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MTA Track Maintenance

EDA project proposal

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Overview

In 2017, the governor declared a state of emergency and many tracks were out of service due to urgent upgrades. This puts the MTA on the spotlight and there is no tolerance for errors and they must meet safety measures.

Problem Statement

The tracks are plagued by several problems caused by a lack of regular maintenance, which endangers public safety and may create delays. The MTA must maintain and repair subway parts on a regular basis. The difficulty here is determining when to plan downtime for repairs and maintenance, given that the subway operates 24 hours a day, seven days a week.

Questions:

- When to shut down for maintenance?
- Which tracks need repairing ?
- In which order should the MTA schedule their track maintenance?
- What are the alternate lines available in the station?

Dataset

Initially the MTA turnstile data from Jan 2017 to May 2021 will be used to answer the questions and investigate the impact of the summer of hell incident. Each record in a data set provides the results of one "audit": the identifying information for a turnstile, a time stamp, and total admission and exit counts.

Most important features :

- Station
- Line Name
- Date
- Time
- Entries
- Exits

Project Requirements

The tools that will be used in the EDA:

- IDE:

  VS Code, Python and Jubyter notebook extension by Microsoft.

- Libraries:

  Pandas, Numpy, Matplotlib, seaborn