

Querying

1.

SELECT \* FROM Restaurants limit 10;

```
sqlsh:restaurantsny> SELECT * FROM Restaurants limit 10;
```

id	borough	buildingnum	cuisinetype	name	phone
street	zipcode				
40786914	STATEN ISLAND	1465	American	BOSTON MARKET	7188151198
FOREST AVENUE	10302				
40366162	QUEENS	11909	American	LENIHAN'S SALOON	7188469770
ATLANTIC AVENUE	11418				
41692194	MANHATTAN	360	Thai	BANGKOK HOUSE	2125415943
WEST 46 STREET	10036				
41430956	BROOKLYN	2225	Caribbean	TJ'S TASTY CORNER	7184844783
TILDEN AVENUE	11226				
41385531	QUEENS	126	American	NATHAN'S HOT DOGS	7185958100
ROOSEVELT AVENUE	11368				
50005384	STATEN ISLAND	271	Chinese	YUMMY YUMMY	7184425888
PORT RICHMOND AVE	10302				
50005858	BROOKLYN	6005	Chinese	KING'S KITCHEN	7188531388
FORT HAMILTON PKWY	11219				
40962612	MANHATTAN	164	Italian	CESCA	2127876300
WEST 75 STREET	10023				
40995404	MANHATTAN	4195	Latin (Cuban, Dominican, Puerto Rican, South & Central American)	EL GUANACO RESTAURANT & PUPUSERIA	2127955400
BROADWAY	10033				
40368763	MANHATTAN	111	American	THE BROOK	2127537020
EAST 54 STREET	10022				

(10 rows)

2.

SELECT name FROM Restaurants;

name
MINT JUICERY AND YOGO
LA ROSA BAKERY
BOSTON MARKET
LENIHAN'S SALOON
BANGKOK HOUSE
TJ'S TASTY CORNER
NATHAN'S HOT DOGS
YUMMY YUMMY
KING'S KITCHEN
CESCA
EL GUANACO RESTAURANT & PUPUSERIA
THE BROOK
LEO'S DELI & GRILL
KAEDE JAPANESE RESTAURANT
JOHNS PIZZA
RICE & BEANS LECHONERA
INDIAN EXPRESS
DOUBLETREE GREENHOUSE 36
VIDAELVA
TK VILLAGE BAKERY COMPANY
BKB
SPRING
DUNKIN' DONUTS
PLANET WINGS
NEW CHINA RESTAURANT WANG INC
JIN SUSHI & THAI
JADE ASIAN EXPRESS INC
TIELLA RESTAURANT
SUBWAY
MATISSE
FRESH FRUTII
PISA PIZZERIA
PATISSERIE CLAUDE
GROM
WESTVILLE
FARMERS PIZZERIA
ORGANIC FOOD, NATURAL JUICES AND COFFEE SHOP
CAFE 11
COMMUNITY DINING HALL AT MCKEON HALL FORDAM UNIV
CROWN FRIED CHICKEN
BROOKLYN CAFE 1
MINT JUICERY AND YOGO
LA ROSA BAKERY
FAMOUS FAMIGLIA PIZZERIA
FRANCESCO PIZZERIA
NO. 1 YUMMY TACO
CRESCENT COFFEE SHOP
LA ROYALE BEER BURGER HOUSE
FAY DA BAKERY
HILLTOP PERK DELI
CONNECTICUT MUFFIN
KENNEDY CHICKEN AND PIZZA
GREENSTREETS SALADS
BLUE BOTTLE COFFEE
THE TOPAZ
R & J LOUNGE
SPRINKLES CUPCAKES
LA GUARIDA BAR
MAMA ROZ SOUL FOOD
STARBUCK COFFEE
HONG KONG BAKERY
DAEJI DAEJI KOREAN BBQ
LUISA CHIMICHURRY
SCALINI FEDELI
GREEN APPLE FOOD COURT /LATIN MEXICAN GRILL
SUBWAY
AUNT BELLA'S REST OF LITTLE NECK
ALMANAC
BROOKLYN BRIDGE GARDEN BAR
HUMMUS KITCHEN
LA NUEVA CANASTA
DRAGON PALACE
LITTLE MUESTER
KELLY COMMONS MARKETPLACE
PICANTERIA EL BOTECITO
THE CANTINE
BEDFORD CAFE & RESTAURANT
RUDY'S BAKERY
JUKAI
SIX BLOCKS BAKERY CAFE
FLUSHING BANGGANE

