

USE crimebuster;

1. How many total crimes were reported each year happened for the past decade?

```
SELECT COUNT(*) AS TotalAnnulCrime, Year(crimerecords.OccurredTimeStamp) AS OccurredYear
FROM crimerecords
GROUP BY OccurredYear
ORDER BY OccurredYear DESC
LIMIT 10;
```

Result Grid		
Filter Rows: <input type="text" value="Q Search"/>		
Export:		
Fetch rows:		
TotalAnnulCrime	OccurredYear	
38965	2018	
50297	2017	
49201	2016	
47687	2015	
49312	2014	
45549	2013	
41002	2012	
41296	2011	
43349	2010	
45055	2009	

2. What is the most reported crime subcategory in each year for the past decade?

```
SELECT CrimeSubCategoryName, MaxCrimeTypeCount, OccurredYear
FROM (
    SELECT c1.CrimeSubCategoryId, MaxCrimeTypeCount, c1.OccurredYear
    FROM (
        SELECT crimerecords.CrimeSubCategoryId, COUNT(IF(CrimeSubCategoryId IS NULL, 1, 1)) AS
        CrimeTypeCount, Year(OccurredTimeStamp) AS OccurredYear
        FROM crimerecords
        GROUP BY OccurredYear, CrimeSubCategoryId
        HAVING OccurredYear >= 2008
        ORDER BY CrimeTypeCount DESC
    ) AS c1
    INNER JOIN (
        SELECT MAX(tmp.CrimeTypeCount) AS MaxCrimeTypeCount, OccurredYear
        FROM (
            SELECT crimerecords.CrimeSubCategoryId, COUNT(IF(CrimeSubCategoryId IS NULL, 1,
1)) AS CrimeTypeCount, Year(OccurredTimeStamp) AS OccurredYear
            FROM crimerecords
            GROUP BY OccurredYear, CrimeSubCategoryId
            HAVING OccurredYear >= 2008
            ORDER BY CrimeTypeCount DESC) AS tmp
        GROUP BY OccurredYear
        ORDER BY OccurredYear DESC
        LIMIT 10) AS c2
    ON c1.CrimeTypeCount = c2.MaxCrimeTypeCount AND c1.OccurredYear = c2.OccurredYear) AS c
INNER JOIN CrimeSubCategory
ON c.CrimeSubCategoryId = CrimeSubCategory.CrimeSubCategoryId;
```

Result Grid			
		Filter Rows: <input type="text" value="Search"/>	Export:
CrimeSubCategoryId	CrimeSubCategoryName	MaxCrimeTypeCount	OccurredYear
1	CAR PROWL	9902	2018
2	CAR PROWL	13766	2017
3	CAR PROWL	14510	2016
4	CAR PROWL	13768	2015
5	CAR PROWL	15359	2014
6	CAR PROWL	13111	2013
7	CAR PROWL	10353	2012
8	CAR PROWL	11332	2011
9	CAR PROWL	12706	2010
10	CAR PROWL	14286	2009

3. What are the top ten reported crime subcategories since 2015-01-01?

```

SELECT CrimeSubCategoryName
FROM (
SELECT CrimeSubCategoryId, COUNT(crimerecords.RecordId) AS TotalAnnualCrime, Year(OccurredTimeStamp) AS
OccurredYear
FROM crimerecords
GROUP BY CrimeSubCategoryId
HAVING OccurredYear >= '2015'
ORDER BY TotalAnnualCrime DESC
LIMIT 10
) AS c
LEFT JOIN crimesubcategory
ON c.crimeSubCategoryId = crimesubcategory.CrimeSubCategoryId;

```

Result Grid	
Filter Rows: <input type="text" value="Search"/>	
Export:	
CrimeSubCategoryId	CrimeSubCategoryName
1	CAR PROWL
2	THEFT-ALL OTHER
3	THEFT-SHOPLIFT
4	MOTOR VEHICLE THEFT
5	BURGLARY-RESIDENTIAL
6	TRESPASS
7	BURGLARY-COMMERCIAL
8	THEFT-BUILDING
9	AGGRAVATED ASSAULT
10	BURGLARY-RESIDENTIAL-SECURE PARK...

