizens` (`ssn`, `c_name`, `marital_status`,
`gender`, `dob`, `ethnicity`) VALUES ('100000003', 'cit3', 'single', 'female',
'19910803', 'Native American');
```

```
INSERT INTO `healthcare_schema`.`citizens` (`ssn`, `c_name`, `marital_status`,
`gender`, `dob`, `ethnicity`) VALUES ('100000004', 'cit4', 'married', 'male',
'19901203', 'Asian');
```

```
INSERT INTO `healthcare_schema`.`citizens` (`ssn`, `c_name`, `marital_status`,
`gender`, `dob`, `ethnicity`) VALUES ('100000005', 'cit5', 'married', 'male',
'19850411', 'Native American');
```

```
INSERT INTO `healthcare_schema`.`citizens` (`ssn`, `c_name`, `marital_status`,
`gender`, `dob`, `ethnicity`) VALUES ('100000006', 'cit6', 'single', 'male',
'19841111', 'Native American');
```

```
INSERT INTO `healthcare_schema`.`citizens` (`ssn`, `c_name`, `marital_status`,
`gender`, `dob`, `ethnicity`) VALUES ('100000007', 'cit7', 'married', 'female',
'19701212', 'Hispanic');
```

```
INSERT INTO `healthcare_schema`.`citizens` (`ssn`, `c_name`, `marital_status`,
`gender`, `dob`, `ethnicity`) VALUES ('100000008', 'cit8', 'single', 'male',
'19801202', 'Native American');
```

```
INSERT INTO `healthcare_schema`.`citizens` (`ssn`, `c_name`, `marital_status`, `gender`, `dob`, `ethnicity`) VALUES ('100000015', 'cit15', 'married', 'female', '19840909', 'Native American');
```

occupations officials post\_card product purchase surveys thematic\_cat surveys - Table env\_parameters accidents **citizens**

1 • **SELECT \* FROM healthcare\_schema.citizens;**

**Result Grid** | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

ssn	c_name	marital_status	gender	dob	ethnicity
100000001	cit1	married	female	1987-03-03	Asian
100000002	cit2	single	male	1966-09-12	Latino
100000003	cit3	single	female	1991-08-03	Native American
100000004	cit4	married	male	1990-12-03	Asian
100000005	cit5	married	male	1985-04-11	Native American
100000006	cit6	single	male	1984-11-11	Native American
100000007	cit7	married	female	1970-12-12	Hispanic
100000008	cit8	single	male	1980-12-02	Native American
100000009	cit9	single	female	1990-12-09	Native American
100000010	cit10	married	male	1987-01-01	Latino
100000011	cit11	married	female	1988-02-02	Asian
100000012	cit12	married	male	1978-04-04	Asian
100000013	cit13	single	male	1992-05-05	Hispanic
100000014	cit14	single	female	1993-08-08	Asian
100000015	cit15	married	female	1984-09-09	Native American
NULL	NULL	NULL	NULL	NULL	NULL

citizens 1 x

### **INSERTING into cus\_occ\_rel table:**

```
INSERT INTO `healthcare_schema`.`cus_occ_rel` (`ssn`,`sid`,`o_type`) VALUES ('100000001',1, 'office employee');
```

```
INSERT INTO `healthcare_schema`.`cus_occ_rel` (`ssn`,`sid`,`o_type`) VALUES ('100000002',2, 'farmer');
```

```
INSERT INTO `healthcare_schema`.`cus_occ_rel` (`ssn`,`sid`,`o_type`) VALUES ('100000002',2, 'industrial labor worker');
```

```
INSERT INTO `healthcare_schema`.`cus_occ_rel` (`ssn`,`sid`,`o_type`) VALUES ('100000003',1, 'farmer');
```

```
INSERT INTO `healthcare_schema`.`cus_occ_rel` (`ssn`,`sid`,`o_type`) VALUES ('100000004',2, 'farmer');
```

```
INSERT INTO `healthcare_schema`.`cus_occ_rel` (`ssn`,`sid`,`o_type`) VALUES ('100000004',3, 'industrial labor worker');
```

```
INSERT INTO `healthcare_schema`.`cus_occ_rel` (`ssn`,`sid`,`o_type`) VALUES ('100000004',2, 'office employee');
```

```
INSERT INTO `healthcare_schema`.`cus_occ_rel` (`ssn`,`sid`,`o_type`) VALUES ('100000005',2, 'industrial labor worker');
```

```
INSERT INTO `healthcare_schema`.`cus_occ_rel` (`ssn`,`sid`,`o_type`) VALUES ('100000006',6, 'industrial labor worker');
```

```
INSERT INTO `healthcare_schema`.`cus_occ_rel` (`ssn`,`sid`,`o_type`) VALUES ('100000006',6, 'office employee');
```

```
INSERT INTO `healthcare_schema`.`cus_occ_rel` (`ssn`,`sid`,`o_type`) VALUES ('100000007',5, 'office employee');
```

```
INSERT INTO `healthcare_schema`.`cus_occ_rel` (`ssn`,`sid`,`o_type`) VALUES ('100000008',5, 'farmer');
```

