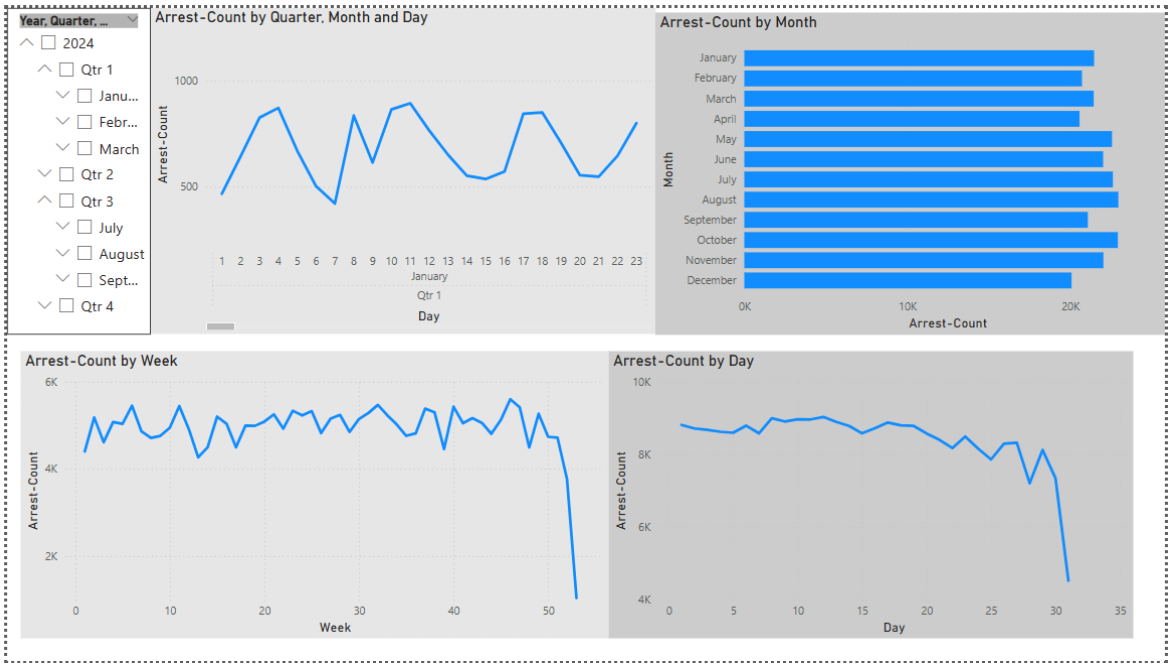
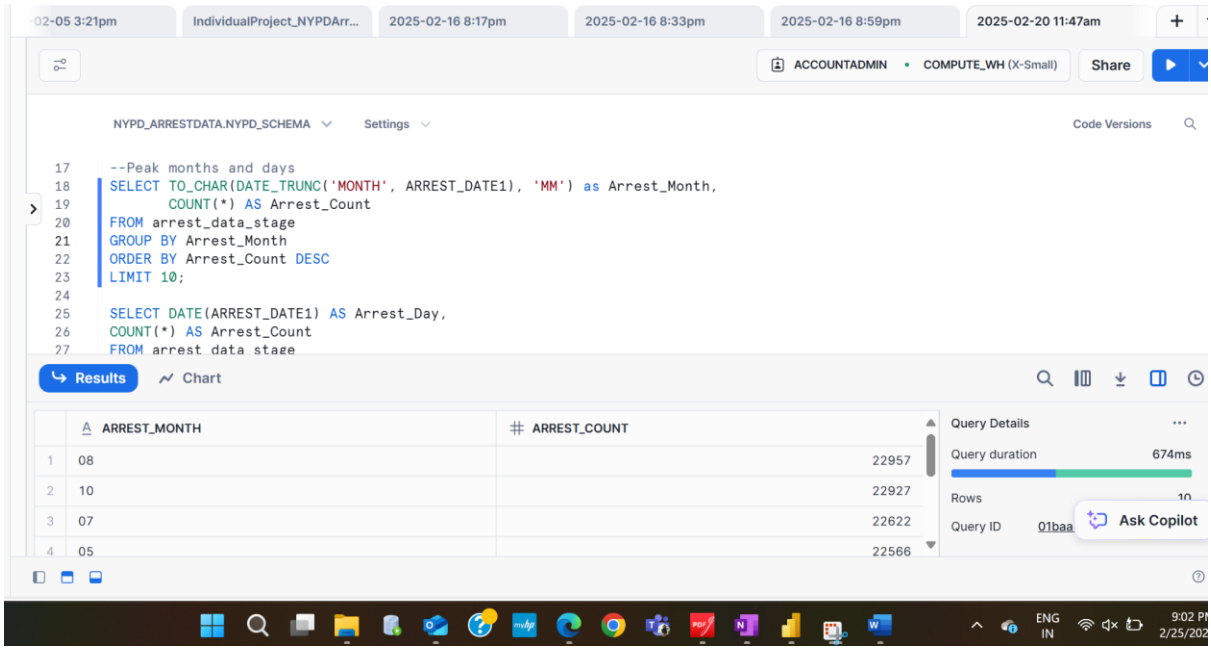
Individual Project Part 2 – Power BI Dashboards