4. What are the ten least-safe neighborhoods (with most reported crimes) for the year 2018 (since 2018-01-01)?

```

SELECT NeighborhoodName, TotalAnnualCrime
FROM
(
SELECT NeighborhoodId, COUNT(*) AS TotalAnnualCrime
FROM crimerecords
WHERE OccurredTimeStamp >= '2018-01-01'
GROUP BY NeighborhoodId
ORDER BY TotalAnnualCrime DESC
LIMIT 10
) as n
LEFT JOIN neighborhood
ON n.NeighborhoodId = neighborhood.NeighborhoodId;

```

Result Grid			Filter Rows: <input type="text" value="Q Search"/>	Export:	
NeighborhoodName	TotalAnnualCrime				
► DOWNTOWN COMMERCIAL	3727				
NORTHGATE	2289				
CAPITOL HILL	2273				
QUEEN ANNE	2064				
SLU/CASCADE	1643				
UNIVERSITY	1578				
ROOSEVELT/RAVENNA	1461				
BALLARD SOUTH	1411				
CHINATOWN/INTERNATIONAL DISTRICT	1338				
BELLTOWN	1057				

#5. For the five least-safe neighborhoods for the year 2018, what are the top 3 most reported crime subcategory for each of them?

SELECT NeighborhoodName, TotalAnnualCrime, CrimeSubCategoryName, CNT AS NumOfCrimeSubCategory
FROM (

 SELECT CrimeRecords.NeighborhoodId, NeighborhoodName, COUNT(*) AS TotalAnnualCrime
 FROM CrimeRecords
 INNER JOIN Neighborhood
 ON CrimeRecords.NeighborhoodId = Neighborhood.NeighborhoodId
 WHERE OccurredTimeStamp >= '2018-01-01'
 GROUP BY NeighborhoodId
 ORDER BY TotalAnnualCrime DESC
 LIMIT 5) AS Top5Neighborhood

INNER JOIN (
 SELECT NeighborhoodId, CrimeSubCategoryName, COUNT(*) AS CNT
 FROM CrimeRecords
 INNER JOIN CrimeSubCategory
 ON CrimeRecords.CrimeSubCategoryId = CrimeSubCategory.CrimeSubCategoryId
 GROUP BY NeighborhoodId, CrimeRecords.CrimeSubCategoryId) AS CntPerNeighborPerCrime1
ON Top5Neighborhood.NeighborhoodId = CntPerNeighborPerCrime1.NeighborhoodId

WHERE 3 > (
 SELECT COUNT(CntPerNeighborPerCrime2.CNT)
 FROM (
 SELECT NeighborhoodId, CrimeSubCategoryName, COUNT(*) AS CNT
 FROM CrimeRecords
 INNER JOIN CrimeSubCategory
 ON CrimeRecords.CrimeSubCategoryId = CrimeSubCategory.CrimeSubCategoryId
 GROUP BY NeighborhoodId, CrimeRecords.CrimeSubCategoryId) AS

CntPerNeighborPerCrime2
 WHERE
 CntPerNeighborPerCrime2.CNT > CntPerNeighborPerCrime1.CNT
 AND CntPerNeighborPerCrime1.NeighborhoodId =
CntPerNeighborPerCrime2.NeighborhoodId)
ORDER BY TotalAnnualCrime DESC, NeighborhoodName, NumOfCrimeSubCategory DESC;

Result Grid				Filter Rows:	Q Search	Export:	
NeighborhoodName	TotalAnnualCrime	CrimeSubCategoryName	NumOfCrimeSubCategory				
▶ DOWNTOWN COMMERCIAL	3727	CAR PROWL	11796				
DOWNTOWN COMMERCIAL	3727	THEFT-SHOPLIFT	10561				
DOWNTOWN COMMERCIAL	3727	THEFT-ALL OTHER	4847				
NORTHGATE	2289	CAR PROWL	6796				
NORTHGATE	2289	THEFT-SHOPLIFT	4992				
NORTHGATE	2289	THEFT-ALL OTHER	2833				
CAPITOL HILL	2273	CAR PROWL	6703				
CAPITOL HILL	2273	THEFT-ALL OTHER	3336				
CAPITOL HILL	2273	THEFT-SHOPLIFT	2902				
QUEEN ANNE	2064	CAR PROWL	10380				
QUEEN ANNE	2064	MOTOR VEHICLE THEFT	2346				
QUEEN ANNE	2064	THEFT-ALL OTHER	2314				
SLU/CASCADE	1643	CAR PROWL	7383				
SLU/CASCADE	1643	THEFT-ALL OTHER	2204				
SLU/CASCADE	1643	THEFT-SHOPLIFT	1590				

