

Will Clary
LIS 4220 A1
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With this project I am interested in showing areas and times in the city and county of Denver that are subject to vehicle related crimes that are not traffic related. For example, “Theft of property from a vehicle” is an offense that is non-violent, non-traffic related but certainly can ruin someone's day. I gathered my data from two sources. The government of the City of Denver maintains an open data catalog on their website, and specific to my project both a Crime dataset (see Appendix A) and a smaller dataset that explains the Offense Codes used in the Crime dataset (see Appendix A).

I had envisioned using the Offense Codes as an internal authority file linked to the larger Crime dataset. This turned out to be a huge time burner. After trying to use Git and attempt something well beyond my pay grade, I instead decided to work with a more simplified process.

To begin, I took the Offense Code set and used a Text Facet in the is_Traffic column, a column already organized as a binary column. I limited the Facet to 0 to remove all traffic related offenses. See Figure 1.



Figure 1

I considered using a Text Facet to limit text containing “Vehicle” in the Offense_Category_Name, but this would exclude any instance of Arson, and having your vehicle lit ablaze is not good. I instead chose to Text Filter in Offense_Type_Name, and was able to identify the relevant crimes. I used the Star function to select them, and then used the Star Facet Is_True to limit the data to only those crimes. See Figure 2.

All	OBJECTID	OFFENSE_CODE	OFFENSE_CODE_EXTENSION	OFFENSE_TYPE_ID	OFFENSE_TYPE_NAME
7.	7	2999	1	criminal-mischief-mtr-veh	Criminal mischief to a motor vehicle
123.	123	5454	0	traf-impound-vehicle	Impound abandoned vehicle on right-of-way
218.	218	1314	1	weapon-fire-into-occ-veh	Weapon fired into an occupied vehicle
231.	231	2099	0	arson-vehicle	Arson of a vehicle
248.	248	2304	0	theft-parts-from-vehicle	Theft of parts from a vehicle
249.	249	2305	0	theft-items-from-vehicle	Theft of items from a vehicle
261.	261	2402	0	theft-vehicle-strip	Vehicle stolen and stripped
262.	262	2404	0	theft-of-motor-vehicle	Motor vehicle theft
263.	263	2411	0	theft-motor-veh-joy-ride	Unauthorized use of a vehicle or joy ride
266.	266	2503	1	altering-vin-number	Altering a vehicle VIN number
277.	277	2602	1	theft-fail-return-rent-veh	Failure to return rental vehicle
299.	299	2804	0	outside-steal-recovered-veh	Recovered vehicle stolen outside Denver

Figure 2

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With this Filter by Star I was left with a list of seven non-traffic yet vehicle related Offense Codes that I would then use with the larger Crime dataset.

With the Crime dataset open in another window, I used a regular expression in the Text Filter Facet to narrow the 352,920 records down to records that matched my chosen seven Offense Codes, a more manageable 155,392 records. See Figure 3.



Figure 3

I also referenced the Offense Code .csv to further define the offenses I was looking for, as 2999 extension 2 is for Graffiti and not relevant to my set. This was accomplished via a Text Facet on the offense_code_extension column, and further reduced the records to 153,113. See Figure 3. I then removed several columns that did not add value to my end product. See Figure 4.

1. Remove column incident_id
2. Remove column offense_id
3. Remove column offense_type_id
4. Remove column offense_category_id
5. Remove column district_id
6. Remove column precinct_id
7. Remove column is_crime
8. Remove column is_traffic
9. Remove column victim_count
10. Remove column last_occurrence_date
11. Remove column reported_date

Figure 4

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I duplicated the Offense_Code column so that I could replace the codes in one version and still have the previous for use as a facet if needed, and then found and replaced each code with a description of the code sourced from Offense Codes .csv. See Figure 5 for one instance.

Replace

Find: 2099

☐ case insensitive ☒ whole word ☐ regular expression

Leave blank to add the replacement string after each character.
Check "regular expression" to find special characters (new lines, tabulations...) or complex patterns.

Replace with: Arson of a vehicle

☐ use \n for new lines, \t for tabulation, \\n for \n, \\t for \t.
If "regular expression" option is checked and finding pattern contains groups delimited with parentheses, \$0 will return the complete string matching the pattern, and \$1, \$2... the 1st, 2nd... group.

