USE CASES

Use Case 1: View the total number of incidents in Boston

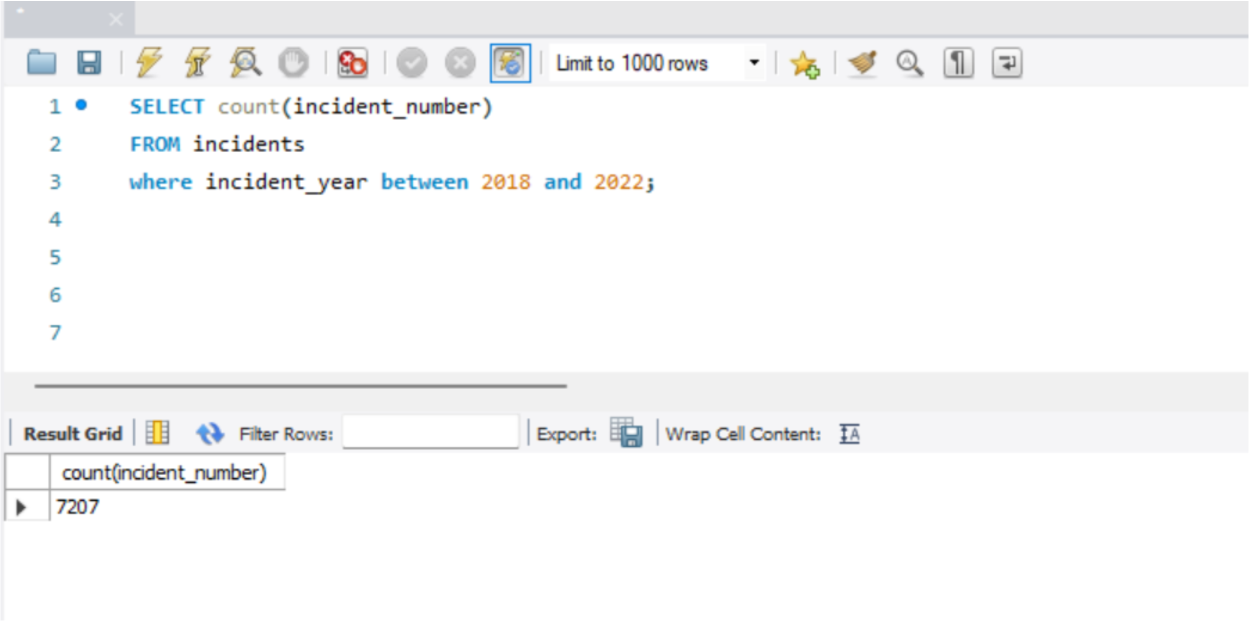
Description: User views the total number of incidents in last 5 years.
Actor: User
Steps:
Actor action: User views the total number of incidents.
System Response: Incidents for a Boston location are displayed.
Post Condition: System displays all the incidents reported for Boston location.

Count the total number of incidents occured in boston in last 5 years?

SELECT count(incident_number)

FROM incidents

where incident_year between 2018 and 2022;



```
SELECT count(incident_number)
FROM incidents
where incident_year between 2018 and 2022;
```