#6. What are the ten safest neighborhoods (with least reported crimes) for the year 2018 (since 2018-01-01)?

```

SELECT
    NeighborhoodName, COUNT(*) AS Report_CNT
FROM
    (SELECT crimerecords.NeighborhoodId, NeighborhoodName, RecordId, OccurredTimeStamp
    FROM CrimeRecords
    LEFT JOIN Neighborhood
        ON CrimeRecords.NeighborhoodId = Neighborhood.NeighborhoodId
    WHERE OccurredTimeStamp >= '2018-01-01') AS T
GROUP BY NeighborhoodName
ORDER BY Report_CNT ASC
LIMIT 10;

```

Result Grid				Filter Rows:	Q Search	Export:	Fetch rows:	
NeighborhoodName	Report_CNT							
▶ COMMERCIAL HARBOR ISLA...	14							
COMMERCIAL DUWAMISH	33							
EASTLAKE - EAST	40							
PIGEON POINT	51							
GENESEE	92							
MADISON PARK	118							
HILLMAN CITY	119							
SOUTH BEACON HILL	139							
NEW HOLLY	160							
ALKI	174							

#7. For the five safest neighborhoods for the year 2018, what are the top 3 most reported crime subcategory for each of them?

```

SELECT NeighborhoodId, Count(*)
FROM CrimeBuster.CrimeRecords
Group By NeighborhoodId
Order By Count(*) Asc
Limit 5;

(Select NeighborhoodId, CrimeSubCategoryId, Count(*) As NumOfRecords
    From CrimeBuster.CrimeRecords
    Where NeighborhoodId = 14
    Group By CrimeSubCategoryId
    Order By Count(*) Desc
    Limit 3)
Union all

```

```
(Select NeighborhoodId, CrimeSubCategoryId, Count(*) As NumOfRecords
  From CrimeBuster.CrimeRecords
  Where NeighborhoodId = 13
  Group By CrimeSubCategoryId
  Order By Count(*) Desc
  Limit 3)
```

Union all

```
(Select NeighborhoodId, CrimeSubCategoryId, Count(*) As NumOfRecords
  From CrimeBuster.CrimeRecords
  Where NeighborhoodId = 44
  Group By CrimeSubCategoryId
  Order By Count(*) Desc
  Limit 3)
```

Union all

```
(Select NeighborhoodId, CrimeSubCategoryId, Count(*) As NumOfRecords
  From CrimeBuster.CrimeRecords
  Where NeighborhoodId = 16
  Group By CrimeSubCategoryId
  Order By Count(*) Desc
  Limit 3)
```

Union all

```
(
  Select NeighborhoodId, CrimeSubCategoryId, Count(*) As NumOfRecords
  From CrimeBuster.CrimeRecords
  Where NeighborhoodId = 21
  Group By CrimeSubCategoryId
  Order By Count(*) Desc
  Limit 3);
```

Result Grid				Filter Rows:	Q Search	Export:	
NeighborhoodId	CrimeSubCategoryId	NumOfRecords					
14	4	36					
14	25	31					
14	8	23					
13	8	96					
13	10	59					
13	25	37					
44	8	170					
44	25	91					
44	16	78					
16	8	335					
16	16	132					
16	6	86					
21	8	442					
21	6	186					
21	25	167					

#8. Comparing year 2015 against 2017, what are the top 10 crime subcategories with the most declining number of reports?

```
SELECT YEAR_2017.CrimeSubCategoryName, (YEAR_2015.CNT - YEAR_2017.CNT) AS NumOfDecline
FROM (
```

```
  SELECT CrimeRecords.CrimeSubCategoryId, CrimeSubCategoryName, COUNT(*) AS CNT
  FROM CrimeRecords
  INNER JOIN CrimeSubCategory
    ON CrimeRecords.CrimeSubCategoryId = CrimeSubCategory.CrimeSubCategoryId
  WHERE YEAR(OccurredTimeStamp) = 2015
  GROUP BY CrimeRecords.CrimeSubCategoryId, CrimeSubCategoryName) AS YEAR_2015
  INNER JOIN (
    SELECT CrimeRecords.CrimeSubCategoryId, CrimeSubCategoryName, COUNT(*) AS CNT
```

```

FROM CrimeRecords
INNER JOIN CrimeSubCategory
    ON CrimeRecords.CrimeSubCategoryId = CrimeSubCategory.CrimeSubCategoryId
WHERE YEAR(OccurredTimeStamp) = 2017
GROUP BY CrimeRecords.CrimeSubCategoryId, CrimeSubCategoryName) AS YEAR_2017
ON YEAR_2015.CrimeSubCategoryId = YEAR_2017.CrimeSubCategoryId
ORDER BY NumOfDecline DESC
LIMIT 10;