OK Cancel

Figure 5

Now we have a description, a date of occurrence, location of occurrence. Use of the star function then made it easy to delete records that did not apply so that I would no longer be relying on a facet to limit the records by Offense Code, and besides this information is retained in the Unique_Offense_ID column.

We now have a dataset that contains only vehicle damage and theft related records, with a plain English description of the offense. Time to now make this dataset readable and mappable. I removed any “-“ in the neighborhood column, and transformed the records to Titlecase, and found and replaced acronyms with their full names. See Figure 6. I also did this with the addresses.

-
25. Text transform on 94,985 cells in column neighborhood_id: value.replace("-", " ")
 26. Text transform on 152,941 cells in column neighborhood_id: value.toTitlecase()
 27. Text transform on 9,246 cells in column neighborhood_id: value.replace(/bDia\b/, "Denver Int'l Airport")
 28. Text transform on 3,409 cells in column neighborhood_id: value.replace(/bCbD\b/, "Central Business District")

Figure 6

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The dates of the offenses were not fully standardized, with some months and days lacking their initial 0. This process was a bit of trial and error stemming from my limited understanding of regular expressions. See Figures 7, 8, and 9. The first process did not catch all of the dates needed, so I used the Timeline Facet to see what dates were listed as Non-Time, then was able to target those records.

```
30. Text transform on 140,729 cells in  
column first_occurrence_date:  
grel:value.toDate().toString('MM/dd/yyyy  
hh:mm:ss a')
```

Figure 7

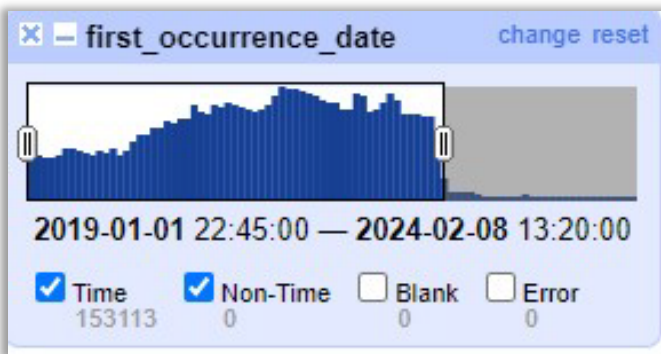


Figure 8

```
31. Text transform on 135,966 cells in  
column first_occurrence_date:  
value.toDate()  
  
32. Text transform on 17,147 cells in column  
first_occurrence_date:  
grel:value.toDate("dd/MM/yyyy")
```

Figure 9

We have made it. Every record now has a Unique ID, description of the offense, a standardized time and date of the offense, neighborhood, address, latitude and longitude, and x,y coordinates. Now the data can be easily read, as well as can be used in a GIS application to show temporal locations of offenses, giving the user the ability to see when and where each vehicle related offense occurred in the last five years in Denver.

In addition to the tutorials from Library Carpentry, ChatGPT and Google Gemini were essential for helping to write regular expressions and explaining the why behind the logic contained therein. This assignment was a slog, as I believe my vision for the final product was at odds with my abilities. Ultimately, I learned a great deal about OpenRefine, troubleshooting, and the use of LLM bots for code

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generation. The attached final .csv has been truncated to 800 entries see Appendix A. A JSON of my process is included in Appendix B.

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References:

Denver Open Data Catalog: Crime. (2024, February 11). Retrieved February 11, 2024, from

<https://www.denvergov.org/opendata/dataset/city-and-county-of-denver-crime>

Library Carpentry: OpenRefine: Summary and setup. (n.d.). Retrieved February 9, 2024, from

<https://librarycarpentry.org/lc-open-refine/index.html>

ChatGPT. (n.d.). Retrieved February 11, 2024, from [https://chat.openai.com/share/e4c5ebb2-](https://chat.openai.com/share/e4c5ebb2-8131-4bea-ad6d-846008bb61da)

[8131-4bea-ad6d-846008bb61da](https://chat.openai.com/share/e4c5ebb2-8131-4bea-ad6d-846008bb61da)