JUST SALAD
NATUREWORKS
SUBWAY
TOUT VA BIEN
FAME DINER
RESTAURANT ASSOCIATES LLC
NAAN & GRILL
YAKITORI TOTTO
NEW JING HUI RESTAURANT
TERREMOTO COFFEE
THE GUMBO BRO
CIBO EXPRESS GOURMET MARKET
LAZY POINT
SECRETS GENTLEMAN'S CLUB
BURGER KING, POPEYES LOUISIANA KITCHEN
BETWEEN THE BREAD
Sicilia Pizzeria
DAVEY'S ICE CREAM
THE LITTLE OWL
GARDEN CAFE
BEST ITALIAN PIZZA

---MORE---

3.

SELECT name,borough FROM Restaurants where id=41569764;

```
cqlsh:restaurantsny> SELECT name,borough FROM Restaurants where id=41569764;
```

name	borough
BACCHUS	BROOKLYN

4.

SELECT count(\*) FROM Restaurants where cuisinetype='French';

```
cqlsh:restaurantsny> SELECT count(*) FROM Restaurants where cuisinetype='French';
```

count
351

(1 rows)

5.

SELECT count(\*) FROM Inspections where grade='C';

```
cqlsh:restaurantsny> SELECT count(*) FROM Inspections where grade='C';
```

count
1683

(1 rows)

6.

SELECT count(\*) FROM Inspections where grade<'C' allow filtering;

```
cqlsh:restaurantsny> SELECT count(*) FROM Inspections where grade<'C' allow filtering;
```

count
77602

(1 rows)

7.

SELECT inspectiondate,grade FROM Inspections where idrestaurant=41569764;

```
cqlsh:restaurantsny> SELECT inspectiondate,grade FROM Inspections where idrestaurant=41569764;
```

inspectiondate	grade
2013-06-27	null
2013-07-08	A
2013-12-26	null
2014-02-05	A
2014-07-17	null
2014-08-06	A
2015-01-08	A
2016-02-25	A

(8 rows)

8.

SELECT name FROM Restaurants where cuisinetype='French';