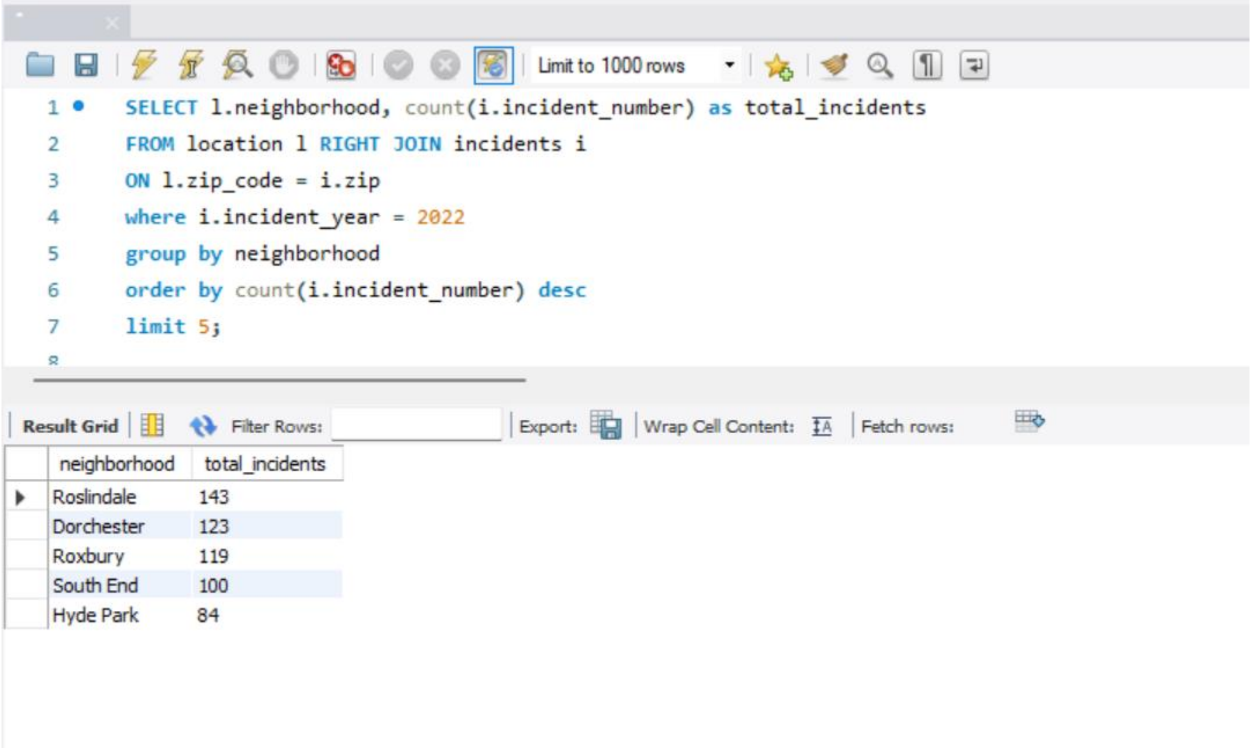
```
count(incident_number)
7207
```

Use Case2: User views top 5 neighborhoods in Boston for highest crime incidents.

Description: User views the top 5 neighborhoods with highest number of incidents.
Actor: User
Precondition:
Steps:
Actor action: User views top 5 locations.
System Response: Incidents for top 5 locations are displayed.
Post Condition: System displays all the incidents reported for user searched criteria.

List the top 5 neighborhoods in Boston with highest crime incidents?

```
SELECT l.neighborhood, count(i.incident_number) as total_incidents
FROM location l RIGHT JOIN incidents i
ON l.zip_code = i.zip
where i.incident_year = 2022
group by neighborhood
order by count(i.incident_number) desc
limit 5;
```



```
SELECT l.neighborhood, count(i.incident_number) as total_incidents
FROM location l RIGHT JOIN incidents i
ON l.zip_code = i.zip
where i.incident_year = 2022
group by neighborhood
order by count(i.incident_number) desc
limit 5;
```

neighborhood	total_incidents
Roslindale	143
Dorchester	123
Roxbury	119
South End	100
Hyde Park	84

