

DSNY GRAFFITI TRACKING

W200 PROJECT 2

MIDS 5TH YEAR SUMMER 2021

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INTRODUCTION



DATA FROM DSNY (CITY OF NEW YORK DEPARTMENT OF SANITATION)

DSNY GRAFFITI TRACKING IN NEW YORK CITY

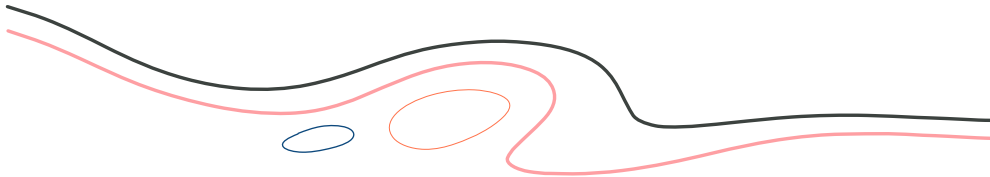
DATA OF LOCATION AND RESOLUTION OF REPORTED GRAFFITI IN NYC

GRAFFITI-FREE NYC REMOVES GRAFFITI ACROSS FIVE BOROUGHES

Questions

Overall Guiding Question: How is the graffiti in New York City impacted by the city and its people?

- What areas of New York City have the most graffiti?
- What unique geographical qualities contribute to the difference in graffiti counts and time it takes to remove graffiti in different boroughs?
- Are there trends in graffiti activity over the course of the year?



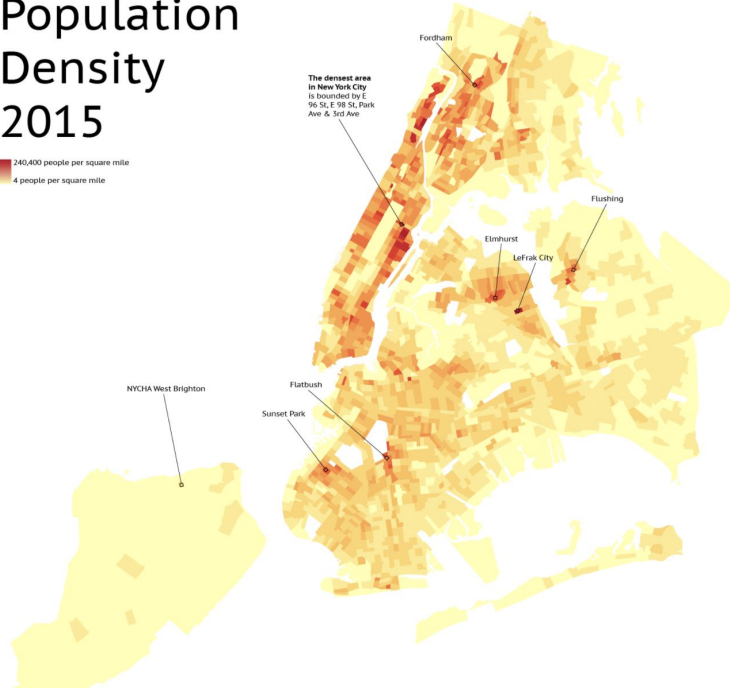
Steps to Analyze Questions & Data Cleaning

1. Significance of NaN values and eliminating if possible
2. Take x- and y-coordinates to map graffiti locations
3. Using zip code to find highest levels of graffiti
4. Using borough to create time-series per borough
5. Finding response times per borough
6. Using census data to determine potential factors per borough