Time-Based Analysis:

How many arrests occurred on any specific day, week, month, quarter, or year?
What are the peak days and months for arrests?



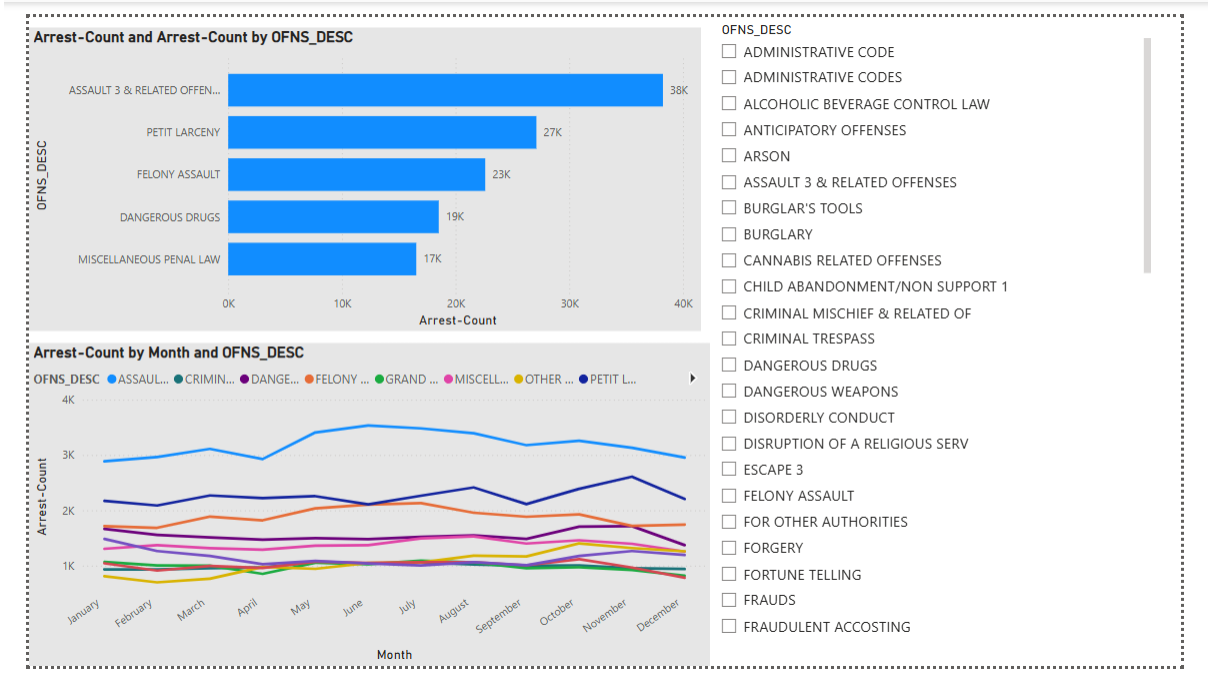


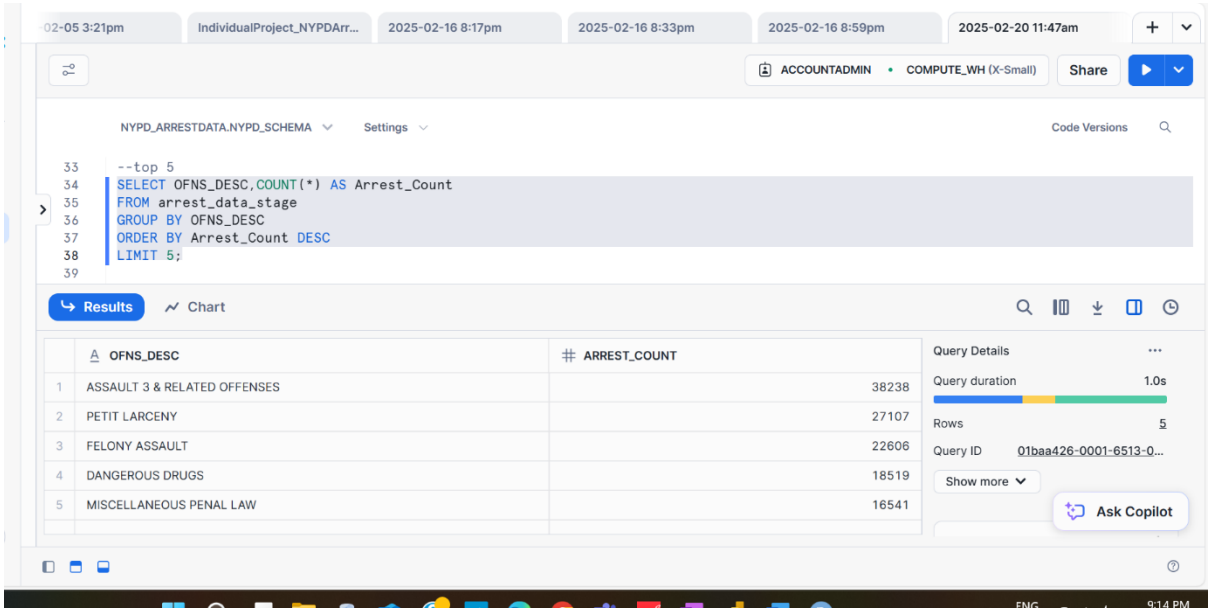
Inference : It is observed that the in year 2024 , August month had the highest number of arrest counts , while the next month is October. There is a
