MTA turnstile data
Food Trucks

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Introduction..

In this project we used the MTA turnstile dataset that was provided by NYC subway to collect data about stations, total entries and exits and then use them to show the owners of food trucks how many people are in every station and allow them to see the amount of crowded in that stations, for provide a snacks that people can use it while waiting for their trains in these stations.

Data Structure :

	DATE_TIME	C/A	UNIT	SCP	STATION	LINENAME	DIVISION	DATE	TIME	DESC	ENTRIES	EXITS
0	2021-06-19 00:00:00	A002	R051	02-00-00	59 ST	NQR456W	BMT	06/19/2021	00:00:00	REGULAR	7589159	2594185
1	2021-06-19 04:00:00	A002	R051	02-00-00	59 ST	NQR456W	BMT	06/19/2021	04:00:00	REGULAR	7589165	2594190

- Contains columns of 12 features , and 2720594 rows
- There is no (Null Values , Missing Values , label y (output)).
- Finding duplicates data :

```
number of rows  before discarding duplicates = 2720549
number of rows after discarding duplicates = 2720546
```

- Number of duplicate row:

```
number of dublicate row= 3
```

Data Cleaning:

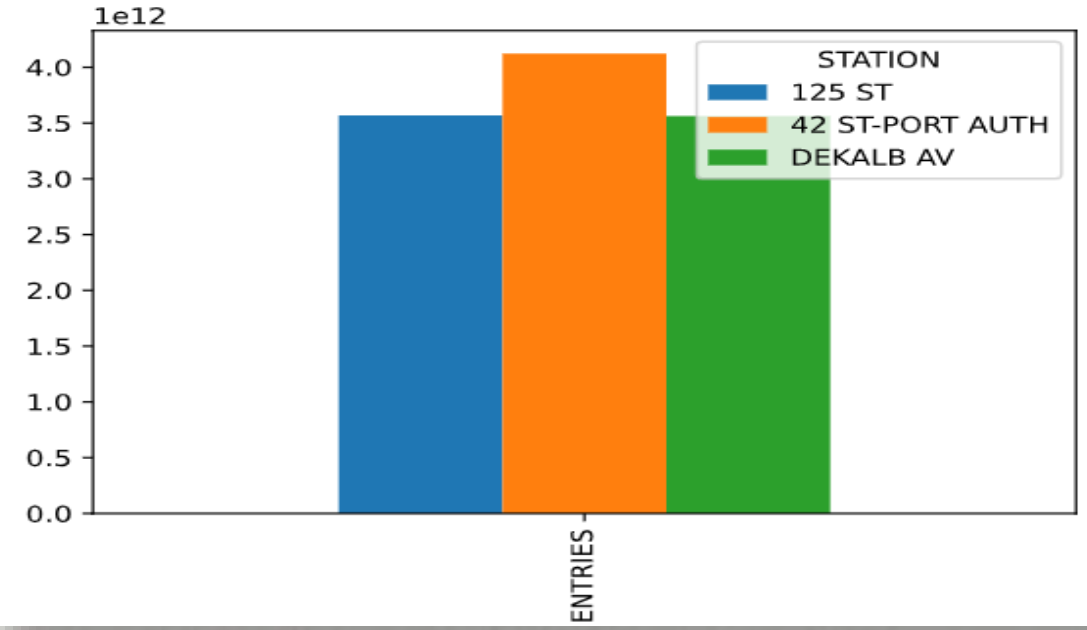
- MTA turnstile data cleaning ,exploring and removing duplicated data.
- Selecting subsets of the total data to use the data that we need it which is Entries, Exits ,Date ,Time ,C/A and stations.
- Finding peak times to select which station has the greatest number of entries in that time.
- Using pandas for selecting top 3 stations to find the total entries to for every station of the top 3.
- Visualizing peak time data using (Seaborn), and total entries using (Matplotlib)

Data Analysis:

Result for the top Three stations:

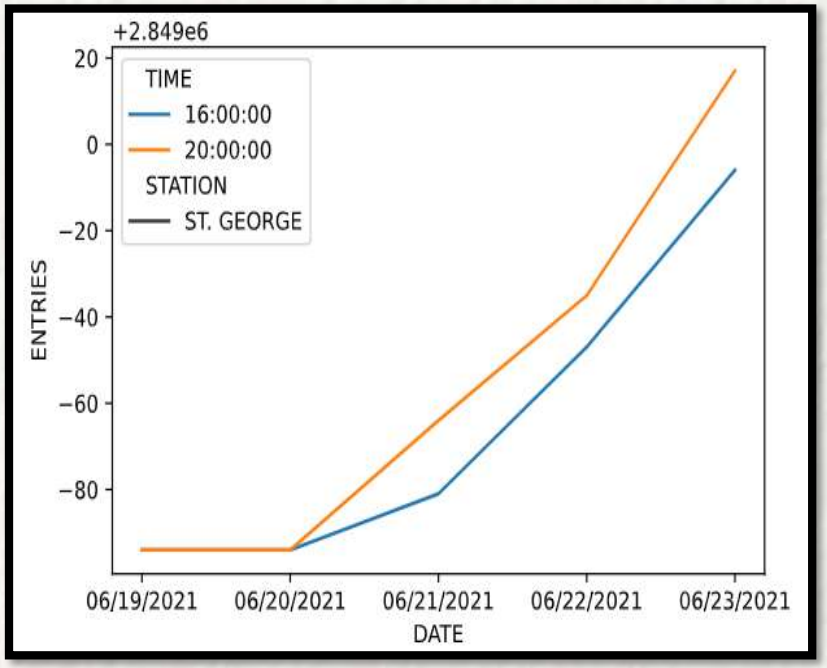
STATION	125 ST	42 ST-PORT AUTH	DEKALB AV
ENTRIES	3568812649881	4123197502096	3562858624445

```
stations_result_Entry.plot.bar(stacked=False);
```

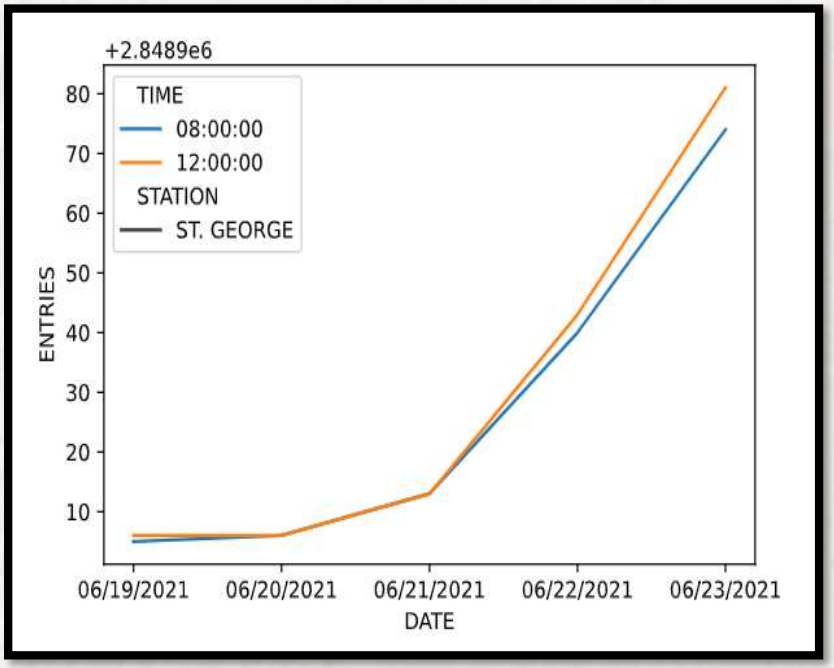


Result for the peak times :

Evening peak time:



Morning peak time:



Conclusion :

Selected the top three stations by the highest number of entries and exits .

Future Work:

Provide sale business magazines, books and Newspapers ,Coffee next to food.

THANKS