Populations

Population Density 2015

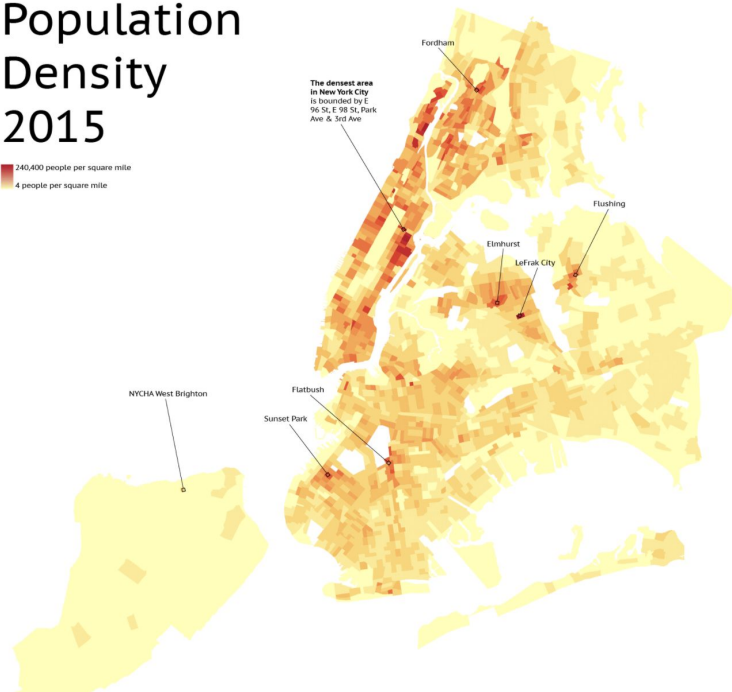
240,400 people per square mile
4 people per square mile