```
INSERT INTO `healthcare_schema`.`cus_occ_rel` (`ssn`,`sid`,`o_type`) VALUES ('100000008',5, 'office employee');
```

```
INSERT INTO `healthcare_schema`.`cus_occ_rel` (`ssn`,`sid`,`o_type`) VALUES ('100000009',9, 'industrial labor worker');
```

```
INSERT INTO `healthcare_schema`.`cus_occ_rel` (`ssn`,`sid`,`o_type`) VALUES ('100000009',9, 'office employee');
```

```
INSERT INTO `healthcare_schema`.`cus_occ_rel` (`ssn`,`sid`,`o_type`) VALUES ('100000010',6, 'industrial labor worker');
```

```
INSERT INTO `healthcare_schema`.`cus_occ_rel` (`ssn`,`sid`,`o_type`) VALUES ('100000010',6, 'farmer');
```

```
INSERT INTO `healthcare_schema`.`cus_occ_rel` (`ssn`,`sid`,`o_type`) VALUES ('100000011',12, 'office employee');
```

```
INSERT INTO `healthcare_schema`.`cus_occ_rel` (`ssn`,`sid`,`o_type`) VALUES ('100000012',12, 'industrial labor worker');
```

```
INSERT INTO `healthcare_schema`.`cus_occ_rel` (`ssn`,`sid`,`o_type`) VALUES ('100000013',10, 'farmer');
```

```
INSERT INTO `healthcare_schema`.`cus_occ_rel` (`ssn`,`sid`,`o_type`) VALUES ('100000013',10, 'office employee');
```

```
INSERT INTO `healthcare_schema`.`cus_occ_rel` (`ssn`,`sid`,`o_type`) VALUES ('100000014',10, 'office employee');
```

```
INSERT INTO `healthcare_schema`.`cus_occ_rel` (`ssn`,`sid`,`o_type`) VALUES ('100000015',24, 'farmer');
```

The screenshot shows a database management interface with a table named 'cus\_occ\_rel' displayed in a 'Result Grid'. The table has three columns: 'ssn', 'sid', and 'o\_type'. The data is as follows:

ssn	sid	o_type
100000002	2	farmer
100000003	1	farmer
100000004	2	farmer
100000008	5	farmer
100000010	6	farmer
100000013	10	farmer
100000015	24	farmer
100000002	2	industrial labor worker
100000004	3	industrial labor worker
100000005	2	industrial labor worker
100000006	6	industrial labor worker
100000009	9	industrial labor worker
100000010	6	industrial labor worker
100000012	12	industrial labor worker
100000001	1	office employee

Below the table, the 'Output' pane shows the execution of two SQL queries:

Time	Action	Message
302 20:31:56	SELECT * FROM healthcare_schema.citizens LIMIT 0, 1000	15 row(s) returned
303 20:32:42	SELECT * FROM healthcare_schema.cus_occ_rel LIMIT 0, 1000	23 row(s) returned

### INSERTING into cus\_sur\_rel table:

```
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`,`sid`) VALUES ('100000001', '1');
```

```
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`,`sid`) VALUES ('100000002', '1');
```

```
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`,`sid`) VALUES ('100000003', '1');
```



```
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000004',  
'1');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000005',  
'1');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000001',  
'2');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000002',  
'2');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000003',  
'2');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000004',  
'2');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000005',  
'2');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000001',  
'3');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000002',  
'3');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000003',  
'3');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000004',  
'3');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000005',  
'3');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000001',  
'4');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000002',  
'4');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000003',  
'4');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000004',  
'4');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000005',  
'4');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000010',  
'5');
```

```
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000009',  
'5');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000008',  
'5');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000007',  
'5');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000006',  
'5');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000006',  
'6');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000007',  
'6');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000008',  
'6');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000009',  
'6');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000010',  
'6');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000006',  
'7');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000007',  
'7');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000008',  
'7');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000009',  
'7');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000010',  
'7');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000006',  
'8');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000007',  
'8');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000008',  
'8');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000009',  
'8');
```

```
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000010',  
'8');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000006',  
'9');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000007',  
'9');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000008',  
'9');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000009',  
'9');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000010',  
'9');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000011',  
'10');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000012',  
'10');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000013',  
'10');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000014',  
'10');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000015',  
'10');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000011',  
'11');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000012',  
'11');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000013',  
'11');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000014',  
'11');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000015',  
'11');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000011',  
'12');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000012',  
'12');
```

```
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000013',  
'12');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000014',  
'12');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000015',  
'12');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000001',  
'13');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000002',  
'13');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000003',  
'14');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000004',  
'14');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000005',  
'15');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000002',  
'15');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000003',  
'16');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000007',  
'17');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000006',  
'17');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000009',  
'18');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000010',  
'18');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000006',  
'19');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000008',  
'20');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000007',  
'21');  
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000011',  
'22');
```