Gemini Chat. (n.d.). Google Gemini. Retrieved February 11, 2024, from

<https://g.co/gemini/share/51d6232a3fff>

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Appendix A

Original Crime Dataset:

<https://www.denvergov.org/media/gis/DataCatalog/crime/csv/crime.csv>

Original Offense Code Dataset:

https://www.denvergov.org/media/gis/DataCatalog/crime/csv/offense_codes.csv

Truncated final product:

[CarDamage_Truncated_800_wClary_LIS4220_A1.xlsx](#)

Appendix B

JSON of Process:

```
[
  {
    "op": "core/column-addition",
    "engineConfig": {
      "facets": [
        {
          "type": "text",
          "name": "offense_code",
          "columnName": "offense_code",
          "query": "2099|2304|2305|2402|2404|2411|2999",
          "mode": "regex",
          "caseSensitive": false,
          "invert": false
        },
        {
          "type": "list",
          "name": "offense_code_extension",
          "expression": "value",
          "columnName": "offense_code_extension",
          "invert": false,
          "omitBlank": false,
          "omitError": false,
          "selection": [
            {
```


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```
      "v": {
        "v": "0",
        "l": "0"
      }
    },
    {
      "v": {
        "v": "1",
        "l": "1"
      }
    }
  ],
  "selectBlank": false,
  "selectError": false
}
],
"mode": "row-based"
},
"baseColumnName": "offense_code",
"expression": "grel:value",
"onError": "set-to-blank",
"newColumnName": "offense_title",
"columnInsertIndex": 3,
"description": "Create column offense_title at index 3 based on column offense_code using expression
grel:value"
},
{
  "op": "core/column-move",
  "columnName": "offense_title",
```

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```
"index": 2,  
  
"description": "Move column offense_title to position 2"  
  
},  
  
{  
  
  "op": "core/column-removal",  
  
  "columnName": "incident_id",  
  
  "description": "Remove column incident_id"  
  
},  
  
{  
  
  "op": "core/text-transform",  
  
  "engineConfig": {  
  
    "facets": [  
  
      {  
  
        "type": "text",  
  
        "name": "offense_code",  
  
        "columnName": "offense_code",  
  
        "query": "2099|2304|2305|2402|2404|2411|2999",  
  
        "mode": "regex",  
  
        "caseSensitive": false,  
  
        "invert": false  
  
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      {  
  
        "type": "list",  
  
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        "expression": "value",  
  
        "columnName": "offense_code_extension",  
  
        "invert": false,  
  
        "omitBlank": false,  
  
        "omitError": false,
```

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```
"selection": [  
  {  
    "v": {  
      "v": "0",  
      "l": "0"  
    }  
  },  
  {  
    "v": {  
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      "l": "1"  
    }  
  }  
],  
"selectBlank": false,  
"selectError": false  
}  
],  
"mode": "row-based"  
},  
"columnName": "offense_title",  
"expression": "value.replace(/\\b2099\\b/, \"Arson of a vehicle\")",  
"onError": "keep-original",  
"repeat": false,  
"repeatCount": 10,  
"description": "Text transform on cells in column offense_title using expression  
value.replace(/\\b2099\\b/, \"Arson of a vehicle\")"  
},  
{
```

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```
"op": "core/text-transform",

"engineConfig": {
  "facets": [
    {
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      "columnName": "offense_code",
      "query": "2099|2304|2305|2402|2404|2411|2999",
      "mode": "regex",
      "caseSensitive": false,
      "invert": false
    },
    {
      "type": "list",
      "name": "offense_code_extension",
      "expression": "value",
      "columnName": "offense_code_extension",
      "invert": false,
      "omitBlank": false,
      "omitError": false,
      "selection": [
        {
          "v": {
            "v": "0",
            "l": "0"
          }
        },
        {
          "v": {
```

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```
      "v": "1",  
      "l": "1"  
    }  
  }  
],  
  "selectBlank": false,  
  "selectError": false  
}  
],  
  "mode": "row-based"  
},  
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  "expression": "value.replace(/\\b2304\\b/, \"Theft of parts from a vehicle\")",  
  "onError": "keep-original",  
  "repeat": false,  
  "repeatCount": 10,  
  "description": "Text transform on cells in column offense_title using expression  
value.replace(/\\b2304\\b/, \"Theft of parts from a vehicle\")"  
},  
{  
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  "engineConfig": {  
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        "columnName": "offense_code",  
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        "mode": "regex",
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  {  
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    "columnName": "offense_code_extension",  
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    "omitBlank": false,  
    "omitError": false,  
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          "l": "0"  
        }  
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          "l": "1"  
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    "selectBlank": false,  
    "selectError": false  
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```

