Namma_Metro_Clone

About the project

The project aims to create a website for the metro that is accessible to Banglore residents. This website is designed to assist users of the Banglore metro by calculating the fare, the number of stations that will occur during their trip, and the route they will need to take to get where they are going. Additionally, the website sends the user an email with information on the boarding station they selected, the departure station, the number of stops they will have along the way, and the cost of the ride. In order to generate statistics like the number of passengers who boarded from a station and the number of people who used that station as their destination station, this website also collects information on each user's boarding and destination stations. The government can later utilize this data to identify the busiest metro stations and properly and strategically plan the construction of more metro stations.

How the project works

The Tkinter framework is applied to the project. In order to figure out the route and the number of stops, the project mostly uses a list data structure. The green line and purple stations are again saved in separate 2 lists, and all the station listings are stored in one list.

The program will simply take the index of the boarding and the departure stations and subtract 1 from it as we do not count the boarding station as a stop when determining the number of stops between 2 stations on the same line.

The program will take the index of the connection station of those two lines and subtract it from the index of the boarding and departure station, add both differences, and deduct 1 to determine the number of stops between stations on separate lines.

The application will simply print the items of the list from the boarding to the departure station of that line in order to represent the itinerary of two stations on the same lines.

The program will print the items of the list from the boarding station to the connection station and from the other line from the connecting station to the destination station in order to print the route for boarding and departure stations from the different lines.

The user is prompted for their email address when the program first launches. The program verifies that the email address entered by the user contains a "@" symbol to ensure that it is a genuine email address before sending an email to the user with the user's chosen boarding, departure, number of stops, and fare information.

The application also logs every user's boarding and destination stations, stores them in a MySQL database, and utilizes MySQL to determine how many users departed from each station and selected it as their final destination.