name		
	CAFE D' ALSACE	
MATISSE	KING BEE	
ALMANAC	LA BERGAMOTE	
TOUT VA BIEN	TOCQUEVILLE RESTAURANT	
FELIX	BISTRO CHAT NOIR	
CREPES ON COLUMBUS	MADISON BISTRO	
THE BARONESS BAR	57TH BELLE HOUSE	
THE SIMONE	LA MIRABELLE RESTAURANT	
FP BAKERY	LE TRAIN BLEU & B CAFE	
VIN ET FLEURS	HUDSON CLEARWATER	
CAFE BOULUD/BAR PLEIADES	CHERI	
COCOTTE	VAUCLUSE	
Bourgeois Pig	PARDON MY FRENCH	
DELICE & SARRASIN	L' ANTAGONISTE	
LA TARTE FLAMBEE	MADAME SOU SOU	
JEAN GEORGES	THE BOUNTY	
MAISON MAY	DUET BRASSERIE	
DANIEL	MAISON KAYSER	
SAJU BISTRO	DIRTY PIERRES BISTRO	
LE PAIN QUOTIDIEN	L' AILE OU LA CUISSE (L' A. O. C)	CHICKEN PROVENCE
CAFE CLUNY	ABC COCINA	LAFAYETTE
BIN 71	FRENCH CAFE GOURMAND	VIVE LA CREPE
CREPES CELSTES	BISTRO VENDOME	ORSAY
JOYCE BAKESHOP	LE COQ RICO	CHEZ NAPOLEAN
THE FOX AND THE CREPES	THE LITTLE PRINCE	CHEZ JOSEPHINE
CAFE LOUP	LE COUCOU	LA BONNE SOUPE BISTRO
ROUGE TOMATE	TURKS & FROGS	BALTHAZAR RESTAURANT
LE PERIGORD	MAISON MAY	LA MANGEOTRE
NOGLU NEW YORK	Le Village	LA BOITE EN BOIS
BLISS 46 BISTRO	DOMAINE WINE BAR	PETIT OVEN
PASCALOU	B CAFE	CHOKOLAT PATISSERIE
BUVETTE	LUCIEN RESTAURAUNT	VAN LEEUWEN
LE PAIN QUOTIDIEN	SEL ET POIVRE RESTAURANT	CANNELLE PATISSERIE
UNION CLUB OF CITY OF NEW YORK	PETITE ABEILLE	BISTRO SK
CAFE LUXEMBOURG	RAMONA	MONTMARTRE
TISSERIE	BOULEY	VIN SUR VINGT
LE PAIN QUOTIDIEN	QUATORZE BISTRO	HEADLESS HORSEMAN
BAGATELLE	BONJOUR CREPES & WINE	PETROSSIAN BOUTIQUE
PARIS BAGUETTE	CAMAJE	BREUKELEN BRASSERIE
LE PAIN QUOTIDIEN		GOLDEN CREPES
		LE BARATIN
		---MORE---

9.

SELECT name FROM Restaurants where borough='BROOKLYN' ALLOW FILTERING;

name		
TJ'S TASTY CORNER	ROCCO'S PIZZERIA	
KING'S KITCHEN	SAPPORO JAPANESE CUISINE	
LEO'S DELI & GRILL	CAMILA'S CAFE	
JIN SUSHI & THAI	ZOMBIE HUT	
CROWN FRIED CHICKEN	SUBWAY	
BROOKLYN CAFE 1	EAST MET WEST	
CRESCENT COFFEE SHOP	BOOMWICH	
LA ROYALE BEER BURGER HOUSE	MCDONALD'S	
CONNECTICUT MUFFIN	KFC	
GREENSTREETS SALADS	NEW HONG KONG RESTAURANT II	
THE TOPAZ	SHAKE SHACK	
LA GUARIDA BAR	NABLUS SWEETS	
MAMA ROZ SOUL FOOD	WOLF & LAMB	
HONG KONG BAKERY	BARCEY'S COFFEE	
BROOKLYN BRIDGE GARDEN BAR	KALINA RESTAURANT	
THE CANTINE	ARMANDO'S PIZZA	PETITE FLEURY BAKERY
THE GUMBO BRO	SING WAH RESTAURANT	PIQUANT
DAVEY'S ICE CREAM	EL TEQUILERO BAR & RESTAURANT	CHEZ MACOULE RESTAURANT
CROWN FRIED CHICKEN	KONDITORI	FOOTPRINTS CAFE EXPRESS
THAI TONY'S	SWEETLEAF COFFEE	PANDA
CHINA DRAGON	NEW ZHANG'S GARDEN	DUNKIN' DONUTS
KNAPP BAGEL CAFE	VAQUEROS	KINARA INDIAN RESTAURANT
SCHNITZI SCHNITZEL BAR	LIU'S SHANGHAI INC	TEPANGO RESTAURANT
INDIGO MURPHY'S	LA CEMITA MEXICAN GRILL CORP	FRANNY'S
EDDIE JR'S SPORT LOUNGE	COURT ORDER	FRANKIES 457
EL GRAN MAR DE PLATA	EL PASO MEXICAN GRILL	re.union
MALAY BAKERY	SCOPELLO	JAM ROCK
EL NUEVO BARZOLA RESTAURANT	VETERANS OF FOREIGN WARS POST #107 CANTEEN	983 BUSHWICK LIVING ROOM
PURITAN RESTAURANT	RASOI	PROPELLERHEAD
EL CHARRO POBLANO	MIRAKUYA	HOPE & ANCHOR
HOLIDAY INN EXPRESS	AGRA HEIGHTS	IKHOFT CAFE
SUBWAY	HAAGEN-DAZS	THE VALE
BREUCKELEN COLONY	TYGERSHARK	YOSSIS GLATT SUSHI
SILENT BARN	COURT STREET GROCERS HERO SHOP	BLANK CAFE
BATATA	MUCHMORE'S	KI SUSHI
WHITE CASTLE	DUNKIN' DONUTS	SUBWAY
BUBBLE TEA- B.B.Q	FAMILY KITCHEN	
RED SUN RESTAURANT	ANARKALI INDIAN FOOD	
OUTPOST	GFC	
	TONY'S PIZZA, JERK CHICKEN AND FISH	---

```
SELECT grade,score FROM Inspections where idrestaurant=41569764 and score>=10 ALLOW
FILTERING;
```

```
SELECT grade FROM Inspections where score>30 and grade>' ' ALLOW FILTERING;
```

```
SELECT count(grade) FROM Inspections where score>30 and grade>' ' ALLOW FILTERING;
```

```
SELECT name FROM Restaurants where token(id)>0;
```