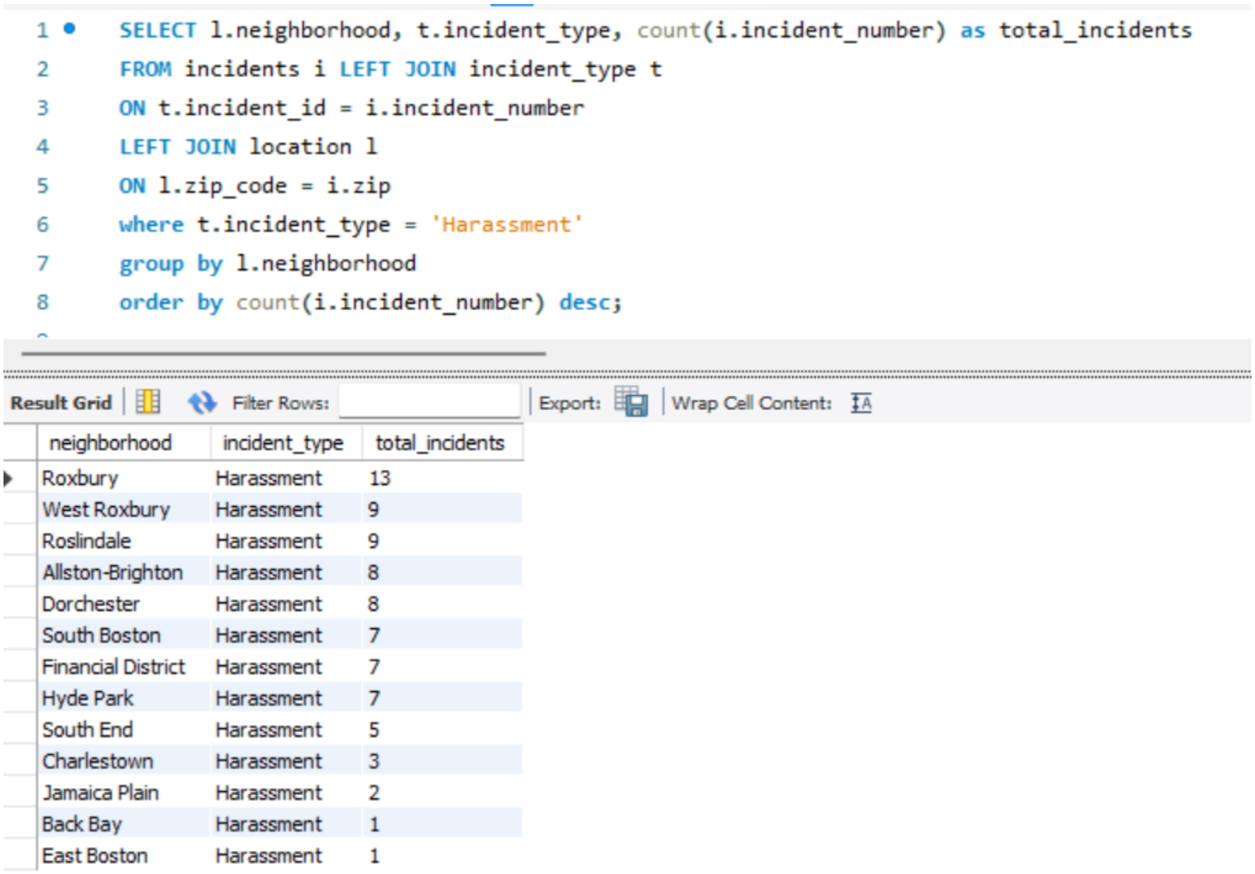
Use Case3: User views the harassment incidents in Boston.

Description: User views the harassment incidents in Boston along with streets.
Actor: User
Precondition:
Steps:
Actor action: User views the harassment incidents per street.
System Response: Harassment incidents are displayed.
Post Condition: System displays all the incidents reported for user searched criteria.

Count the harassment incidents on Boston streets

```
SELECT l.neighborhood, t.incident_type, count(i.incident_number) as total_incidents

FROM incidents i LEFT JOIN incident_type t
```

```
ON t.incident_id = i.incident_number

LEFT JOIN location l

ON l.zip_code = i.zip

where t.incident_type = 'Harassment'

group by l.neighborhood

order by count(i.incident_number) desc;
```



```
SELECT l.neighborhood, t.incident_type, count(i.incident_number) as total_incidents
FROM incidents i LEFT JOIN incident_type t
ON t.incident_id = i.incident_number
LEFT JOIN location l
ON l.zip_code = i.zip
where t.incident_type = 'Harassment'
group by l.neighborhood
order by count(i.incident_number) desc;
```