```
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000012', '22');
```

```
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000013', '23');
```

```
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000014', '24');
```

```
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000015', '24');
```

```
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000001', '25');
```

```
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000002', '25');
```

```
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000003', '26');
```

```
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000004', '27');
```

```
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000005', '28');
```

```
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000006', '29');
```

```
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000007', '30');
```

```
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000008', '31');
```

```
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000009', '32');
```

```
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000010', '33');
```

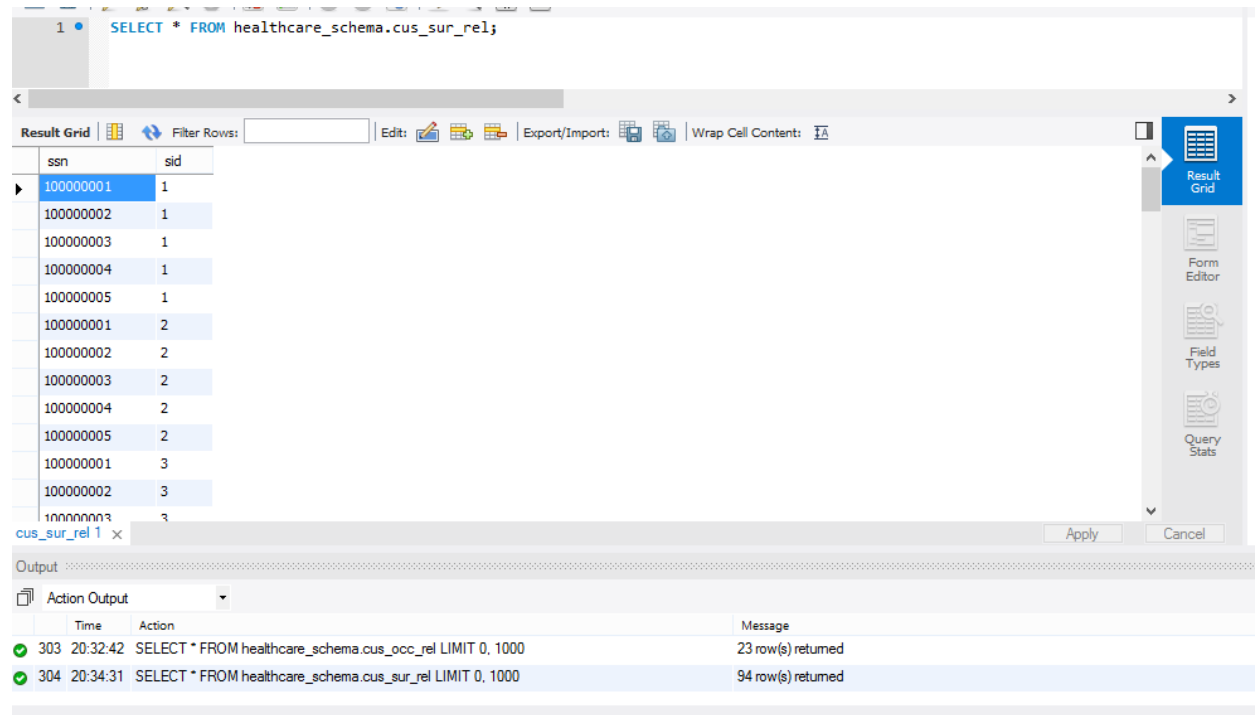
```
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000011', '34');
```

```
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000012', '34');
```

```
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000013', '35');
```

```
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`, `sid`) VALUES ('100000014', '35');
```

```
INSERT INTO `healthcare_schema`.`cus_sur_rel` (`ssn`,`sid`) VALUES ('100000015',
'36');
```



1 • `SELECT * FROM healthcare_schema.cus_sur_rel;`

ssn	sid
100000001	1
100000002	1
100000003	1
100000004	1
100000005	1
100000001	2
100000002	2
100000003	2
100000004	2
100000005	2
100000001	3
100000002	3
100000003	3

cus\_sur\_rel 1 x

Output

Time	Action	Message
303 20:32:42	SELECT * FROM healthcare_schema.cus_occ_rel LIMIT 0, 1000	23 row(s) returned
304 20:34:31	SELECT * FROM healthcare_schema.cus_sur_rel LIMIT 0, 1000	94 row(s) returned

### INSERTING into cus\_hab\_rel table:

```
INSERT INTO `healthcare_schema`.`cus_hab_rel` (`ssn`,`sid`,`h_type`) VALUES
('100000001',1, 'alcohol');
```

```
INSERT INTO `healthcare_schema`.`cus_hab_rel` (`ssn`,`sid`,`h_type`) VALUES
('100000002',2, 'tobacco');
```

```
INSERT INTO `healthcare_schema`.`cus_hab_rel` (`ssn`,`sid`,`h_type`) VALUES
('100000002',2, 'alcohol');
```

```
INSERT INTO `healthcare_schema`.`cus_hab_rel` (`ssn`,`sid`,`h_type`) VALUES
('100000003',1, 'smoking');
```

```
INSERT INTO `healthcare_schema`.`cus_hab_rel` (`ssn`,`sid`,`h_type`) VALUES
('100000004',2, 'smoking');
```

```
INSERT INTO `healthcare_schema`.`cus_hab_rel` (`ssn`,`sid`,`h_type`) VALUES
('100000004',3, 'tobacco');
```