		GRIFF'S PLACE MCDONALD'S BUSTLER COFFEE ISLAND ROTI SHOP & BAKERY TAURUS BAR AND RESTAURANT SALVATION TACO BLARNEY ROCK CAFE OLYMPIA DUCKS EATERY BLUE VELVET LOUNGE DUNKIN' DONUTS SAM'S RESTAURANT MCDONALD'S LUPITA'S MEXICAN FOOD SHAWARMA GRILL LE PAIN QUOTIDIEN ROSCO'S PIZZERIA SARGE'S LOWER EAST SIDE PIZZA THE EDGE BAR NILDA'S SPORT BAR BBQ VILLAGE GIORGIONE VON ILILI RESTAURANT SUBWAY BAR PRIMA DUNKIN' DONUTS LAS PERLAS SALVADORENO RESTAURANTE CHIPOTLE MEXICAN GRILL CAMPO BELLO RESTAURANT 2 UNCLE WANG CHINESE FOOD OC DESSERT MEXICO LINDO RESTAURANT L. A. BURRITO SPRINKLES ICE CREAM HILL COUNTRY PULAU PINANG MALAYSIAN CUISINE GENUINE ROADSIDE	GENUINE ROADSIDE DUNKIN' DONUTS, BASKIN ROBBINS MISIRIZZI FUJI JAPANESE RESTAURANT AMERICAS BURGER AND WRAPS MR AND MISS CAFE MEJOR VIDA THE CORBALS SUBWAY ROYAL SIAM THAI BOOTLEG MANNINGS DUCK VILLAGE CHINESE RESTAURANT MODHU MITA INDIAN RESTAURANT CAFE WATER BOMBAY KITCHEN INDIAN CUISINE V. I. P. CLUB TAIWAN BEAR HOUSE ABIGAIL'S BAKESHOP DOMINO'S CHINA STAR BUFFET MELA'S CAFE & RESTAURANT SIDO FALAFEL & MORE FUEL
name	TAL BAGELS SOY JIMBO'S HAMBURGER PLACE BURGER LODGE BROOKLYN ROCKS SUBWAY AMICI BAR COCO FRESH TEA & JUICE EUROPA CAFE THE HARD SWALLOW AMCOOK FUSION SUSHI & ASIAN CUISINE TAPAS & PAPAS GUAN HIN RESTAURANT AZALEA PEARL'S SOCIAL & BILLY CLUB OFF BROADWAY DELI & PIZZERIA MILAN SPORTS BAR DUNKIN' DONUTS NEW SIU'S KITCHEN ELEGANT CHINESE RESTAURANT GOOD HOPE RESTAURANT CASELLA BAGEL COFFEE SHOP SUBWAY PIZZA 23 MCDONALD'S KRYSTAL PASTRY SHOP FAIRYTALES LOUNGE CROWN CHICKEN & PIZZA LOCUST POINT YACHT CLUB JEWEL'S CAFE WENDY'S OSTERIA SERAFINA FLASH DANCERS STAFF CAFF K LOVE Q CHINESE RESTAURANT KOONG WING RESTAURANT PYRAMID COFFEE COMPANY JIMMY'S TRATTORIA ELREY		