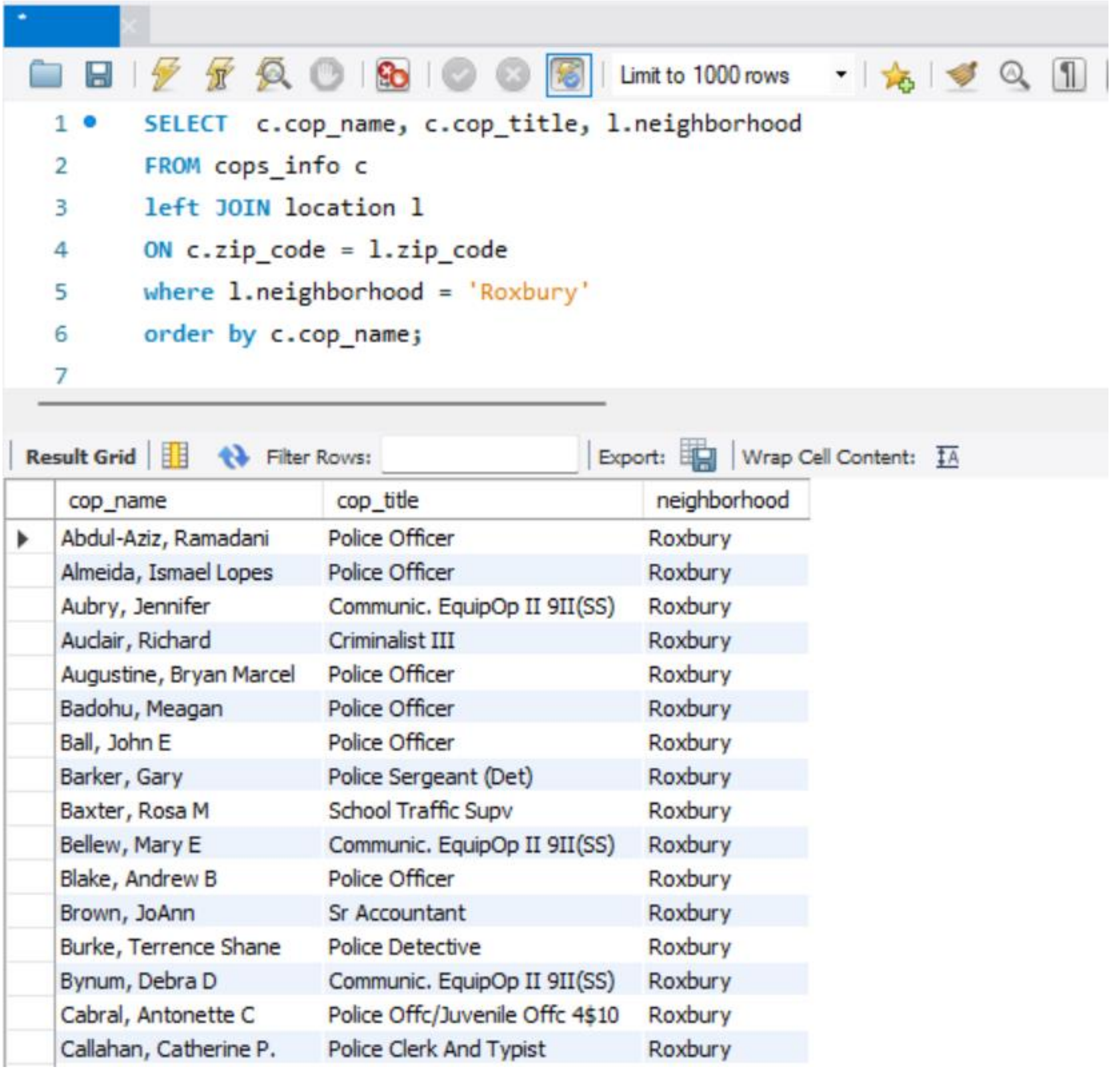
neighborhood	incident_type	total_incidents
Roxbury	Harassment	13
West Roxbury	Harassment	9
Roslindale	Harassment	9
Allston-Brighton	Harassment	8
Dorchester	Harassment	8
South Boston	Harassment	7
Financial District	Harassment	7
Hyde Park	Harassment	7
South End	Harassment	5
Charlestown	Harassment	3
Jamaica Plain	Harassment	2
Back Bay	Harassment	1
East Boston	Harassment	1

Use Case4: User views the officers details deployed for a particular location.

Description: User views the officers details for a neighborhood in Boston.
Actor: User
Precondition:
Steps:
Actor action: User views officers details.
System Response: All the officers details along with name and title are displayed.
Post Condition: System displays all the details requested by the user.

Who are the cops in charge for Roxbury?

```
SELECT  c.cop_name, c.cop_title, l.neighborhood

FROM cops_info c

left JOIN location l

ON c.zip_code = l.zip_code

where l.neighborhood = 'Roxbury'

order by c.cop_name;
```



```
SELECT  c.cop_name, c.cop_title, l.neighborhood
FROM cops_info c
left JOIN location l
ON c.zip_code = l.zip_code
where l.neighborhood = 'Roxbury'
order by c.cop_name;
```

cop_name	cop_title	neighborhood
Abdul-Aziz, Ramadani	Police Officer	Roxbury
Almeida, Ismael Lopes	Police Officer	Roxbury
Aubry, Jennifer	Communic. EquipOp II 9II(SS)	Roxbury
Auclair, Richard	Criminalist III	Roxbury
Augustine, Bryan Marcel	Police Officer	Roxbury
Badohu, Meagan	Police Officer	Roxbury
Ball, John E	Police Officer	Roxbury
Barker, Gary	Police Sergeant (Det)	Roxbury
Baxter, Rosa M	School Traffic Supv	Roxbury
Bellew, Mary E	Communic. EquipOp II 9II(SS)	Roxbury
Blake, Andrew B	Police Officer	Roxbury
Brown, JoAnn	Sr Accountant	Roxbury
Burke, Terrence Shane	Police Detective	Roxbury
Bynum, Debra D	Communic. EquipOp II 9II(SS)	Roxbury
Cabral, Antonette C	Police Offc/Juvenile Offc 4$10	Roxbury
Callahan, Catherine P.	Police Clerk And Typist	Roxbury