decline in arrest counts from October to December. The lowest arrest count is seen in April.
From the day wise ,overall arrest count is declining from all days

Columns used: ARREST_DATE

Crime Patterns & Trends:

What are the top 5 most frequently occurring crimes?
Which crimes have increased or decreased the most over time?





Inference :

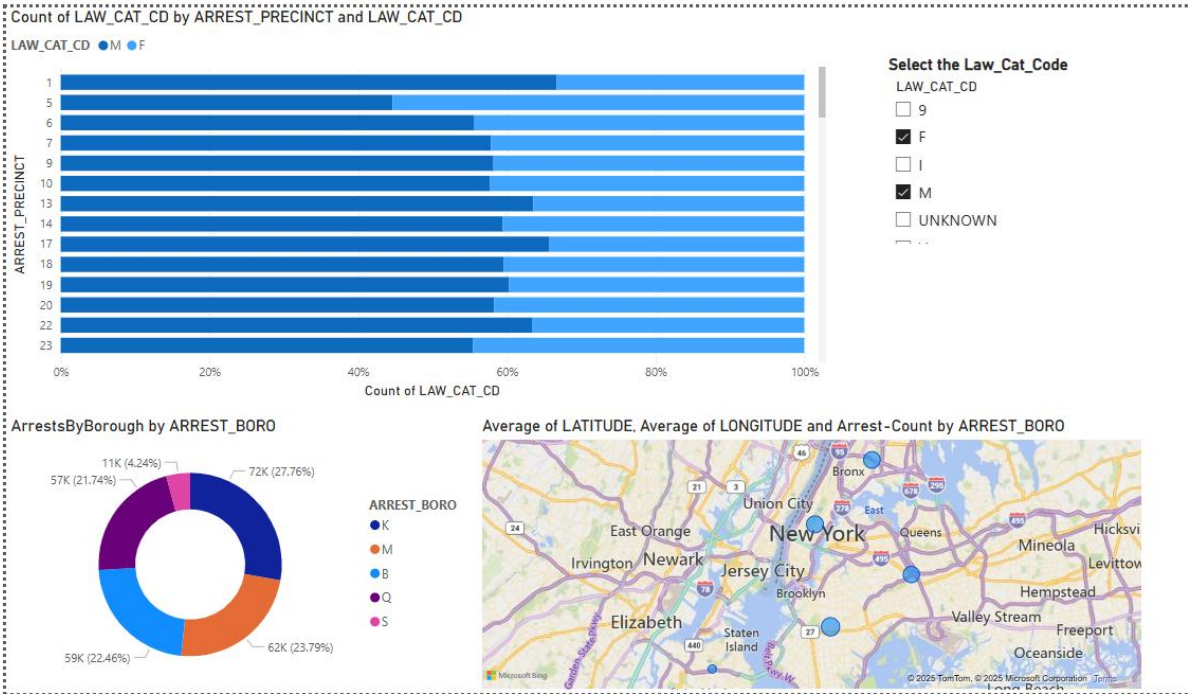
The top 5 most frequently occurring crimes leading to arrests are:

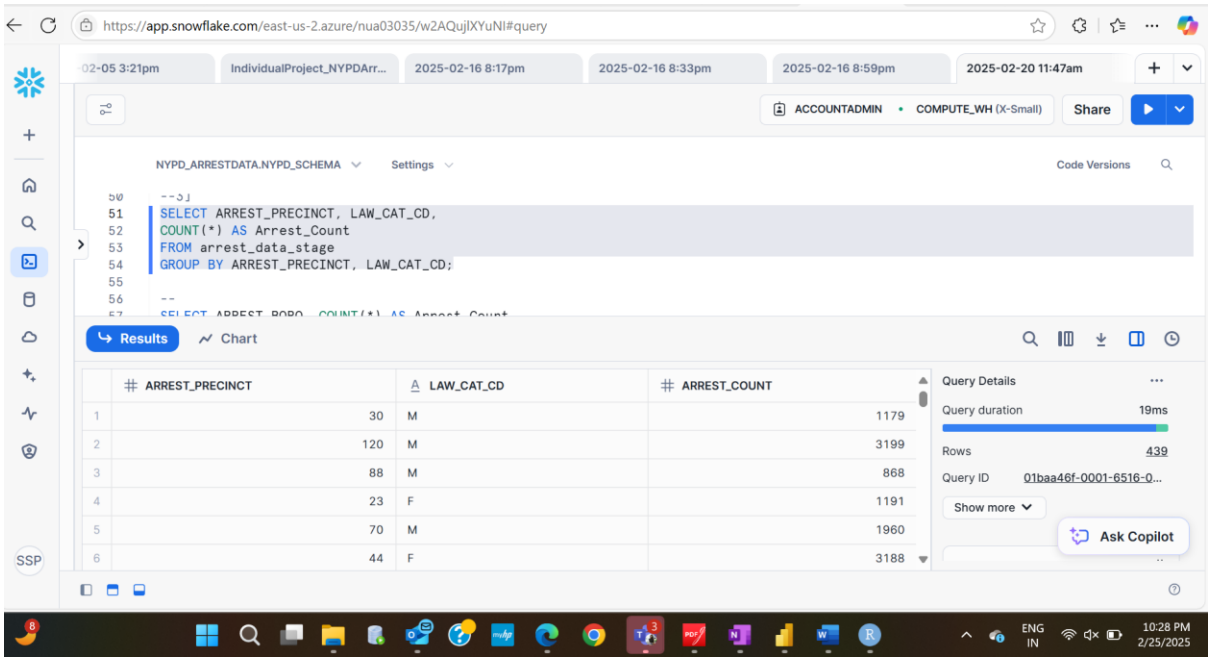
- ASSAULT 3 & RELATED OFFENSES (Approximately 38K arrests)
- PETIT LARCENY (Approximately 27K arrests)
- FELONY ASSAULT (Approximately 23K arrests)
- DANGEROUS DRUGS (Approximately 19K arrests)
- MISCELLANEOUS PENAL LAW (Approximately 17K arrests)

Over the months displayed, FELONY ASSAULT (red line) shows fluctuations with a peak around June, while PETIT LARCENY (brown line) is relatively stable. From November to December most of the crimes seem to have decreased
Columns used: OFNS_DESC, Arrest-Count and Month

Geographic:

What is the distribution of felony vs. misdemeanor arrest in each precinct?
Which borough has the highest number of arrests?





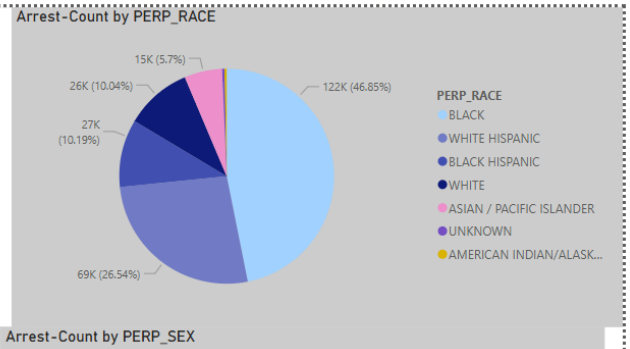
Felony vs. Misdemeanor Distribution:

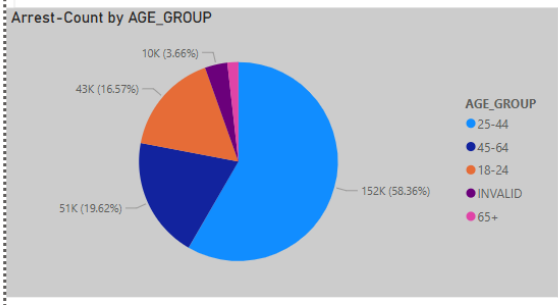
- The bar chart visualization gives us a relative sense of Felony (F) vs. Misdemeanor (M) distribution per precinct.
- Precincts 19, 20, 22, and 23 have only misdemeanor arrests (M).
- Precincts 5, 6, and 9 show a mix of felony and misdemeanor arrests, but primarily misdemeanor.