14.

```
SELECT count(*) FROM Restaurants where token(id)>0;
SELECT count(*) FROM Restaurants where token(id)<0;
```

```

cqlsh:restaurantsny> SELECT count(*) FROM Restaurants where token(id)>0;

count
-----
12825

(1 rows)
cqlsh:restaurantsny> SELECT count(*) FROM Restaurants where token(id)<0;

count
-----
12799

(1 rows)

```

Rows are evenly distributed in different Partition, hash function plays a good position.

### Additional queries

1.

```
CREATE INDEX ix_Restaurant_borough ON Restaurants (Borough);
SELECT Name FROM Restaurants WHERE borough='BROOKLYN' ;
```

name		
TJ'S TASTY CORNER		
KING'S KITCHEN		
LEO'S DELI & GRILL	ROCCO'S PIZZERIA	
JIN SUSHI & THAI	SAPPORO JAPANESE CUISINE	
CROWN FRIED CHICKEN	CAMILA'S CAFE	
BROOKLYN CAFE 1	ZOMBIE HUT	
CRESCENT COFFEE SHOP	SUBWAY	
LA ROYALE BEER BURGER HOUSE	EAST MET WEST	
CONNECTICUT MUFFIN	BOOMWICH	
GREENSTREETS SALADS	MCDONALD'S	
THE TOPAZ	KFC	
LA GUARIDA BAR	NEW HONG KONG RESTAURANT II	
MAMA ROZ SOUL FOOD	SHAKE SHACK	
HONG KONG BAKERY	NABLUS SWEETS	
BROOKLYN BRIDGE GARDEN BAR	WOLF & LAMB	
THE CANTINE	BARCEY'S COFFEE	
THE GUMBO BRO	KALINA RESTAURANT	
DAVEY'S ICE CREAM	ARMANDO'S PIZZA	
CROWN FRIED CHICKEN	SING WAH RESTAURANT	
THAI TONY'S	EL TEQUILERO BAR & RESTAURANT	
CHINA DRAGON	KONDITORI	TONY'S PIZZA, JERK CHICKEN AND FISH
KNAPP BAGEL CAFE	SWEETLEAF COFFEE	PETITE FLEURY BAKERY
SCHNITZI SCHNITZEL BAR	NEW ZHANG'S GARDEN	PIQUANT
INDIGO MURPHY'S	VAQUEROS	CHEZ MACOULE RESTAURANT
EDDIE JR'S SPORT LOUNGE	LIU'S SHANGHAI INC	FOOTPRINTS CAFE EXPRESS
EL GRAN MAR DE PLATA	LA CEMITA MEXICAN GRILL CORP	PANDA
MALAY BAKERY	COURT ORDER	DUNKIN' DONUTS
EL NUEVO BARZOLA RESTAURANT	EL PASO MEXICAN GRILL	KINARA INDIAN RESTAURANT
PURITAN RESTAURANT	SCOPELLO	TEPANGO RESTAURANT
EL CHARRO POBLANO	VETERANS OF FOREIGN WARS POST #107 CANTEEN	FRANNY'S
HOLIDAY INN EXPRESS	RASOI	FRANKIES 457
SUBWAY	MIRAKUYA	re.union
BREUCKELEN COLONY	AGRA HEIGHTS	JAM ROCK
SILENT BARN	HAAGEN-DAZS	983 BUSHWICK LIVING ROOM
BATATA	TYGERSHARK	PROPELLERHEAD
WHITE CASTLE	COURT STREET GROCERS HERO SHOP	HOPE & ANCHOR
BUBBLE TEA- B.B.Q	MUCHMORE'S	IKHOPI CAFE
RED SUN RESTAURANT	DUNKIN' DONUTS	THE VALE
OUTPOST	FAMILY KITCHEN	YOSSIS GLATT SUSHI
	ANARKALI INDIAN FOOD	BLANK CAFE
	GFC	KI SUSHI
		SUBWAY
		---