```
INSERT INTO `healthcare_schema`.`cus_hab_rel` (`ssn`,`sid`,`h_type`) VALUES
('100000004',2, 'alcohol');
```

```
INSERT INTO `healthcare_schema`.`cus_hab_rel` (`ssn`,`sid`,`h_type`) VALUES
('100000005',2, 'smoking');
```

```
INSERT INTO `healthcare_schema`.`cus_hab_rel` (`ssn`,`sid`,`h_type`) VALUES
('100000006',6, 'alcohol');
```

```
INSERT INTO `healthcare_schema`.`cus_hab_rel` (`ssn`,`sid`,`h_type`) VALUES ('100000006',6, 'tobacco');
```

```
INSERT INTO `healthcare_schema`.`cus_hab_rel` (`ssn`,`sid`,`h_type`) VALUES ('100000007',5, 'smoking');
```

1 • SELECT \* FROM healthcare\_schema.cus\_hab\_rel;

ssn	sid	h_type
100000001	1	alcohol
100000002	2	alcohol
100000004	2	alcohol
100000006	6	alcohol
100000003	1	smoking
100000004	2	smoking
100000005	2	smoking
100000007	5	smoking
100000002	2	tobacco
100000004	3	tobacco
100000006	6	tobacco
*	NULL	NULL

cus\_hab\_rel 1 x Apply Cancel

### INSERTING into food table:

```
INSERT INTO `healthcare_schema`.`food` (`ssn`,`sid`,`fruit`,`fast_food`) VALUES ('100000001',1, '7', '0');
```

```
INSERT INTO `healthcare_schema`.`food` (`ssn`,`sid`,`fruit`,`fast_food`) VALUES ('100000002',2, '4', '4');
```

```
INSERT INTO `healthcare_schema`.`food` (`ssn`,`sid`,`fruit`,`fast_food`) VALUES ('100000003',1, '1', '9');
```

```
INSERT INTO `healthcare_schema`.`food` (`ssn`,`sid`,`fruit`,`fast_food`) VALUES ('100000004',2, '4', '8');
```

```
INSERT INTO `healthcare_schema`.`food` (`ssn`,`sid`,`fruit`,`fast_food`) VALUES ('100000005',2, '4', '9');
```

```
INSERT INTO `healthcare_schema`.`food` (`ssn`,`sid`,`fruit`,`fast_food`) VALUES ('100000006',6, '0', '10');
```

```
INSERT INTO `healthcare_schema`.`food` (`ssn`,`sid`,`fruit`,`fast_food`) VALUES ('100000007',5, '7', '2');
```

```
INSERT INTO `healthcare_schema`.`food` (`ssn`,`sid`,`fruit`,`fast_food`) VALUES ('100000008',5, '5', '5');
```

```
INSERT INTO `healthcare_schema`.`food` (`ssn`,`sid`,`fruit`,`fast_food`) VALUES ('100000009',9, '3', '7');
```

```
INSERT INTO `healthcare_schema`.`food` (`ssn`,`sid`,`fruit`,`fast_food`) VALUES ('100000010',6, '2', '2');
```

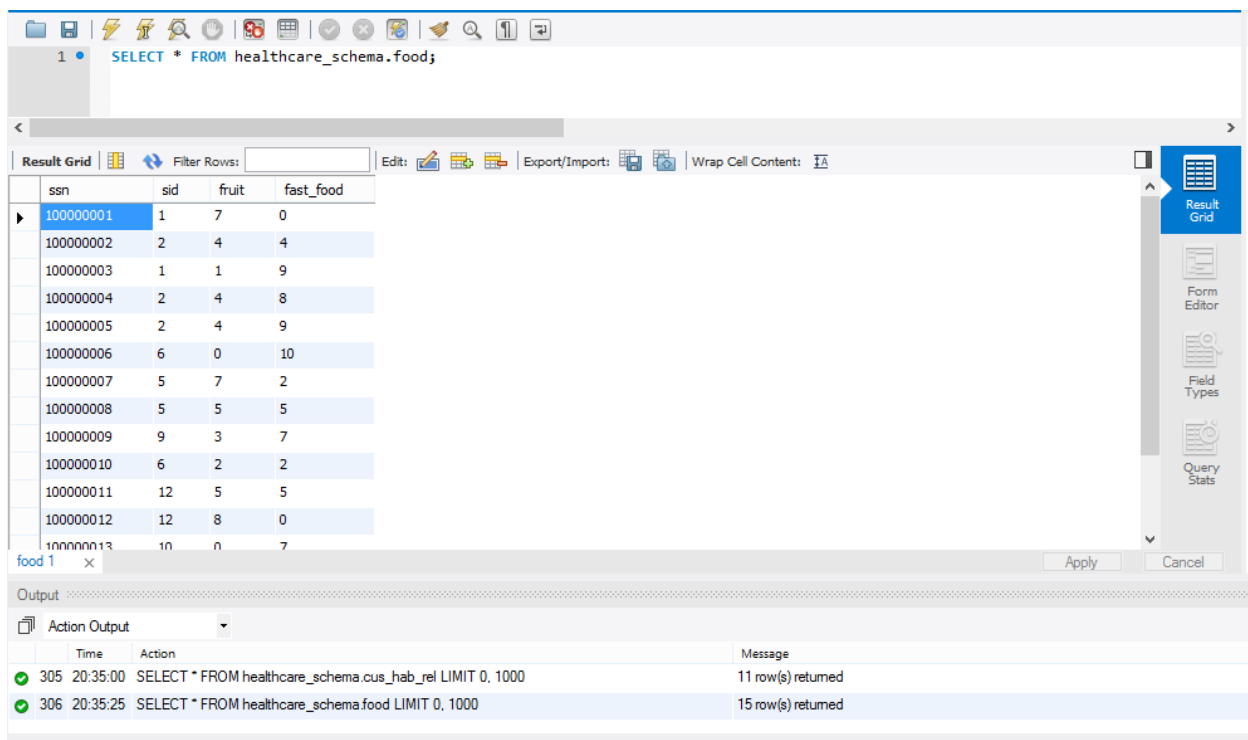
```
INSERT INTO `healthcare_schema`.`food` (`ssn`,`sid`,`fruit`,`fast_food`) VALUES ('100000011',12, '5', '5');
```