```

Result Grid	Filter Rows:	Q Search	Export:	Fetch rows:
CrimeSubCategoryName	NumOfDecline			
BURGLARY-RESIDENTIAL	699			
THEFT-BICYCLE	490			
MOTOR VEHICLE THEFT	200			
ROBBERY-STREET	138			
FAMILY OFFENSE-NONVIOLENT	82			
LIQUOR LAW VIOLATION	12			
DISORDERLY CONDUCT	3			
CAR PROWL	2			
LOITERING	-1			
HOMICIDE	-5			

#9. Comparing year 2015 against 2017, what are the top 10 crime subcategories with the most growing number of reports?

```

SELECT YEAR_2017.CrimeSubCategoryName, (YEAR_2017.CNT - YEAR_2015.CNT) AS NumOfGrowth
FROM (
    SELECT CrimeRecords.CrimeSubCategoryId, CrimeSubCategoryName, COUNT(*) AS CNT
    FROM CrimeRecords
        INNER JOIN CrimeSubCategory
            ON CrimeRecords.CrimeSubCategoryId = CrimeSubCategory.CrimeSubCategoryId
        WHERE YEAR(OccurredTimeStamp) = 2015
    GROUP BY CrimeRecords.CrimeSubCategoryId, CrimeSubCategoryName) AS YEAR_2015
INNER JOIN (
    SELECT CrimeRecords.CrimeSubCategoryId, CrimeSubCategoryName, COUNT(*) AS CNT
    FROM CrimeRecords
        INNER JOIN CrimeSubCategory
            ON CrimeRecords.CrimeSubCategoryId = CrimeSubCategory.CrimeSubCategoryId
        WHERE YEAR(OccurredTimeStamp) = 2017
    GROUP BY CrimeRecords.CrimeSubCategoryId, CrimeSubCategoryName) AS YEAR_2017
ON YEAR_2015.CrimeSubCategoryId = YEAR_2017.CrimeSubCategoryId
ORDER BY NumOfGrowth DESC
LIMIT 10;

```

Result Grid	Filter Rows:	Q Search	Export:	Fetch rows:
CrimeSubCategoryName	NumOfGrowth			
TRESPASS	1297			
BURGLARY-COMMERCIAL	580			
THEFT-SHOPLIFT	342			
AGGRAVATED ASSAULT	277			
DUI	267			
BURGLARY-RESIDENTIAL-SECURE PARK...	255			
NARCOTIC	242			
THEFT-ALL OTHER	182			
AGGRAVATED ASSAULT-DV	150			
THEFT-BUILDING	149			

#10. Comparing year 2015 against 2017, what are the top five neighborhoods that are becoming less safe? (with the most increase in number of crime reports)

```

SELECT NeighborhoodId, Count(*)

```

```
FROM CrimeBuster.CrimeRecords
Group By NeighborhoodId
Order By Count(*) Asc
Limit 5;
```

```
Select Rec17.NeighborhoodId, (Rec17.Rec2017 - Rec15.Rec2015) As Difference
From
```

```
(
    Select NeighborhoodId, Count(*) As Rec2017
    From CrimeBuster.CrimeRecords
    Where Year(OccurredTimeStamp) = 2017
    Group by NeighborhoodId
    Order By NeighborhoodId Asc) As Rec17
Inner Join
(
    Select NeighborhoodId, Count(*) As Rec2015
    From CrimeBuster.CrimeRecords
    Where Year(OccurredTimeStamp) = 2015
    Group by NeighborhoodId
    Order By NeighborhoodId Asc) As Rec15
On Rec17.NeighborhoodId = Rec15.NeighborhoodId
Order By Difference Desc
Limit 5;
```

Result Grid			Filter Rows:	Q Search	Export:	Fetch rows:
NeighborhoodId	Difference					
10	629					
5	372					
49	341					
1	244					
4	237					