EMERGENCY NAVIGATION SYSTEM

INTRODUCTION

AIM: To provide the best and fastest route to supply Resources to the hospitals.

Basically, the code would be programmed in such a way that it is able to deliver us the required information, that is, the best and the most efficient route for the resources to get delivered to the hospitals which are in need, from the nearest warehouses.

“Emergency Navigation System” is designed to efficiently complete this task.

ABOUT THE PROJECT

In this project, we have considered the map of Noida, using Graphs Data Structures. We have taken 8 hospitals, and 3 warehouses where the Resources are stored.

Initially, the user would be asked for the hospital’s name, where the resources are required. Then, the programme would ask for what resources are required in that hospital.

This is where the main objective of the code comes into play. Now, the programme would display the best possible route from the Warehouse to the Hospital. The Total Time taken for the resources to get delivered to their destined location would always be calculated and displayed. The time shown would also consider all the traffics on these routes.

This is done using Weighted Graphs of the maps. And, The Traffic's Congestion Level would be divided in 10 Levels, with Level 10 Traffic being the most congested one.

FEATURES OF THE PROJECT

"**Emergency Navigation System"** has been designed to computerize the following Functions that are performed by the system:

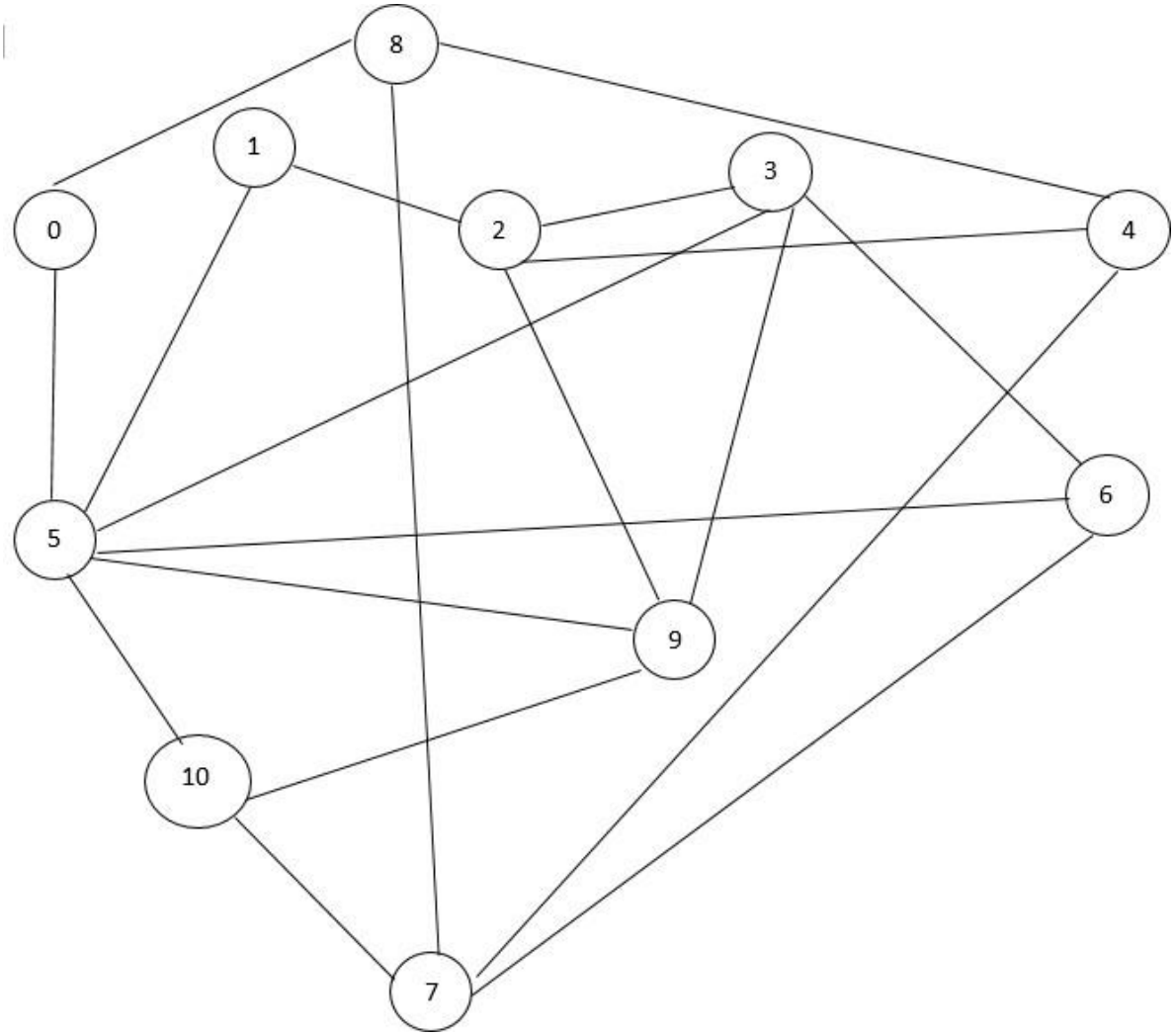
- **Check Input:-** To check the whether hospital exists or not.