```
INSERT INTO `healthcare_schema`.`food` (`ssn`,`sid`,`fruit`,`fast_food`) VALUES ('100000012',12, '8', '0');
```

```
INSERT INTO `healthcare_schema`.`food` (`ssn`,`sid`,`fruit`,`fast_food`) VALUES ('100000013',10, '0', '7');
```

```
INSERT INTO `healthcare_schema`.`food` (`ssn`,`sid`,`fruit`,`fast_food`) VALUES ('100000014',10, '2', '5');
```

```
INSERT INTO `healthcare_schema`.`food` (`ssn`,`sid`,`fruit`,`fast_food`) VALUES ('100000015',24, '6', '2');
```



The screenshot shows a database management interface. At the top, a SQL query is entered: `SELECT * FROM healthcare_schema.food;`. Below the query, a table of results is displayed with columns `ssn`, `sid`, `fruit`, and `fast_food`. The table contains 15 rows of data. On the right side of the interface, there is a sidebar with icons for 'Result Grid', 'Form Editor', 'Field Types', and 'Query Stats'. At the bottom, an 'Output' section shows a log of actions, including the execution of the query and the number of rows returned.

ssn	sid	fruit	fast_food
100000001	1	7	0
100000002	2	4	4
100000003	1	1	9
100000004	2	4	8
100000005	2	4	9
100000006	6	0	10
100000007	5	7	2
100000008	5	5	5
100000009	9	3	7
100000010	6	2	2
100000011	12	5	5
100000012	12	8	0
100000013	10	0	7

Time	Action	Message
305 20:35:00	SELECT * FROM healthcare_schema.cus_hab_rel LIMIT 0, 1000	11 row(s) returned
306 20:35:25	SELECT * FROM healthcare_schema.food LIMIT 0, 1000	15 row(s) returned

### INSERTING into cus\_dis\_rel table:

```
INSERT INTO `healthcare_schema`.`cus_dis_rel` (`ssn`,`sid`,`d_type`,`diag_year`) VALUES ('100000002',1, 'Diabetes', '20140000');
```

```
INSERT INTO `healthcare_schema`.`cus_dis_rel` (`ssn`,`sid`,`d_type`,`diag_year`) VALUES ('100000002',2, 'Hypertension', '20110000');
```

```
INSERT INTO `healthcare_schema`.`cus_dis_rel` (`ssn`,`sid`,`d_type`,`diag_year`) VALUES ('100000004',2, 'COPD', '20030000');
```



```
INSERT INTO `healthcare_schema`.`cus_dis_rel` (`ssn`, `sid`, `d_type`, `diag_year`)
VALUES ('100000005',3, 'Hypertension', '20040000');
```

```
INSERT INTO `healthcare_schema`.`cus_dis_rel` (`ssn`, `sid`, `d_type`, `diag_year`)
VALUES ('100000005',2, 'Diabetes', '20060000');
```

```
INSERT INTO `healthcare_schema`.`cus_dis_rel` (`ssn`, `sid`, `d_type`, `diag_year`)
VALUES ('100000005',3, 'Myocardial Infraction', '20090000');
```

```
INSERT INTO `healthcare_schema`.`cus_dis_rel` (`ssn`, `sid`, `d_type`, `diag_year`)
VALUES ('100000006',6, 'COPD', '20120000');
```

```
INSERT INTO `healthcare_schema`.`cus_dis_rel` (`ssn`, `sid`, `d_type`, `diag_year`)
VALUES ('100000009',9, 'Diabetes', '19990000');
```

```
INSERT INTO `healthcare_schema`.`cus_dis_rel` (`ssn`, `sid`, `d_type`, `diag_year`)
VALUES ('100000013',10, 'COPD', '20000000');
```

```
INSERT INTO `healthcare_schema`.`cus_dis_rel` (`ssn`, `sid`, `d_type`, `diag_year`)
VALUES ('100000015',10, 'COPD', '20010000');
```