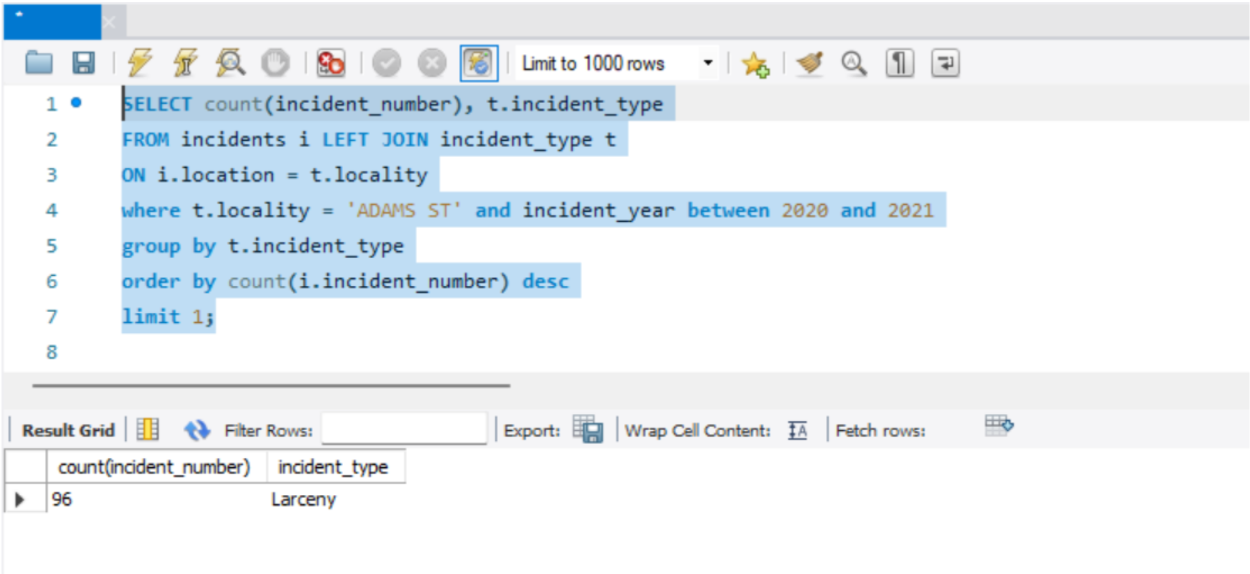
Use Case5: User views the incidents for a particular street happened in a year.

Description: User views the incidents details with respect to street.
Actor: User

Precondition:
Steps:
Actor action: User views the incidents for Adams St.
System Response: Incidents happened in Adams St are displayed.
Post Condition: System displays all the incidents reported for user searched criteria.

What is the most recurring incident on Adams Street in a one year period.

SELECT count(incident_number), t.incident_type
FROM incidents i LEFT JOIN incident_type t
ON i.location = t.locality
where t.locality = 'ADAMS ST' and incident_year between 2020 and 2021
group by t.incident_type
order by count(i.incident_number) desc
limit 1;



```sql
SELECT count(incident_number), t.incident_type
FROM incidents i LEFT JOIN incident_type t
ON i.location = t.locality
where t.locality = 'ADAMS ST' and incident_year between 2020 and 2021
group by t.incident_type
order by count(i.incident_number) desc
limit 1;
```