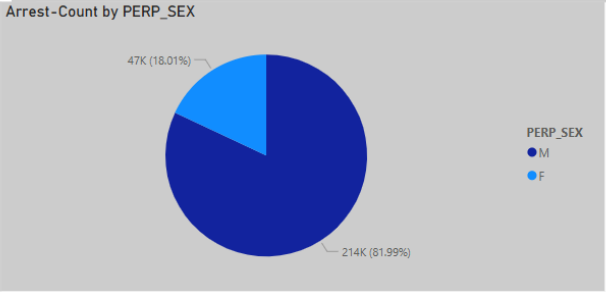
Demographic Analysis of Arrests:

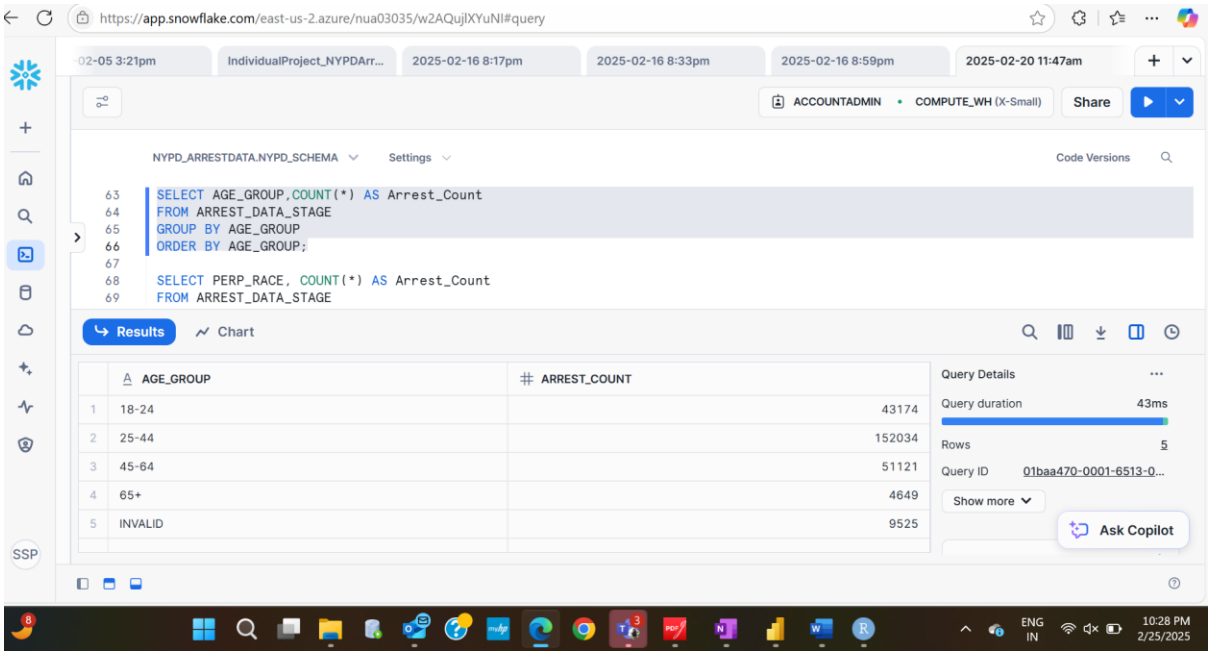
What is the distribution of arrestees by age, race, and gender?

PERP_RACE	18-24	25-44	45-64	65+	INVALID	Total
BLACK	19693	69665	25170	2201	5320	**122049**
WHITE HISPANIC	12880	41600	11508	817	2326	**69131**
BLACK HISPANIC	5394	15845	3922	292	1096	**26549**
WHITE	2545	15401	7009	846	360	**26161**
ASIAN / PACIFIC ISLANDER	2314	8479	3208	468	369	**14838**
UNKNOWN	193	546	168	14	35	**956**
AMERICAN INDIAN/ALASKAN NATIVE	155	498	136	11	19	**819**
Total	**43174**	**152034**	**51121**	**4649**	**9525**	**260503**





