This project is a Python program that calculates next train timings and finds the fastest metro route between two stations in the Delhi Metro network. It uses simplified versions of the Blue Line (split into Blue3 and Blue4) and the Magenta Line.

1. Data sources:-

The data for the assignment is taken from official delhi metro website https://delhimetrorail.com/

- The program reads all station, travel time, and interchange information from a text file named:

Metro_data.txt

The format in which data has been stored in the text file is as:-

Line1 name	interchange	time for next station
Station1	yes	3
Station2	no	9
Station3	no	12
Station4	yes	2
.. so on		
Line2 name		
Station1	yes	3
Station2	yes	2
Station3	no	10
Station4	yes	10
.. so on		

2. Assumption

1. Frequency of Trains

Train intervals depend on time of day:

- Peak hours**:** 8–10 AM & 5–7 PM: every 4 minutes
- Other hours**:** every 8 minutes
- Service operates from 06:00 to 23:00
- At 6:00 trains starts from 1st and last station only, each station doesn't have metros int the beginning
- After 23:00 only the last metro which has been started earlier will be working from both the sides

2. Blue Line:-

For Splitting in the blue line, i have assumed it as two different lines Blue3 and Blue4

3. Data Order

The data has been stored in the form of nested dictionaries.
Where the key of the outer dictionaries are the line.
And the inner dictionaries have keys as station name and values as
As list containing the information about interchange and the time taken to reach next station

4. Instructions to run:-

Keep the metro.py file and metro_data.txt file in the same folder and open in any IDE
(for ex. VSCODE)
Then run the program and select suitable options listed in the terminal.