count(incident_number)	incident_type
96	Larceny

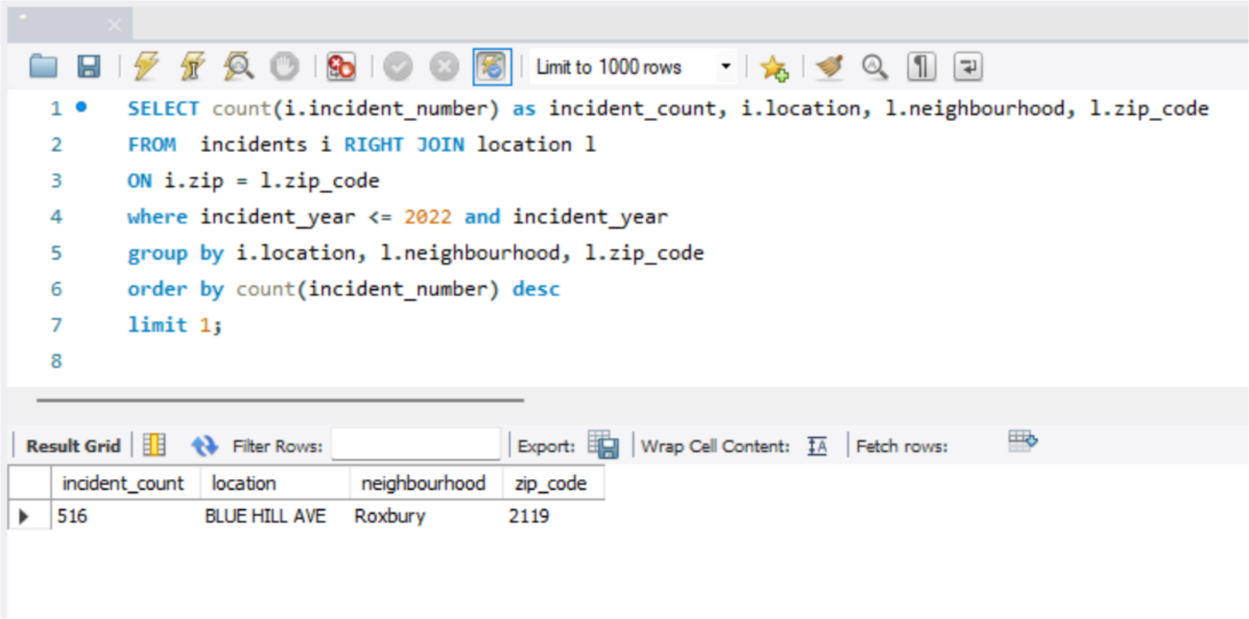
Use Case6: User views the details of the street along with neighborhood and zipcode which marked the highest number of incidents in last 5 year.

Description: User views the incidents details with respect to time period.
Actor: User
Precondition:
Steps:
Actor action: User views the highest number of incidents for a time frame.
System Response: Which street had highest number of incidents in last 5 years id displayed.
Post Condition: System displays all the incidents reported for user searched criteria.

The above use case determines the highly unsafe street in Boston.

SELECT count(i.incident_number) as incident_count, i.location, l.neighbourhood, l.zip_code

```
FROM  incidents i RIGHT JOIN location l
ON i.zip = l.zip_code
where incident_year <= 2022 and incident_year >=2018
group by i.location, l.neighbourhood, l.zip_code
order by count(incident_number) desc
limit 1;
```



```
SELECT count(i.incident_number) as incident_count, i.location, l.neighbourhood, l.zip_code
FROM  incidents i RIGHT JOIN location l
ON i.zip = l.zip_code
where incident_year <= 2022 and incident_year
group by i.location, l.neighbourhood, l.zip_code
order by count(incident_number) desc
limit 1;
```

