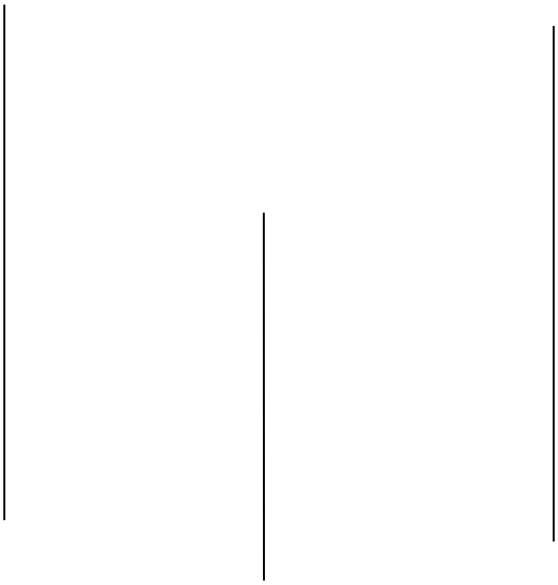
COMPREHENSIVE PROJECT REPORT

ON

LAN INFRASTRUCTURE DESIGN



UNDER THE GUIDANCE OF

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Submitted by

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B.TECH Semester III (2019-2023)

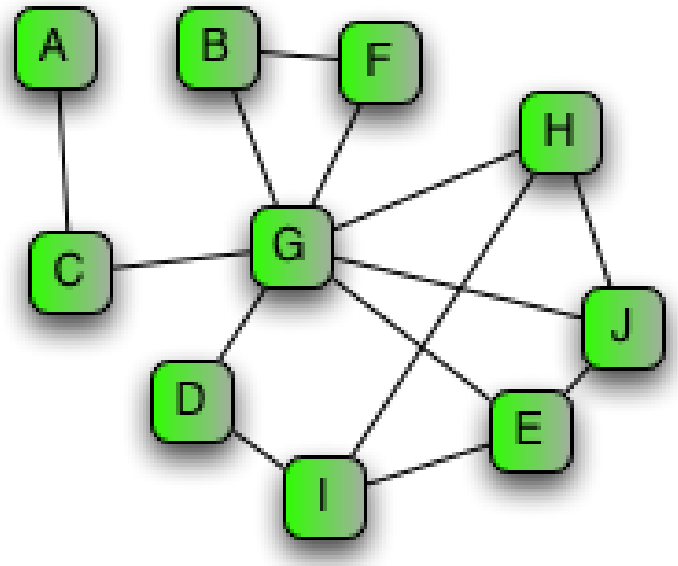
Application of this project:

As we all know how important communication system for human being. In this project I would like to develop software which would be easy to use. It would also enable to find shortest distance between two routers, expenditure on the cable used, whether optical fiber is required or installation or not, internet speed , total expenditure etc. It would also help to insert a number of routers with just click of a button and do the needful calculations on the basis of number or routers inserted.

Content of this project:

1). Introduction
2). Shortest distance b/w router (Distance present)
3). Shortest distance b/w router (Distance not present just like a un-weighted graph)
4). Exit

UN-WEIGHTED GRAPH



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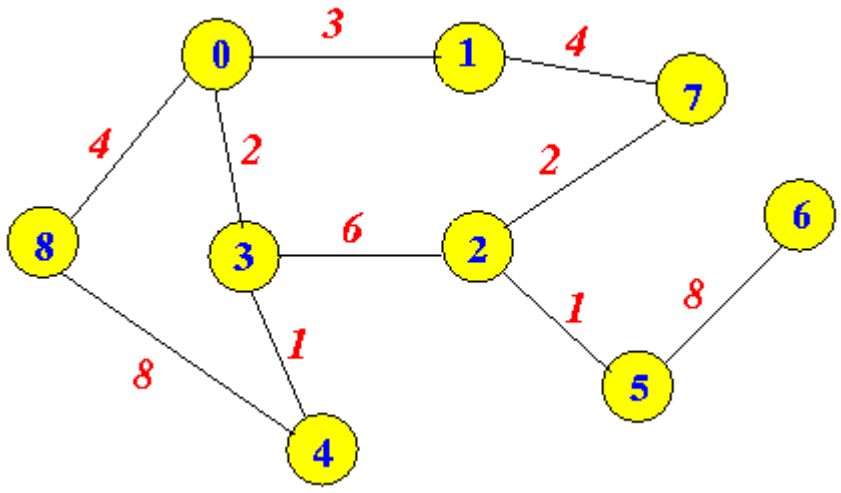
WEIGHTED GRAPH



Topic covered in this project:

In this Project I would cover topics of Discrete Mathematics like **Graph theory.**

Graph theory: It is a non-linear data structure. In mathematics, graph theory is the study of graphs, which are mathematical structures used to model pairwise relations between objects. A graph in this context is made up of vertices which are connected by edges Graph theory helps us find a shortest distance between two point using ***Dijkstra algorithm***. Another topic is random function. It majorly focuses on topics like Graph theory and classes and objects. I may also use recurrence relation, if needed.

In this project I will be using c++ language as c++ is **Object-oriented language** which focuses security and reusability.