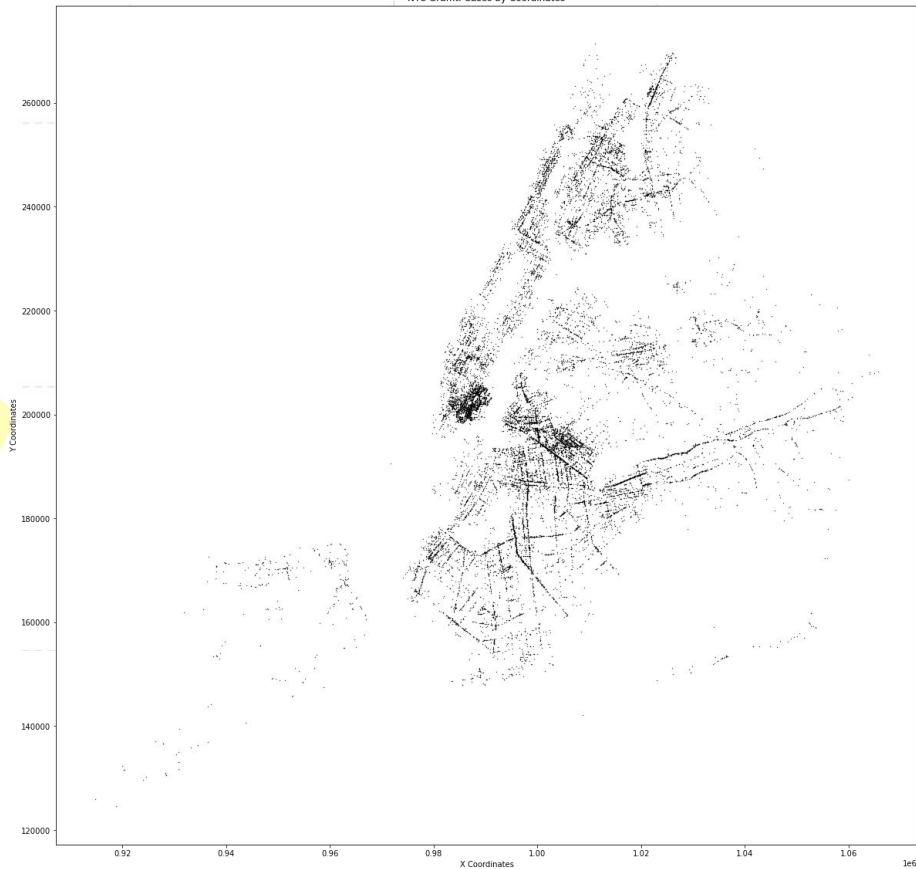
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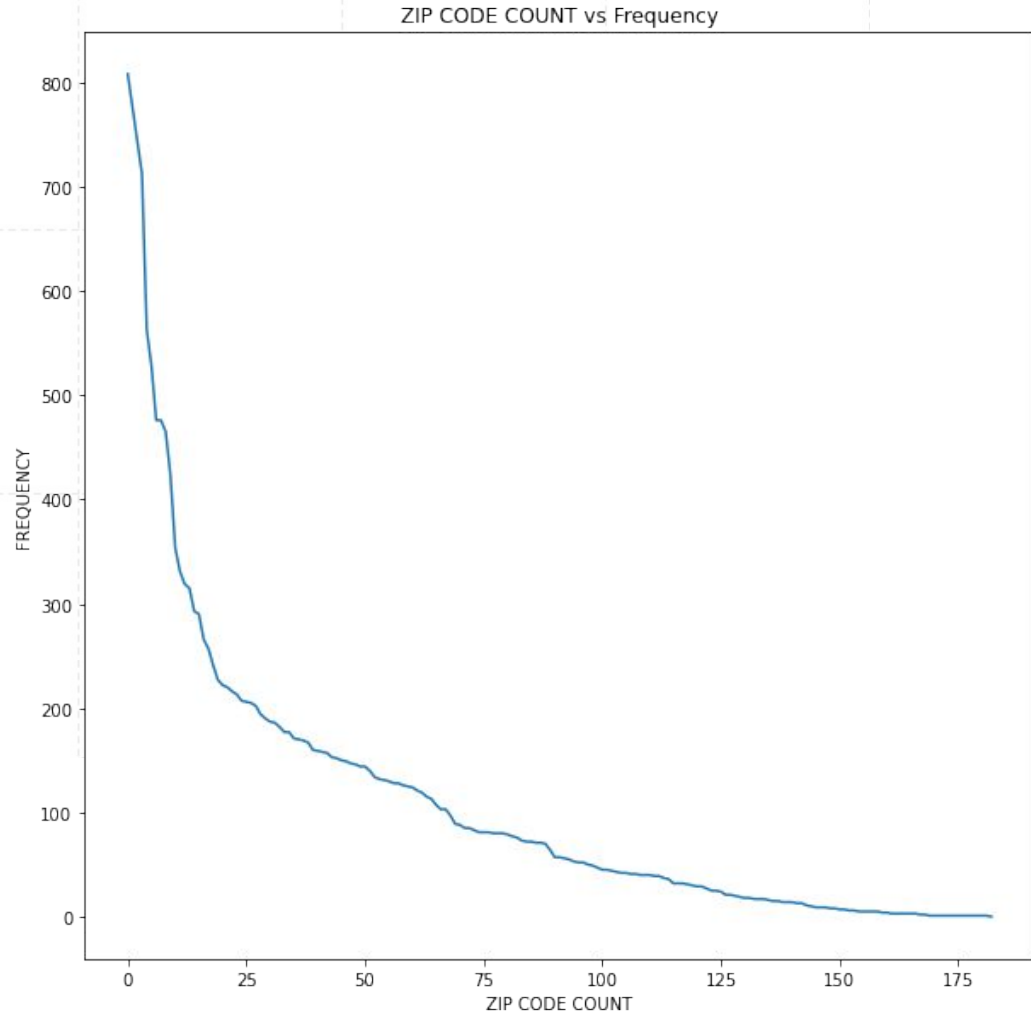