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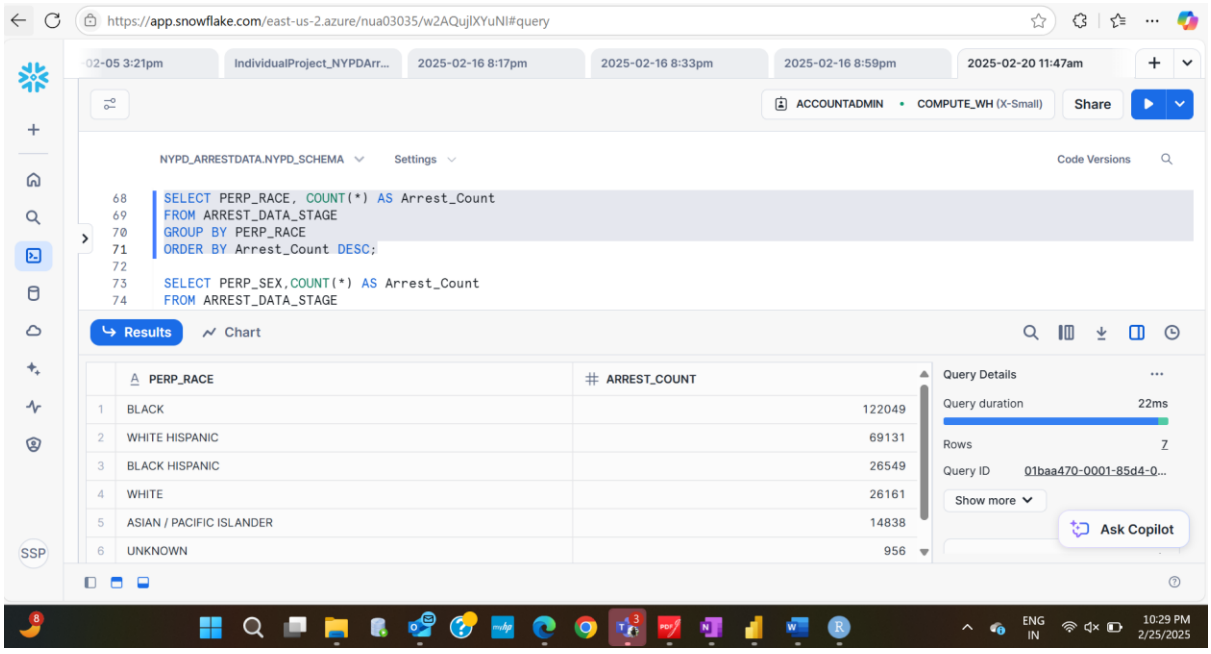
IndividualProject_NYPDArr...
2025-02-16 8:17pm
2025-02-16 8:33pm
2025-02-16 8:59pm
2025-02-20 11:47am
ACCOUNTADMIN • COMPUTE_WH (X-Small)
Share
NYPD_ARRESTDATA.NYPD_SCHEMA
Settings
Code Versions
63 SELECT AGE_GROUP,COUNT(*) AS Arrest_Count
64 FROM ARREST_DATA_STAGE
65 GROUP BY AGE_GROUP
66 ORDER BY AGE_GROUP;
67
68 SELECT PERP_RACE, COUNT(*) AS Arrest_Count
69 FROM ARREST_DATA_STAGE
Results
Chart
AGE_GROUP
ARREST_COUNT
1 18-24 43174
2 25-44 152034
3 45-64 51121
4 65+ 4649
5 INVALID 9525
Query Details
Query duration 43ms
Rows 5
Query ID 01baa470-0001-6513-0...
Show more
Ask Copilot
SSP
ENG IN
10:28 PM 2/25/2025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02-05 3:21pm
IndividualProject_NYPDArr...
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2025-02-20 11:47am
ACCOUNTADMIN • COMPUTE_WH (X-Small)
Share
NYPD_ARRESTDATA.NYPD_SCHEMA
Settings
Code Versions
68 SELECT PERP_RACE, COUNT(*) AS Arrest_Count
69 FROM ARREST_DATA_STAGE
70 GROUP BY PERP_RACE
71 ORDER BY Arrest_Count DESC;
72
73 SELECT PERP_SEX,COUNT(*) AS Arrest_Count
74 FROM ARREST_DATA_STAGE
Results
Chart
PERP_RACE
ARREST_COUNT
1 BLACK 122049
2 WHITE HISPANIC 69131
3 BLACK HISPANIC 26549
4 WHITE 26161
5 ASIAN / PACIFIC ISLANDER 14838
6 UNKNOWN 956
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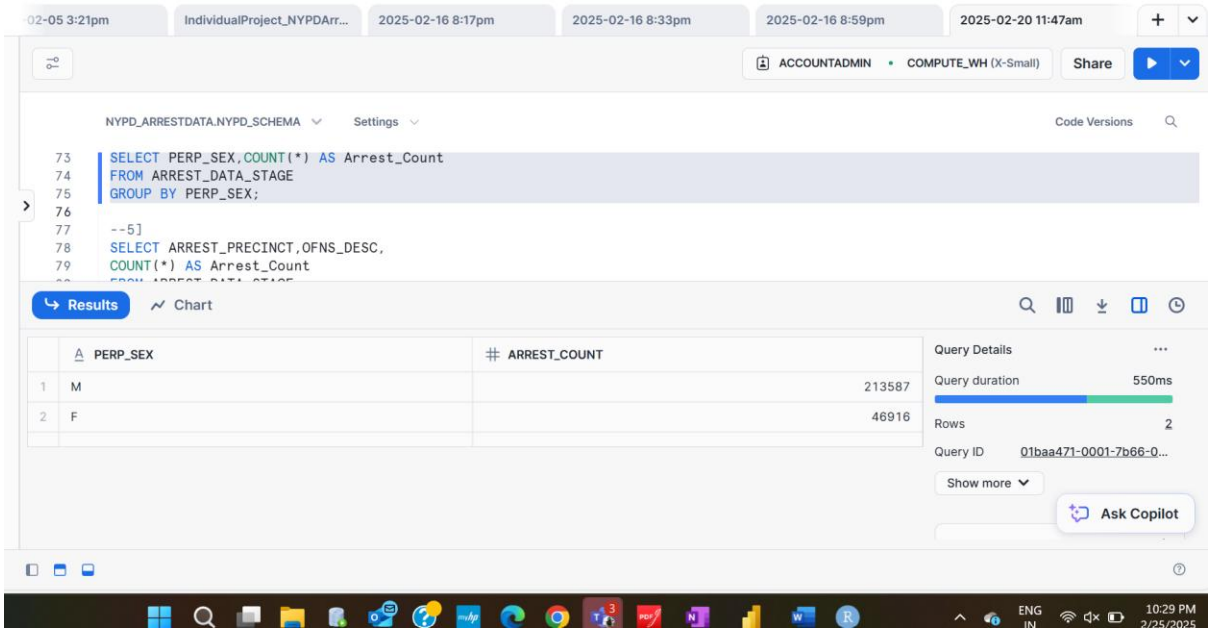
Show more
Ask Copilot
SSP
ENG IN
10:29 PM 2/25/2025