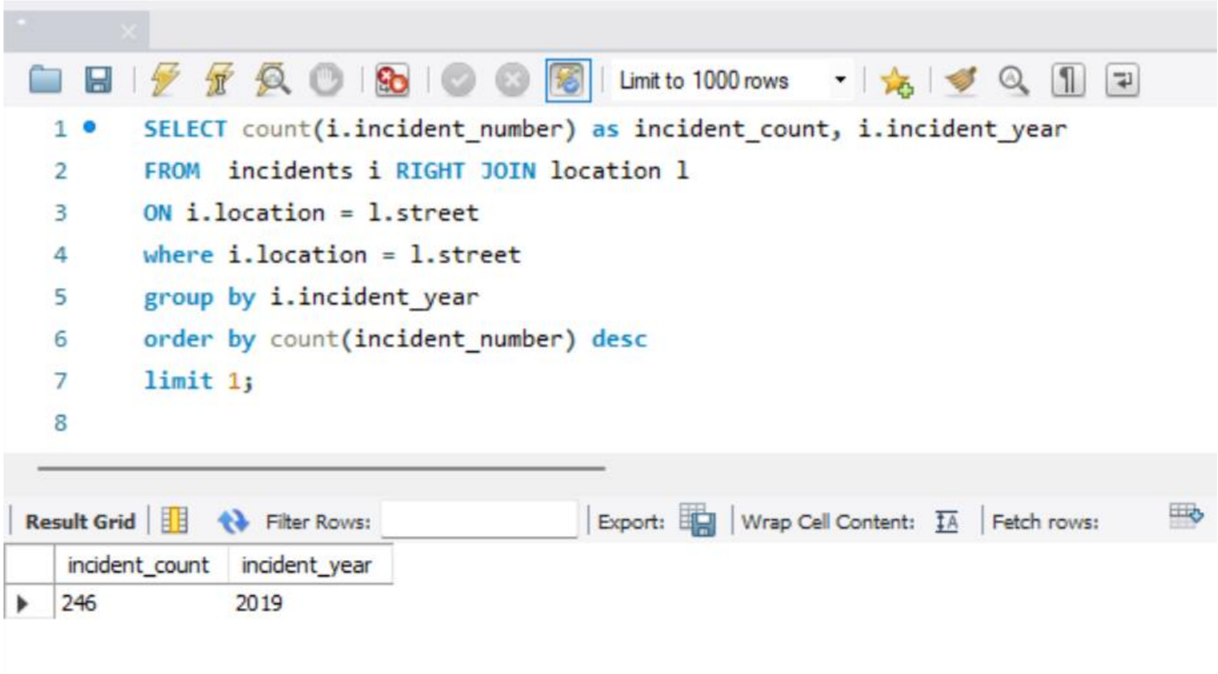
incident_count	location	neighbourhood	zip_code
516	BLUE HILL AVE	Roxbury	2119

Use Case7: User views the details of the year with highest number of incidents.

Description: User views the incidents details with respect to year.
Actor: User
Precondition:
Steps:
Actor action: User views the highest number of incidents for a particular year.
System Response: Which year marked the highest number of incidents are displayed.
Post Condition: System displays all the incidents reported for user searched criteria.

Which year marks the highest number of incidents?

```
SELECT count(i.incident_number) as incident_count, i.incident_year
FROM  incidents i RIGHT JOIN location l
ON i.location = l.street
where i.location = l.street
group by i.incident_year
order by count(incident_number) desc
limit 1;
```



```
SELECT count(i.incident_number) as incident_count, i.incident_year
FROM  incidents i RIGHT JOIN location l
ON i.location = l.street
where i.location = l.street
group by i.incident_year
order by count(incident_number) desc
limit 1;
```

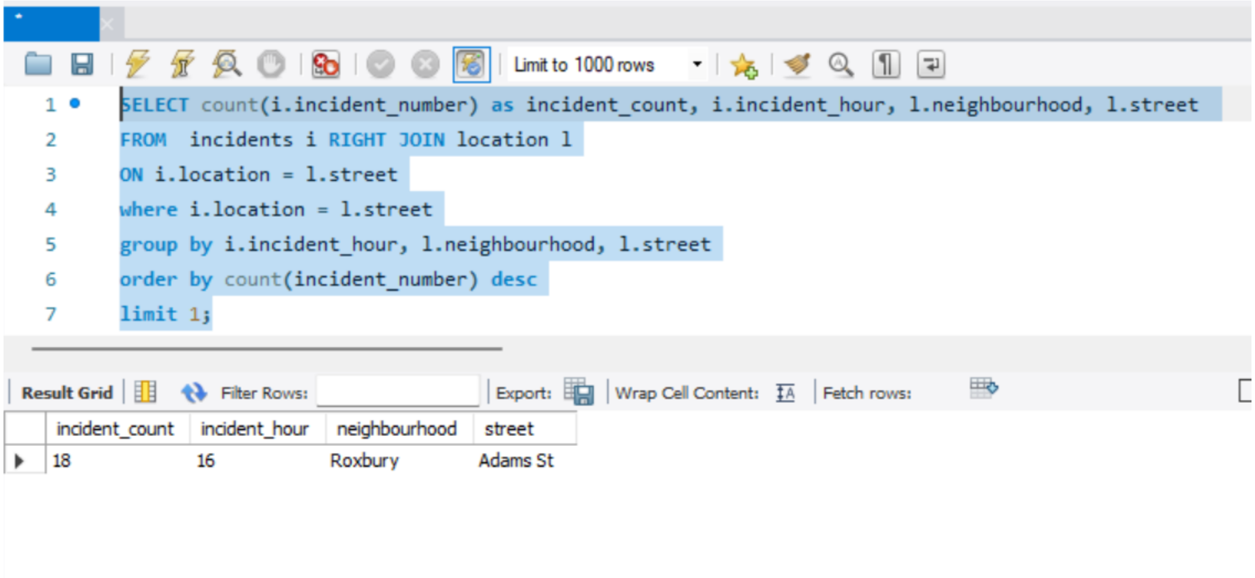
incident_count	incident_year
246	2019

Use Case8: User views the details of the time when most incidents happened.