```
INSERT INTO `healthcare_schema`.`cus_dis_rel` (`ssn`, `sid`, `d_type`, `diag_year`)
VALUES ('100000015',24, 'Myocardial Infraction', '20030000');
```

1 • SELECT \* FROM healthcare\_schema.cus\_dis\_rel;

ssn	sid	d_type	diag_year
100000002	1	Diabetes	2014-00-00
100000002	2	Hypertension	2011-00-00
100000004	2	COPD	2003-00-00
100000005	2	Diabetes	2006-00-00
100000005	3	Hypertension	2004-00-00
100000005	3	Myocardial Infraction	2009-00-00
100000006	6	COPD	2012-00-00
100000009	9	Diabetes	1999-00-00
100000013	10	COPD	2000-00-00
100000015	10	COPD	2001-00-00
100000015	24	Myocardial Infraction	2003-00-00
NULL	NULL	NULL	NULL

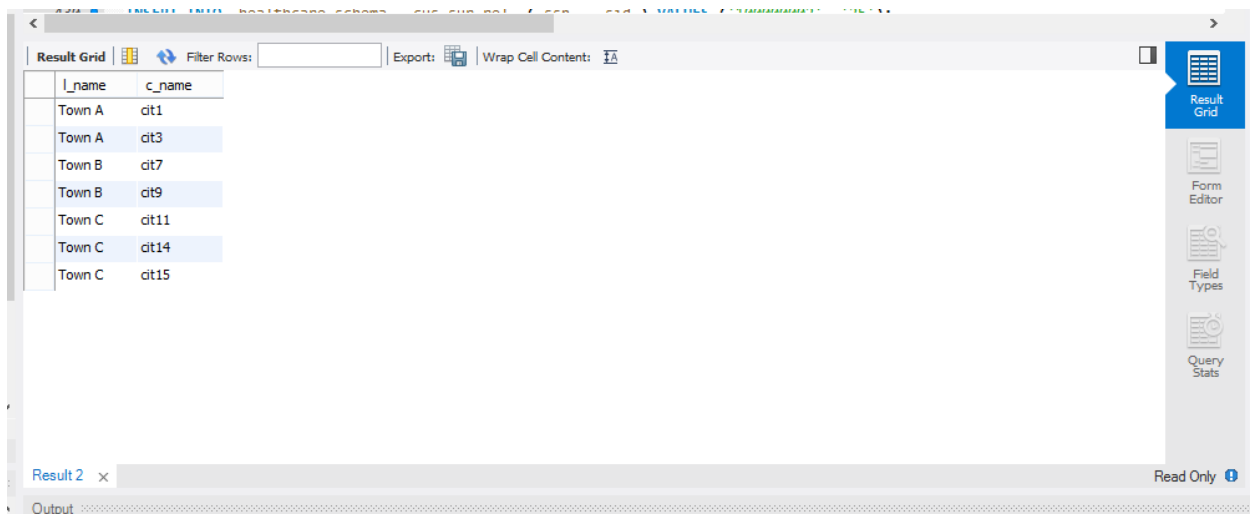
cus\_dis\_rel 1 x

Apply Cancel

e.

### Query 1:

```
select l.l_name , c.c_name
from surveys as s, locations as l, citizens as c, cus_sur_rel as cs
where gender = 'female'
and s.zip = l.zip
and (s.s_date < '2013-01-01' && s_date >= '2012-01-01' )
and s.sid = cs.sid
and cs.ssn = c.ssn
order by l.l_name;
```



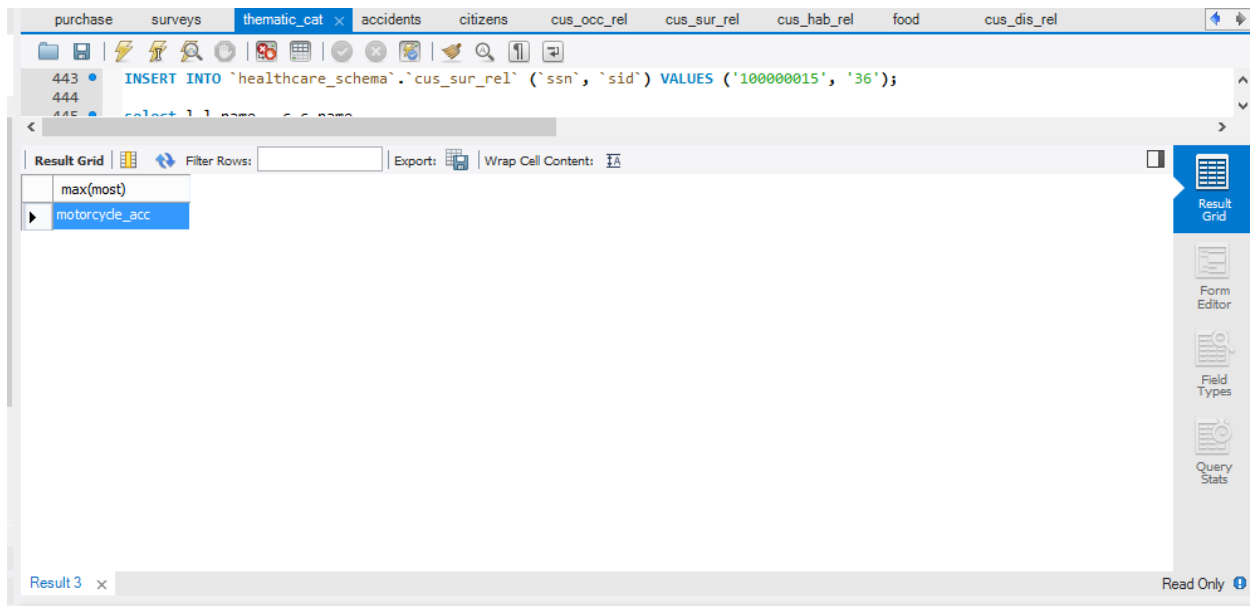
The screenshot shows a database query result grid. The grid has two columns: 'l\_name' and 'c\_name'. The data is as follows:

l_name	c_name
Town A	cit1
Town A	cit3
Town B	cit7
Town B	cit9
Town C	cit11
Town C	cit14
Town C	cit15

The interface includes a 'Result Grid' tab, a 'Filter Rows' input field, and an 'Export' button. The bottom status bar indicates 'Result 2' is selected and the view is 'Read Only'.

## Query 2:

```
select max(most) from (  
select case when sum(car_acc) >= sum(motorcycle_acc) AND sum(car_acc) >=  
sum(ped_acc) then 'car_acc' when sum(motorcycle_acc) >= sum(ped_acc) AND  
sum(motorcycle_acc) >= sum(car_acc) then 'motorcycle_acc' when sum(ped_acc)  
>= (car_acc) AND sum(ped_acc) >= (motorcycle_acc) then 'ped_acc'  
end AS most  
from locations as l, surveys as s, env_parameters as e, accidents as a  
where l.zip = s.zip  
and s.sid = e.sid  
and e.aid = a.aid  
and l.l_name = 'Town B') as d;
```



### Query 3:

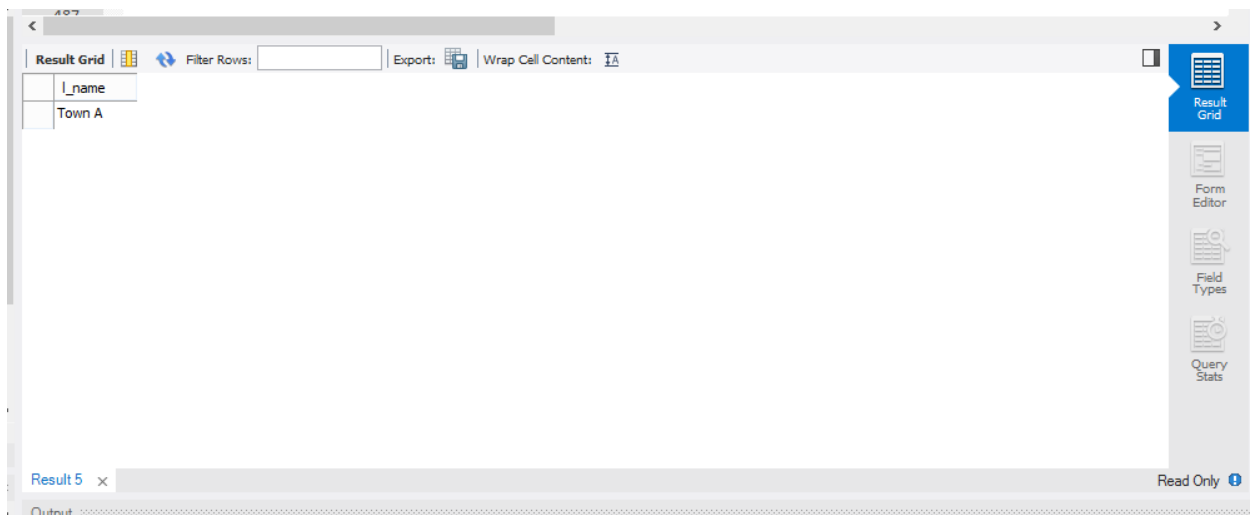
```
select l.l_name, count(*) /  
( select count(*)  
from locations as l, surveys as s, cus_sur_rel as cs  
where l.l_name = 'Town B'  
and l.zip = s.zip  
and s.sid = cs.sid  
and (s.s_date < '2015-01-01' && s_date >= '2014-01-01' )  
) * 100 AS 'Prevalence of diabetes'  
from locations as l, surveys as s, cus_dis_rel as cd, cus_sur_rel as cs  
where l.l_name = 'Town B'  
and l.zip = s.zip  
and s.sid = cs.sid  
and cd.d_type = 'Diabetes'  
and cs.ssn = cd.ssn  
and (s.s_date < '2015-01-01' && s_date >= '2014-01-01' );
```

The screenshot shows a database query tool interface. At the top, a SQL query is displayed in a text editor. Below the query, a 'Result Grid' is shown with two columns: 'l\_name' and 'Prevalence of diabetes'. The first row of data shows 'Town B' with a prevalence of 20.0000. The interface includes a toolbar with various icons for file operations, editing, and viewing. On the right side, there is a vertical toolbar with icons for 'Result Grid', 'Form Editor', 'Field Types', and 'Query Stats'. The bottom status bar indicates 'Result 4' and 'Read Only'.

l_name	Prevalence of diabetes
Town B	20.0000

#### Query 4:

```
select l.l_name
from locations as l, surveys as s, cus_dis_rel as cd, cus_sur_rel as cs
where l.zip = s.zip
and s.sid = cs.sid
and cd.d_type = 'Diabetes'
and cs.ssn = cd.ssn
and (s.s_date < '2013-01-01' && s_date >= '2012-01-01')
having count(*) = (
select min(mycount) from (
select l.l_name , count(cd.ssn) mycount
from locations as l, surveys as s, cus_dis_rel as cd, cus_sur_rel as cs
where l.zip = s.zip
and s.sid = cs.sid
and cd.d_type = 'Diabetes'
and cs.ssn = cd.ssn
and (s.s_date < '2013-01-01' && s_date >= '2012-01-01' )
) as s );
```



### Query 5:

```
select l.l_name
```

```
from locations as l, surveys as s, env_parameters as e, accidents as a
```

```
where l.zip = s.zip
```

```
and s.sid = e.sid
```

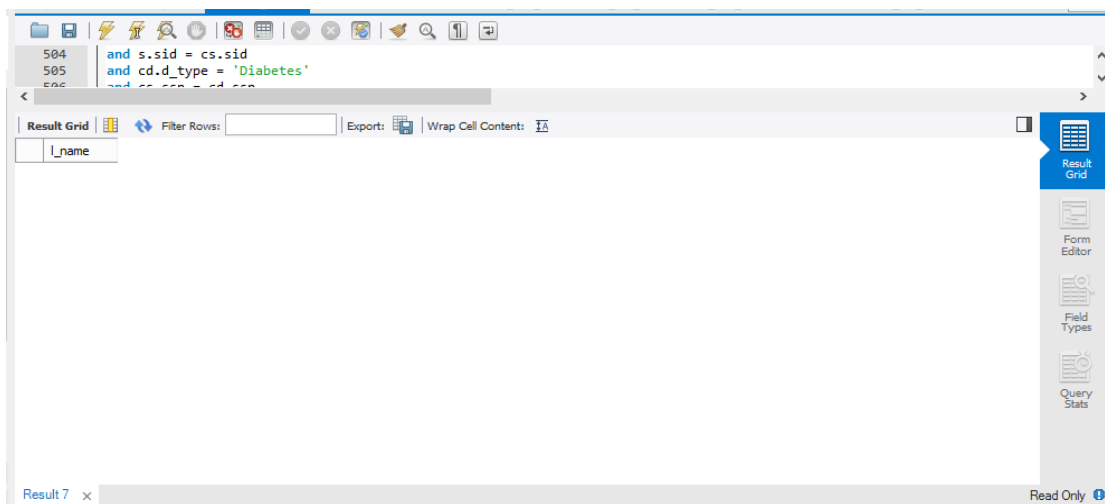
```
and e.aid = a.aid
```

```
group by l.l_name
```

```
having sum(car_acc) = 0
```

```
and sum(motorcycle_acc) = 0
```

```
and sum(ped_acc) = 0;
```



## Query 6:

```
select count(*) / (  
select count(hc_name)  
from healthcare_infra as h, locations as l, surveys as s  
where h.zip = s.zip  
and l_name = 'Town C'  
and l.zip = s.zip  
) AS 'citizen per health infra'  
from cus_sur_rel as cs, locations as l, surveys as s  
where s.zip = l.zip  
and l_name = 'Town C'  
and cs.sid = s.sid;
```

The screenshot shows a database query tool interface. At the top, there is a toolbar with various icons. Below the toolbar, the query text is displayed in a text area. The query is as follows:

```
516 where l.zip = s.zip  
517  
518 and cs.sid = s.sid
```

Below the query text, there is a "Result Grid" tab. The grid shows the following results:

	citizen per health infra
	1.3889

On the right side of the interface, there is a vertical toolbar with icons for "Result Grid", "Form Editor", "Field Types", and "Query Stats". At the bottom of the interface, there is a status bar that says "Result 8" and "Read Only".

### Query 7:

```
select l_name,count(h_type) - (  
select count(h_type)  
from cus_hab_rel as ch_,locations as l_,surveys as s_, cus_sur_rel as cs_  
where l.zip = l_.zip  
and s.sid = s_.sid  
and (s.s_date < '2013-01-01' && s.s_date >= '2012-01-01' )  
and cs.sid = cs_.sid  
and cs.ssn = cs_.ssn )  
AS 'change in the smoking habit'  
from cus_hab_rel as ch_,locations as l_,surveys as s, cus_sur_rel as cs  
where l.zip = s.zip  
and s.sid = cs.sid  
and (s.s_date < '2015-01-01' && s.s_date >= '2014-01-01' )  
and cs.sid = ch.sid  
and cs.ssn = ch.ssn  
group by l_name;
```

l_name	change in the smoking habit
Town A	8
Town B	3