Age Distribution:

- The age group 25-44 has the highest number of arrests with 152K (58.36%)
- The age group 45-64 accounts for 51K arrests, representing 19.62% of the total.
- The age group 18-24 accounts for 43K arrests, representing 16.57% of the total.
- Older adults (65+) are least represented in arrests with 10K arrests, representing 3.66% of the total.

Race Distribution:

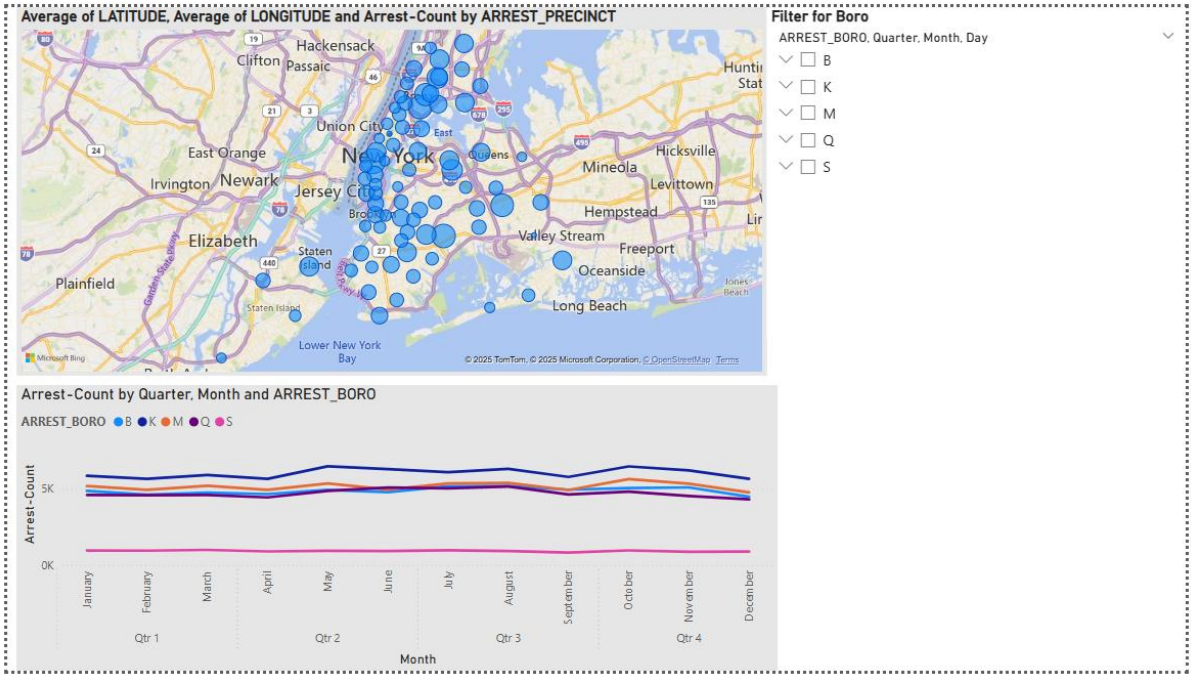
- Black individuals represent the largest proportion of arrestees, with 122K arrests (46.85%).
- White Hispanic individuals make up the second largest group with 69K arrests (26.54%).
- White individuals account for 26K arrests (10.04%)
- Asian/Pacific Islander individuals account for 15K arrests (5.7%).
- Black Hispanic individuals account for 27K arrests (10.19%)