SELECT count(\*) FROM Restaurants WHERE borough='BROOKLYN' ;

count
6260
(1 rows)

2.

SELECT name FROM Restaurants WHERE borough='BROOKLYN' and cuisinetype='French' ALLOW FILTERING;

name	
MAISON MAY	cafe paulette
JOYCE BAKESHOP	BRASSERIE SEOUL
THE FOX AND THE CREPES	BAR OMAR
L' ANTAGONISTE	JOLIE CANTINA
THE BOUNTY	WITLOF
MAISON MAY	LE GAMIN
RAMONA	JULIETTE
PETIT OVEN	LE P' TIT PARIS BISTRO
VAN LEEUWEN	FRENCH LOUIE
BREUKELN BRASSERIE	CHAGALL BISTRO
OLIVIER	STATION
XO CREPERIE	PATES el TRADITIONS
MOINETTE	LE PAIN QUOTIDIEN
BAR TABAC	LE GARAGE
ART HOUSE RESTAURANT	THE PARK BENCH CAFE & CREPERIE
LE PADDOCK	THE BROOKLYN LABEL
LA CIGOGNE	TALON BAR
BISTRO PETIT	SANTOS ANNE
MANILA SOCIAL CLUB	CAFE DADA
CHEZ MOI	
BIG ROLLAND	
MAISON KAYSER	
HILL CAFE	
CAFE LAFAYETTE	
OLEANDERS	
LE BARRICOU	
CASSETTE	
LE PARIS DAKAR	
LA VUE	
BACCHUS	
TRIX	
LA DEFENSE	
LANGE NOIR CAFE	
PETIT CREVETTE	
ATRIUM DUMBO	
PROVENCE EN BOITE	
SAUVAGE	

(56 rows)

3.

Both index on borough and cuisinetype are used.

Tracing session: 652317c0-67df-11ed-b0e7-7531738c8047

activity stamp	source	source_elapsed	client	time
				Execute CQL3 query
-11-19 07:54:29.058000	172.17.0.2	0	127.0.0.1	2022
-11-19 07:54:29.070000	172.17.0.2	14303	127.0.0.1	2022
				Preparing statement [Native-Transport-Requests-1]
-11-19 07:54:29.071000	172.17.0.2	15034	127.0.0.1	2022
-11-19 07:54:29.072000	172.17.0.2	16316	127.0.0.1	2022
				Computing ranges to query [Native-Transport-Requests-1]
-11-19 07:54:29.073000	172.17.0.2	16864	127.0.0.1	2022
-11-19 07:54:29.074000	172.17.0.2	17536	127.0.0.1	2022
				Submitted 1 concurrent range requests [Native-Transport-Requests-1]
-11-19 07:54:29.074000	172.17.0.2	18220	127.0.0.1	2022
-11-19 07:54:29.074000	172.17.0.2	18364	127.0.0.1	2022
-11-19 07:54:29.075000	172.17.0.2	18486	127.0.0.1	2022
				Acquiring sstable references [ReadStage-3]
-11-19 07:54:29.075000	172.17.0.2	18544	127.0.0.1	2022
-11-19 07:54:29.075000	172.17.0.2	18663	127.0.0.1	2022
-11-19 07:54:29.075000	172.17.0.2	18766	127.0.0.1	2022
-11-19 07:54:29.075000	172.17.0.2	19099	127.0.0.1	2022
-11-19 07:54:29.075000	172.17.0.2	19259	127.0.0.1	2022

4.