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```
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"columnName": "offense_title",

"expression": "value.replace(/\\b2305\\b/, \"Theft of items from a vehicle\")",

"onError": "keep-original",

"repeat": false,

"repeatCount": 10,

"description": "Text transform on cells in column offense_title using expression
value.replace(/\\b2305\\b/, \"Theft of items from a vehicle\")"

},

{

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"engineConfig": {

"facets": [

{

"type": "text",

"name": "offense_code",

"columnName": "offense_code",

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{

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```
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"omitError": false,

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"columnName": "offense_title",

"expression": "value.replace(/\\b2402\\b/, \"Vehicle stolen and stripped\")",

"onError": "keep-original",

"repeat": false,

"repeatCount": 10,

"description": "Text transform on cells in column offense_title using expression
value.replace(/\\b2402\\b/, \"Vehicle stolen and stripped\")"
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},

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```

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```
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  "selectBlank": false,  
  
  "selectError": false
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```
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  "onError": "keep-original",  
  
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  "repeatCount": 10,  
  
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    }  
  
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      "l": "1"  
  
    }  
  
  }  
  
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"onError": "keep-original",  
  
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```

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"description": "Text transform on cells in column offense_title using expression
value.replace(/\\b2999\\b/, \"Criminal mischief to a motor vehicle\")"

},

{

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"columnName": "offense_type_id",

"description": "Remove column offense_type_id"

},

{

"op": "core/column-removal",

"columnName": "offense_category_id",

"description": "Remove column offense_category_id"

},

{

"op": "core/column-removal",

"columnName": "last_occurrence_date",

"description": "Remove column last_occurrence_date"

},

{

"op": "core/column-removal",

"columnName": "reported_date",

"description": "Remove column reported_date"

},

{

"op": "core/column-removal",

"columnName": "district_id",

"description": "Remove column district_id"

},

{

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```
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"description": "Remove column precinct_id"  
  
},  
  
{  
  
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"columnName": "is_crime",  
  
"description": "Remove column is_crime"  
  
},  
  
{  
  
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},  
  
{  
  
"op": "core/column-removal",  
  
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{  
  
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},  
  
{  
  
"op": "core/column-move",  
  
"columnName": "neighborhood_id",  
  
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```

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```
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},

{

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  "columnName": "neighborhood_id",

  "index": 7,

  "description": "Move column neighborhood_id to position 7"

},

{

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  "columnName": "neighborhood_id",

  "index": 6,

  "description": "Move column neighborhood_id to position 6"

},

{

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  "columnName": "neighborhood_id",

  "index": 5,

  "description": "Move column neighborhood_id to position 5"

},

{

  "op": "core/text-transform",

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    "facets": [

      {

        "type": "text",

        "name": "offense_code",

        "columnName": "offense_code",

        "query": "2099|2304|2305|2402|2404|2411|2999",
```


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```
"mode": "regex",

"caseSensitive": false,

"invert": false

},

{

  "type": "list",

  "name": "offense_code_extension",

  "expression": "value",

  "columnName": "offense_code_extension",

  "invert": false,

  "omitBlank": false,

  "omitError": false,

  "selection": [

    {

      "v": {

        "v": "0",

        "l": "0"

      }

    },

    {

      "v": {

        "v": "1",

        "l": "1"

      }

    }

  ],

  "selectBlank": false,

  "selectError": false

}
```