NYC Graffiti Cases by Coordinates



Zip Codes

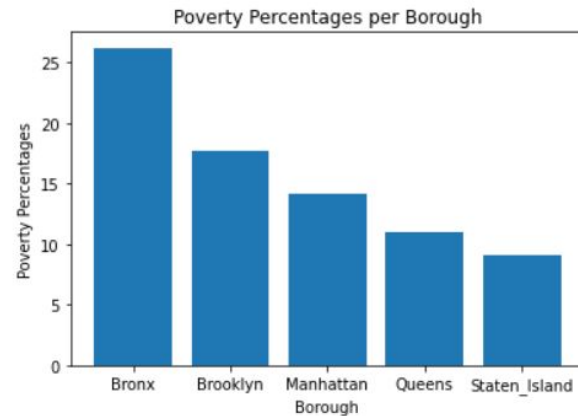
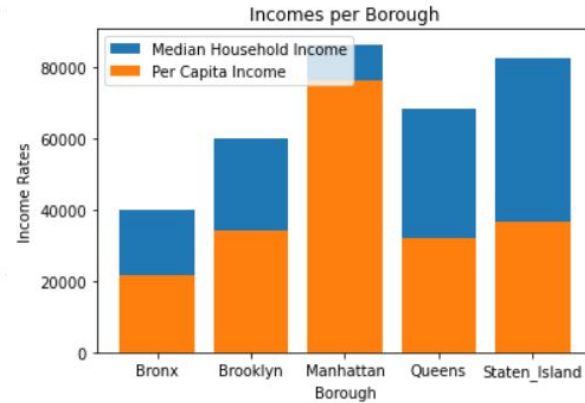
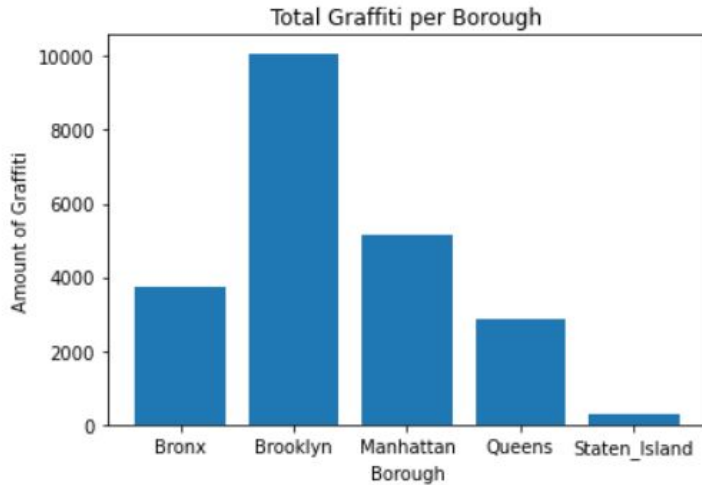
	count
ZIP_CODE	
10002.0	808
11237.0	776
11206.0	745
11221.0	712
11211.0	563



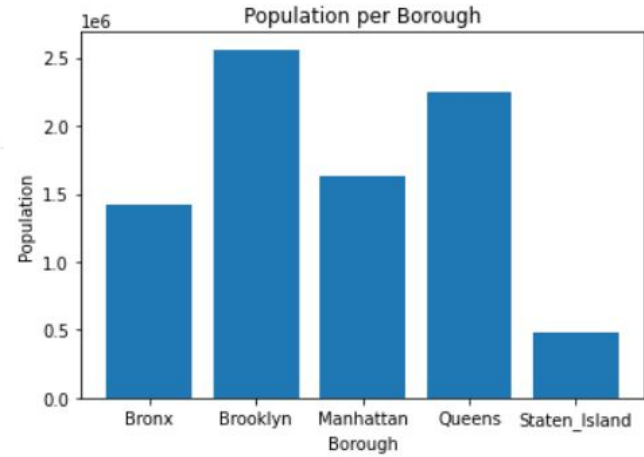
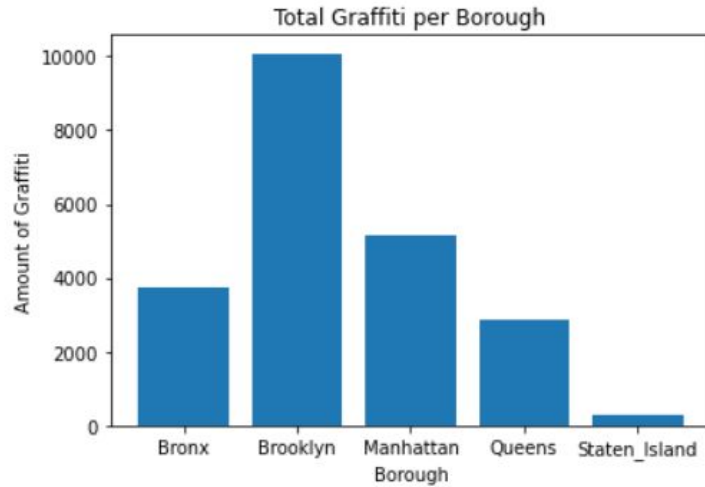
Zip Codes and Income

	Zip Code	Median Income Zipcode	Median Income in Borough	Median Zipcode income percent of Median Borough Income
0	10002	\$33,218	\$86,553	0.383788
1	11237	\$40,372	\$60,231	0.670286
2	11206	\$28,559	\$60,231	0.474158
3	11221	\$39,178	\$60,231	0.650462
4	11211	\$46,848	\$60,231	0.777805