No, Cassandra does not support joins (NoSQL heritage).

2.2

### First access pattern

1.

```
CREATE TYPE restaurants( Name VARCHAR, borough VARCHAR, BuildingNum VARCHAR, Street VARCHAR, ZipCode INT, Phone text, CuisineType VARCHAR);
```

```
CREATE TABLE InspectionsRestaurantsNY(idRestaurant INT,restaurant frozen<restaurants>,InspectionDate date, ViolationCode VARCHAR, ViolationDescription VARCHAR, CriticalFlag VARCHAR, Score INT, GRADE VARCHAR,primary key(idRestaurant, InspectionDate));
```

2.

```
INSERT INTO InspectionsRestaurantsNY JSON '{"idRestaurant":1111, "restaurant": {"name": "IHOP", "borough": "BRONX", "buildingnum": "5655", "street": "BROADWAY", "zipcode": "10463", "phone": "7185494565", "cuisineType": "American"}, "inspectionDate": "2016-08-16", "violationCode": "04L", "violationDescription": "testtest", "criticalFlag": "Critical", "score":15, "grade": ""}';
```

```
cqlsh:restaurantsny> SELECT COUNT(*) from InspectionsRestaurantsNY ;
```

count
1

(1 rows)

3.

```
cqlsh:restaurantsny> SELECT COUNT(*) from InspectionsRestaurantsNY ;
```

count
150882

(1 rows)



4.

CREATE INDEX ix\_Inspections\_Restaurant ON InspectionsRestaurantsNY(Grade);

SELECT \* FROM InspectionsRestaurantsNY WHERE Grade='A' GROUP BY idRestaurant;

```
sqlsh:restaurantsny> SELECT * FROM InspectionsRestaurantsNY WHERE Grade='A' ;
```

idrestaurant	inspectiondate	criticalflag	grade	restaurant	score	violationcode	violationdescription
40786914	2014-07-10	Critical	A	'BOSTON MARKET', borough: 'STATEN ISLAND', buildingnum: '1465', street: 'FOREST AVENUE', zipcode: 10302, phone: '7188151198', cuisinetype: 'American'	12	06F	Wiping cloths soiled or not stored in sanitizing solution.
40786914	2015-07-01	Critical	A	'BOSTON MARKET', borough: 'STATEN ISLAND', buildingnum: '1465', street: 'FOREST AVENUE', zipcode: 10302, phone: '7188151198', cuisinetype: 'American'	12	06D	Food contact surface not properly washed, rinsed and sanitized after each use and following any activity when contamination may have occurred.
40786914	2016-08-10	Critical	A	'BOSTON MARKET', borough: 'STATEN ISLAND', buildingnum: '1465', street: 'FOREST AVENUE', zipcode: 10302, phone: '7188151198', cuisinetype: 'American'	7	06E	Sanitized equipment or utensil, including in-use food dispensing utensil, improperly used or stored.
40366162	2014-02-15	Critical	A	'LENIHAN'S SALOON', borough: 'QUEENS', buildingnum: '11909', street: 'ATLANTIC AVENUE', zipcode: 11418, phone: '7188469770', cuisinetype: 'American'	13	04N	Filth flies or food/refuse/sewage-associated (FRSA) flies present in facility's food and/or non-food areas. Filth flies include house flies, little house flies, bottle flies, and flesh flies. Food/refuse/sewage-associated flies include fruit flies, drain flies and Phorid flies.
40366162	2014-11-20	Critical	A	'LENIHAN'S SALOON', borough: 'QUEENS', buildingnum: '11909', street: 'ATLANTIC AVENUE', zipcode: 11418, phone: '7188469770', cuisinetype: 'American'	9	04L	

5.