Description: User views the incidents details with respect to hour.
Actor: User
Precondition:
Steps:
Actor action: User views the highest number of incidents between a particular hour.
System Response: The range of hours marked the highest number of incidents are displayed.
Post Condition: System displays all the incidents reported for user searched criteria.

Between what hours of day most incidents happen?

```
SELECT count(i.incident_number) as incident_count, i.incident_hour, l.neighbourhood, l.street
FROM  incidents i RIGHT JOIN location l
ON i.location = l.street
where i.location = l.street
group by i.incident_hour, l.neighbourhood, l.street
order by count(incident_number) desc
limit 1;
```



```sql
SELECT count(i.incident_number) as incident_count, i.incident_hour, l.neighbourhood, l.street
FROM  incidents i RIGHT JOIN location l
ON i.location = l.street
where i.location = l.street
group by i.incident_hour, l.neighbourhood, l.street
order by count(incident_number) desc
limit 1;
```

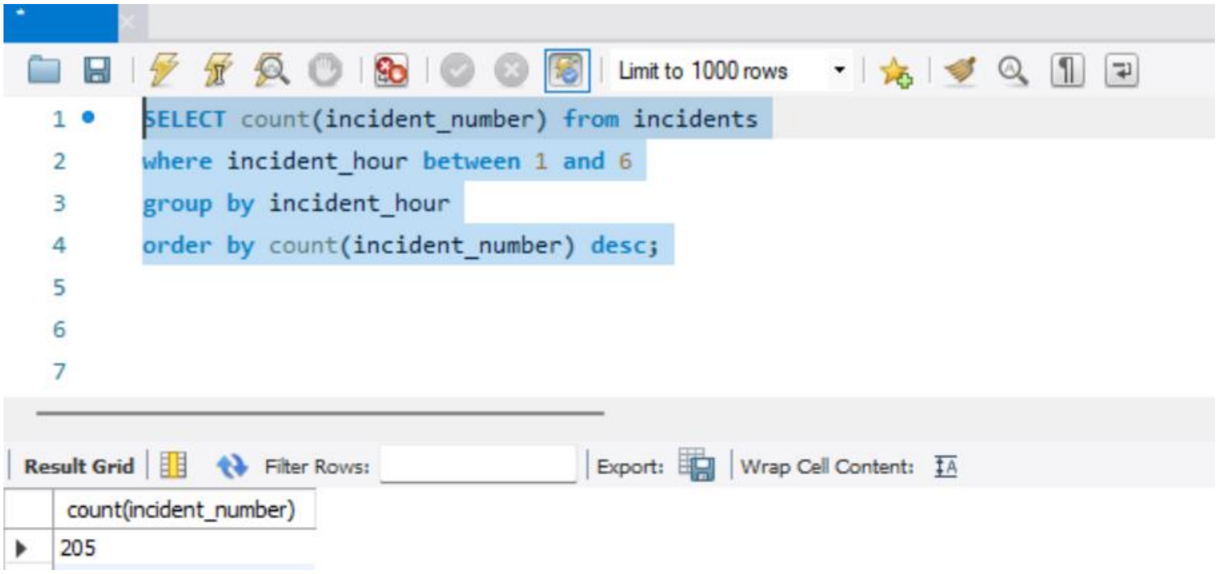
incident_count	incident_hour	neighbourhood	street
18	16	Roxbury	Adams St

Use Case9: User views the number of incidents happened after midnight.

Description: User views the incidents details happened after midnight.
Actor: User
Precondition:
Steps:
Actor action: User views the highest number of incidents after midnight.
System Response: All the incidents happened after midnight are displayed.
Post Condition: System displays all the incidents reported for user searched criteria.

How many incidents happen after midnight night?

```sql
SELECT count(incident_number) from incidents
where incident_hour between 1 and 6
group by incident_hour
order by count(incident_number) desc;
```



```sql
SELECT count(incident_number) from incidents
where incident_hour between 1 and 6
group by incident_hour
order by count(incident_number) desc;
```

count(incident_number)
205