- **Displaying Routes:-** It will show all possible routes between warehouses and hospital.

- **Display Fastest Route:-** System will show the fastest route along with the time.

- **Show Traffic level**:- System will show the traffic level between all possible routes.

GRAPHICAL REPRESENTATION OF NOIDA CITY



DATA SET DESCRIPTION

1) Linked List: It will be used in storing nodes oflinked list.

2) Graphs: Used for making maps

3) Adjacency Matrix or Adjacency List: It willbe used for graph storage

4) Other Datasets might be added as per therequirement while building the project code.

5) OOPS: used for storing information of variousassets involved in the process.

OUTPUT

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-------- Welcome to Emergency Navigation System -------

For the purpose of this demonstration, we have considered 8 hospitals and 3 warehouses
Details of the above is as follows :
Hospital : SJM, Sector 63
Hospital : Prakash, Sector 33
Hospital : Jaypee, Sector 128
Hospital : Max, Sector 19
Hospital : Yatharth, Sector 110
Hospital : NMC, Sector 30
Hospital : Kailash, Sector 27
Hospital : Apollo, Sector 26
Warehouse : Singh,  Sector 4
Warehouse : Mathura, Sector 62
Warehouse : Maheshwari, Sector 69

Starting from SJM:
 Road to warehouse -Singh has traffic level 4
 Road to hospital -NMC has traffic level 9

Starting from Prakash:
 Road to hospital -Jaypee has traffic level 2
 Road to hospital -NMC has traffic level 4
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Starting from Jaypee:
 Road to warehouse -Mathura has traffic level 10
 Road to hospital -Yatharth has traffic level 8
 Road to hospital -Max has traffic level 8
 Road to hospital -Prakash has traffic level 2

Starting from Max:
 Road to warehouse -Mathura has traffic level 4
 Road to hospital -Kailash has traffic level 8
 Road to hospital -NMC has traffic level 3
 Road to hospital -Jaypee has traffic level 8

Starting from Yatharth:
 Road to warehouse -Singh has traffic level 3
 Road to hospital -Apollo has traffic level 9
 Road to hospital -Jaypee has traffic level 8

Starting from NMC:
 Road to hospital -Kailash has traffic level 3
 Road to warehouse -Maheshwari has traffic level 5
 Road to warehouse -Mathura has traffic level 10
 Road to hospital -Max has traffic level 3
 Road to hospital -Prakash has traffic level 4
 Road to hospital -SJM has traffic level 9
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Starting from Kailash:
 Road to hospital -Apollo has traffic level 10
 Road to hospital -NMC has traffic level 3
 Road to hospital -Max has traffic level 8

Starting from Apollo:
 Road to warehouse -Singh has traffic level 3
 Road to warehouse -Maheshwari has traffic level 8
 Road to hospital -Kailash has traffic level 10
 Road to hospital -Yatharth has traffic level 9

Starting from Singh:
 Road to hospital -SJM has traffic level 4
 Road to hospital -Apollo has traffic level 3
 Road to hospital -Yatharth has traffic level 3

Starting from Mathura:
 Road to warehouse -Maheshwari has traffic level 9
 Road to hospital -Max has traffic level 4
 Road to hospital -Jaypee has traffic level 10
 Road to hospital -NMC has traffic level 10

Starting from Maheshwari:
 Road to warehouse -Mathura has traffic level 9
 Road to hospital -Apollo has traffic level 8
 Road to hospital -NMC has traffic level 5
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Enter the name of hospital that require resources : SJM
Enter the required no. of oxygen cylinders/concentrator :10
Enter the required no. of PPE kit : 10
Enter the required no. of remedies : 10

Time taken from warehouse Singh to reach hospital SJM is 20 minutes.
Time taken from warehouse Mathura to reach hospital SJM is 80 minutes.
Time taken from warehouse Maheshwari to reach hospital SJM is 70 minutes.

Among these, the most efficient warehouse for delivering the required resources is : Singh

Process returned 0 (0x0)   execution time : 671.889 s
Press any key to continue.
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When the input hospital does not exist or name is incorrect