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```
    ],  
    "mode": "row-based"  
  },  
  "columnName": "neighborhood_id",  
  "expression": "value.replace(\"-\", \" \")",  
  "onError": "keep-original",  
  "repeat": false,  
  "repeatCount": 10,  
  "description": "Text transform on cells in column neighborhood_id using expression value.replace(\"-\", \" \")"  
},  
{  
  "op": "core/text-transform",  
  "engineConfig": {  
    "facets": [  
      {  
        "type": "text",  
        "name": "offense_code",  
        "columnName": "offense_code",  
        "query": "2099|2304|2305|2402|2404|2411|2999",  
        "mode": "regex",  
        "caseSensitive": false,  
        "invert": false  
      },  
      {  
        "type": "list",  
        "name": "offense_code_extension",  
        "expression": "value",  
        "columnName": "offense_code_extension",
```

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```
"invert": false,

"omitBlank": false,

"omitError": false,

"selection": [

  {

    "v": {

      "v": "0",

      "l": "0"

    }

  },

  {

    "v": {

      "v": "1",

      "l": "1"

    }

  }

],

"selectBlank": false,

"selectError": false

}

],

"mode": "row-based"

},

"columnName": "neighborhood_id",

"expression": "value.toTitlecase()",

"onError": "keep-original",

"repeat": false,

"repeatCount": 10,
```

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"description": "Text transform on cells in column neighborhood_id using expression
value.toTitlecase()"

},

{

"op": "core/text-transform",

"engineConfig": {

"facets": [

{

"type": "text",

"name": "offense_code",

"columnName": "offense_code",

"query": "2099|2304|2305|2402|2404|2411|2999",

"mode": "regex",

"caseSensitive": false,

"invert": false

},

{

"type": "list",

"name": "offense_code_extension",

"expression": "value",

"columnName": "offense_code_extension",

"invert": false,

"omitBlank": false,

"omitError": false,

"selection": [

{

"v": {

"v": "0",

"l": "0"

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```
    }  
    },  
    {  
      "v": {  
        "v": "1",  
        "l": "1"  
      }  
    }  
  ],  
  "selectBlank": false,  
  "selectError": false  
}  
],  
"mode": "row-based"  
},  
"columnName": "neighborhood_id",  
"expression": "value.replace(/\\bDia\\b/, \"Denver Int'l Airport\")",  
"onError": "keep-original",  
"repeat": false,  
"repeatCount": 10,  
"description": "Text transform on cells in column neighborhood_id using expression  
value.replace(/\\bDia\\b/, \"Denver Int'l Airport\")"  
},  
{  
  "op": "core/text-transform",  
  "engineConfig": {  
    "facets": [  
      {  
        "type": "text",
```

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```
"name": "offense_code",  
  
"columnName": "offense_code",  
  
"query": "2099|2304|2305|2402|2404|2411|2999",  
  
"mode": "regex",  
  
"caseSensitive": false,  
  
"invert": false  
  
},  
  
{  
  
"type": "list",  
  
"name": "offense_code_extension",  
  
"expression": "value",  
  
"columnName": "offense_code_extension",  
  
"invert": false,  
  
"omitBlank": false,  
  
"omitError": false,  
  
"selection": [  
  
  {  
  
    "v": {  
  
      "v": "0",  
  
      "l": "0"  
  
    }  
  
  },  
  
  {  
  
    "v": {  
  
      "v": "1",  
  
      "l": "1"  
  
    }  
  
  }  
  
]  
  
],
```

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```
    "selectBlank": false,

    "selectError": false

  }

],

  "mode": "row-based"

},

  "columnName": "neighborhood_id",

  "expression": "value.replace(/\\bCbd\\b/, \"Central Business District\")",

  "onError": "keep-original",

  "repeat": false,

  "repeatCount": 10,

  "description": "Text transform on cells in column neighborhood_id using expression
value.replace(/\\bCbd\\b/, \"Central Business District\")"

},

{

  "op": "core/text-transform",

  "engineConfig": {

    "facets": [

      {

        "type": "text",

        "name": "offense_code",

        "columnName": "offense_code",

        "query": "2099|2304|2305|2402|2404|2411|2999",

        "mode": "regex",

        "caseSensitive": false,

        "invert": false

      },

    ],

    {

      "type": "list",
```

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```
"name": "offense_code_extension",  
  
"expression": "value",  
  
"columnName": "offense_code_extension",  
  
"invert": false,  
  
"omitBlank": false,  
  
"omitError": false,  
  
"selection": [  
  
  {  
  
    "v": {  
  
      "v": "0",  
  
      "l": "0"  
  
    }  
  
  },  
  
  {  
  
    "v": {  
  
      "v": "1",  
  
      "l": "1"  
  
    }  
  
  }  
  
],  
  
"selectBlank": false,  
  
"selectError": false  
  
}  
  
],  
  
"mode": "row-based"  
  
},  
  
"columnName": "incident_address",  
  
"expression": "value.toTitlecase()",  
  
"onError": "keep-original",
```