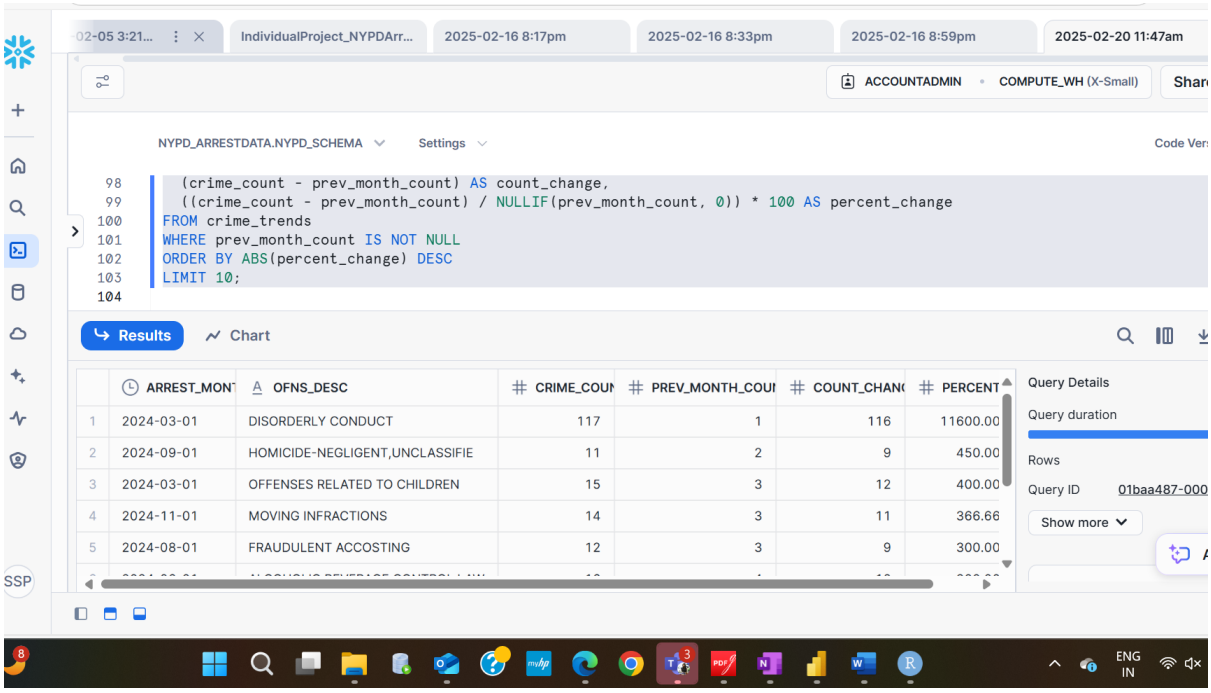
Gender Distribution:

- Males (M) make up the majority of arrests, with 214K arrests (81.99%).
- Females (F) represent a smaller proportion with 47K arrests (18.01%).

Predictive & Preventive Insights:

Can we identify high-crime areas based on historical trends?





Yes, we can identify high-crime areas based on historical trends using the NYPD Arrest Data Year-to-Date dataset.

1. **Historical Trends:** By examining the data across multiple years (available within the Year-to-Date data and previous years' datasets if available), we can identify trends in crime locations. Areas that consistently show high arrest rates over multiple years are strong candidates for being identified as high-crime areas.