Distance vector Algorithm
write-up

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```
Class Network:
    def __init__(self,n):
        self.matrix = []
        self.n = n

    def addlink(self,u,v,w):
        self.matrix.append((u,v,w))

    def Printtable(self, dist, src):
        Print("Routing Table of NODE {}".format(chr(ord('A')+src)))
        Print("{0}\t{1}".format("Destination","Cost"))
        for i in range(self.n):
            Print("{0}\t{1}".format(chr(ord('A')+i),dist[i]))

    def algor(self,src):
        dist = [99] * self.n
        dist[src] = 0
        for _ in range(self.n-1):
            for u,v,w in self.matrix:
                if dist[u] != 99 and dist[u]+w < dist[v]:
                    dist[v] = dist[u]+w
        self.Printtable(dist,src)
```

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```
def main():
    matrix=[]
    Print(" Enter No. of Nodes:")
    n= int(input())
    Print(" Enter distance matrix:")
    for i in range(n):
        m = list(map(int,input().Split(" ")))
        matrix.append(m)
    g= Network(n)
    for i in range(n):
        for j in range(n):
            if matrix[i][j]==1:
                g.addlink(i,j,1)
    for _ in range(n):
        g.algor(_)

main()
```

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