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```
"repeat": false,

"repeatCount": 10,

"description": "Text transform on cells in column incident_address using expression
value.toTitlecase()"

},

{

"op": "core/text-transform",

"engineConfig": {

"facets": [

{

"type": "text",

"name": "offense_code",

"columnName": "offense_code",

"query": "2099|2304|2305|2402|2404|2411|2999",

"mode": "regex",

"caseSensitive": false,

"invert": false

},

{

"type": "list",

"name": "offense_code_extension",

"expression": "value",

"columnName": "offense_code_extension",

"invert": false,

"omitBlank": false,

"omitError": false,

"selection": [

{

"v": {
```

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```
      "v": "0",
      "l": "0"
    }
  },
  {
    "v": {
      "v": "1",
      "l": "1"
    }
  }
],
"selectBlank": false,
"selectError": false
}
],
"mode": "row-based"
},
"columnName": "first_occurrence_date",
"expression": "grel:value.toDate().toString('MM/dd/yyyy hh:mm:ss a')",
"onError": "keep-original",
"repeat": false,
"repeatCount": 10,
"description": "Text transform on cells in column first_occurrence_date using expression
grel:value.toDate().toString('MM/dd/yyyy hh:mm:ss a')",
},
{
  "op": "core/text-transform",
  "engineConfig": {
    "facets": [
```

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```
{
  "type": "text",
  "name": "offense_code",
  "columnName": "offense_code",
  "query": "2099|2304|2305|2402|2404|2411|2999",
  "mode": "regex",
  "caseSensitive": false,
  "invert": false
},
{
  "type": "list",
  "name": "offense_code_extension",
  "expression": "value",
  "columnName": "offense_code_extension",
  "invert": false,
  "omitBlank": false,
  "omitError": false,
  "selection": [
    {
      "v": {
        "v": "0",
        "l": "0"
      }
    },
    {
      "v": {
        "v": "1",
        "l": "1"
      }
    }
  ]
}
```

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```
    }  
  ],  
  "selectBlank": false,  
  "selectError": false  
}  
],  
"mode": "row-based"  
},  
"columnName": "first_occurrence_date",  
"expression": "value.toDate()",  
"onError": "keep-original",  
"repeat": false,  
"repeatCount": 10,  
"description": "Text transform on cells in column first_occurrence_date using expression  
value.toDate()",  
},  
{  
  "op": "core/text-transform",  
  "engineConfig": {  
    "facets": [  
      {  
        "type": "text",  
        "name": "offense_code",  
        "columnName": "offense_code",  
        "query": "2099|2304|2305|2402|2404|2411|2999",  
        "mode": "regex",  
        "caseSensitive": false,  
        "invert": false  
      },  
    ],  
  },  
}
```

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```
{  
  "type": "list",  
  "name": "offense_code_extension",  
  "expression": "value",  
  "columnName": "offense_code_extension",  
  "invert": false,  
  "omitBlank": false,  
  "omitError": false,  
  "selection": [  
    {  
      "v": {  
        "v": "0",  
        "l": "0"  
      }  
    },  
    {  
      "v": {  
        "v": "1",  
        "l": "1"  
      }  
    }  
  ],  
  "selectBlank": false,  
  "selectError": false  
},  
{  
  "type": "timerange",  
  "name": "first_occurrence_date",  
  "expression": "value",
```

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```
    "columnName": "first_occurrence_date",  
    "from": 1546407900000,  
    "to": 1707423600000,  
    "selectTime": false,  
    "selectNonTime": true,  
    "selectBlank": true,  
    "selectError": true  
  }  
],  
  "mode": "row-based"  
},  
  "columnName": "first_occurrence_date",  
  "expression": "grel:value.toDate(\"dd/MM/yyyy\")",  
  "onError": "keep-original",  
  "repeat": false,  
  "repeatCount": 10,  
  "description": "Text transform on cells in column first_occurrence_date using expression  
grel:value.toDate(\"dd/MM/yyyy\")"  
},  
{  
  "op": "core/row-star",  
  "engineConfig": {  
    "facets": [  
      {  
        "type": "text",  
        "name": "offense_code",  
        "columnName": "offense_code",  
        "query": "2099|2304|2305|2402|2404|2411|2999",  
        "mode": "regex",
```