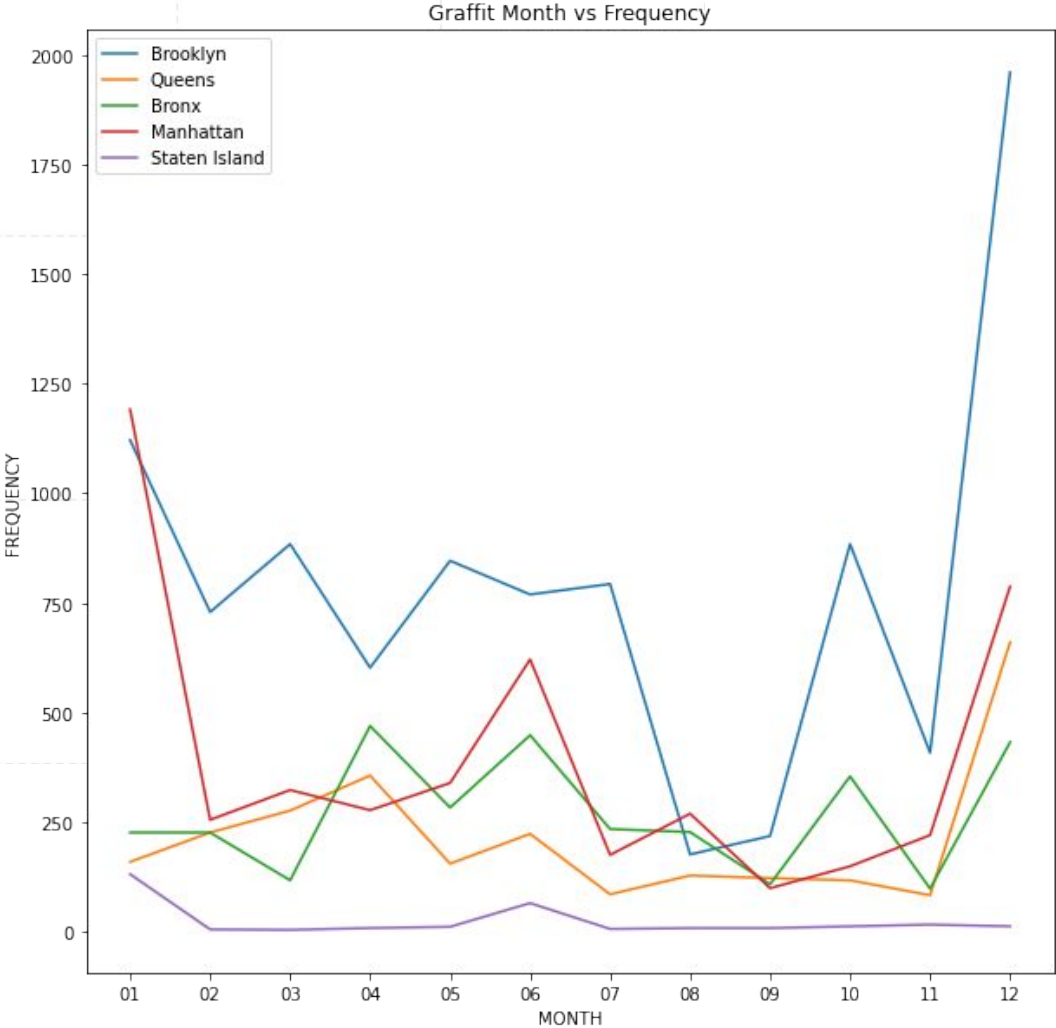
Borough Census Analysis



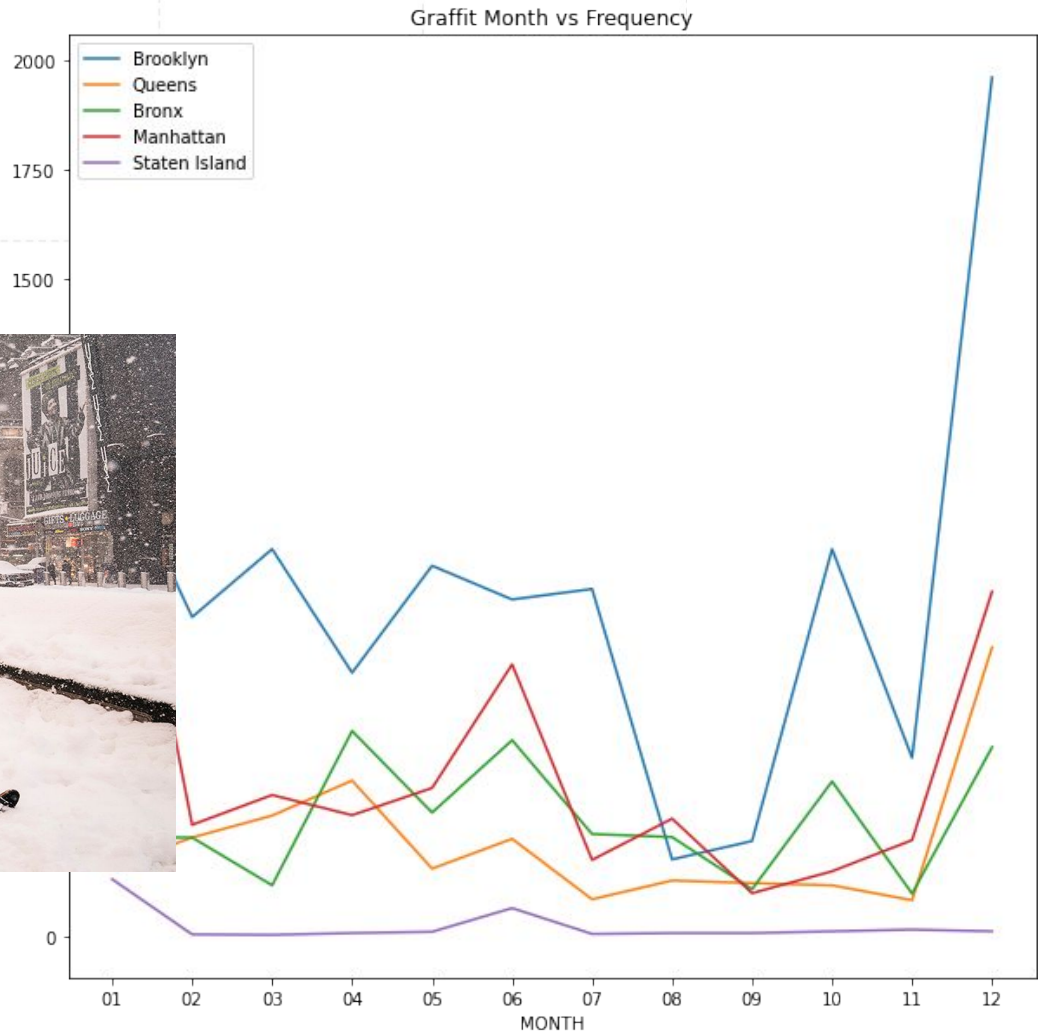
Borough Census Analysis



Time Series Analysis



Time Series Analysis



City Response Analysis

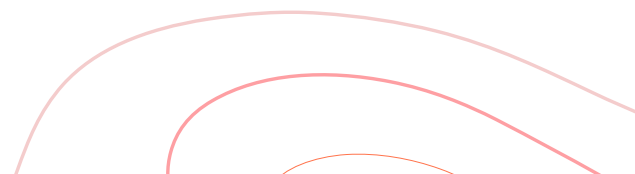
RESPONSE TIME

BOROUGH	
QUEENS	137.811636
MANHATTAN	128.699660
BROOKLYN	124.104716
BRONX	123.931112
STATEN ISLAND	116.182266

count proportion of not closed not closed

BOROUGH			
Unspecified	12	1.000000	12
BRONX	3742	0.526724	1971
QUEENS	2855	0.518389	1480
MANHATTAN	5149	0.485920	2502
BROOKLYN	10076	0.484418	4881
STATEN ISLAND	305	0.334426	102

Conclusion

- **Question:** How is the graffiti in New York City impacted by the city and its people?
 - **Population:** Graffiti incidents are not highly correlated with population
 - **Income/Poverty:** Zip code and census data suggests that low-median-income regions have higher counts of graffiti
 - **Time Series:** Demonstrates higher reports of incidents of graffiti in Winter Months
 - **City Response:** Response times range from 4-5 months
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Thank You!