SELECT idRestaurant,restaurant.name,COUNT(\*) FROM InspectionsRestaurantsNY GROUP BY idRestaurant;

idrestaurant	restaurant_name	count
40786914	BOSTON MARKET	8
40366162	LENIHAN'S SALOON	8
41621214	BANGKOK HOUSE	12
41436956	TJ'S TASTY CORNER	12
41395531	NATHAN'S HOT DOGS	3
50065384	YUM! YUM!	3
50005838	KING'S KITCHEN	8
40963612	CESCA	10
40984404	EL GUANACO RESTAURANT & PIZZERIA	8
40368763	THE BROOK	6
50019260	LEO'S DELI & GRILL	8
50015473	KADEE JAPANESE RESTAURANT	6
41704055	JOHN'S PIZZA	8
40866476	RICE & BEANS LECHONERA	7
50044741	INDIAN EXPRESS	2
41630020	DOUBLETREE GREENHOUSE 36	8
41569081	VIDAMBA	4
50040575	TK VILLAGE BAKERY COMPANY	1
41569184	RGB	8
41710788	SPRING	11
41453240	DUNKIN' DONUTS	4
41517701	PLANET WINGS	6
50015747	NEW CHINA RESTAURANT WANG INC	3
50009849	JIN SUSHI & TEAI	6
50011887	JADE ASIAN EXPRESS INC	5
41483427	TIELLA RESTAURANT	9
41615509	SUBWAY	7
41406562	WATISSSE	10
50037966	FRESH FRUITI	4
40380628	PISA PIZZERIA	8
41510760	PATISSERIE CLAUDE	7
41332375	GROM	5
41231284	RESTVILLE	7
41429186	FARMERS PIZZERIA	4
50005784	ORGANIC FOOD, NATURAL JUICES AND COFFEE SHOP	13
41409366	CAFE 11	7
50052562	COMMUNITY DINING HALL AT MCKEON HALL FORDAM UNIV	1
50001970	CROWN FRIED CHICKEN	13
50027419	BROOKLYN CAFE 1	5

## Second access pattern

1.

No, Frozen point means point type is frozen, we can't partially provide point value, we have to provide the full value of point.

2.

CREATE TABLE InspectionsRestaurantsMap(id INT, Name VARCHAR, borough VARCHAR, BuildingNum VARCHAR, Street VARCHAR, ZipCode INT, Phone text, CuisineType VARCHAR, Inspections map<VARCHAR, frozen<Inspection>>, primary key(id));

4.

INSERT INTO InspectionsRestaurantsMap JSON '{"id":50041578,"name": "IHOP", "borough": "BRONX", "buildingnum": "5655", "street": "BROADWAY", "zipcode": "10463", "phone": "7185494565", "cuisineType": "American", "Inspections":{"BRONX":{"inspectionDate": "2016-08-16", "violationCode": "04L", "violationDescription": "Evidence of mice or live mice present or non-food areas.", "criticalFlag": "Critical", "score":15, "grade": "A"}}}';

5.

SELECT \* FROM InspectionsRestaurantsMap WHERE inspections contains KEY 'BRONX'ALLOW



FILTERING;

```
cqlsh:restaurantsny> SELECT * FROM InspectionsRestaurantsMap WHERE inspections contains KEY 'BRONX' ALLOW FILTERING;
```

id	borough	buildingnum	cuisinetype	inspections
	name	phone	street	zipcode
50041578	BRONX	5655	American	{'BRONX': {inspectiondate: 2016-08-16, violationcode: '04L', violationdescription: 'Evidence of mice or live mice present or non-food areas.', criticalflag: 'Critical', score: 15, grade: 'A'}}
IHOP	7185494565	BROADWAY	10463	