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```
"caseSensitive": false,

"invert": false

},

{

  "type": "list",

  "name": "offense_code_extension",

  "expression": "value",

  "columnName": "offense_code_extension",

  "invert": false,

  "omitBlank": false,

  "omitError": false,

  "selection": [

    {

      "v": {

        "v": "2",

        "l": "2"

      }

    }

  ],

  "selectBlank": false,

  "selectError": false

},

{

  "type": "timerange",

  "name": "first_occurrence_date",

  "expression": "value",

  "columnName": "first_occurrence_date",

  "from": 1546407900000,

  "to": 1707423600000,
```

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```
"selectTime": true,

"selectNonTime": true,

"selectBlank": true,

"selectError": true

}

],

"mode": "row-based"

},

"starred": true,

"description": "Star rows"

},

{

"op": "core/row-removal",

"engineConfig": {

"facets": [

{

"type": "text",

"name": "offense_code",

"columnName": "offense_code",

"query": "2099|2304|2305|2402|2404|2411|2999",

"mode": "regex",

"caseSensitive": false,

"invert": false

},

{

"type": "list",

"name": "offense_code_extension",

"expression": "value",

"columnName": "offense_code_extension",
```


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```
"invert": false,  
  
"omitBlank": false,  
  
"omitError": false,  
  
"selection": [  
  
  {  
  
    "v": {  
  
      "v": "2",  
  
      "l": "2"  
  
    }  
  
  }  
  
],  
  
"selectBlank": false,  
  
"selectError": false  
  
},  
  
{  
  
  "type": "timerange",  
  
  "name": "first_occurrence_date",  
  
  "expression": "value",  
  
  "columnName": "first_occurrence_date",  
  
  "from": 1546407900000,  
  
  "to": 1707423600000,  
  
  "selectTime": true,  
  
  "selectNonTime": true,  
  
  "selectBlank": true,  
  
  "selectError": true  
  
}  
  
],  
  
"mode": "row-based"  
  
},
```

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```
"description": "Remove rows"
```

```
},
```

```
{
```

```
"op": "core/row-star",
```

```
"engineConfig": {
```

```
"facets": [
```

```
{
```

```
"type": "text",
```

```
"name": "offense_code",
```

```
"columnName": "offense_code",
```

```
"query": "2099|2304|2305|2402|2404|2411|2999",
```

```
"mode": "regex",
```

```
"caseSensitive": false,
```

```
"invert": false
```

```
},
```

```
{
```

```
"type": "timerange",
```

```
"name": "first_occurrence_date",
```

```
"expression": "value",
```

```
"columnName": "first_occurrence_date",
```

```
"from": 1546407900000,
```

```
"to": 1707423600000,
```

```
"selectTime": true,
```

```
"selectNonTime": true,
```

```
"selectBlank": true,
```

```
"selectError": true
```

```
}
```

```
],
```

```
"mode": "row-based"
```

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```
    },  
    "starred": true,  
    "description": "Star rows"  
  },  
  {  
    "op": "core/row-removal",  
    "engineConfig": {  
      "facets": [  
        {  
          "type": "list",  
          "name": "Starred Rows",  
          "expression": "row.starred",  
          "columnName": "",  
          "invert": false,  
          "omitBlank": false,  
          "omitError": false,  
          "selection": [  
            {  
              "v": {  
                "v": false,  
                "l": "false"  
              }  
            }  
          ],  
          "selectBlank": false,  
          "selectError": false  
        }  
      ],  
      "mode": "row-based"
```

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```
    },  
    "description": "Remove rows"  
  },  
  {  
    "op": "core/row-star",  
    "engineConfig": {  
      "facets": [],  
      "mode": "row-based"  
    },  
    "starred": false,  
    "description": "Unstar rows"  
  }  
]
```