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CN Lab Writeup (Distance vector routing)

```
class Graph:
    def __init__(self, n):
        self.matrix = []
        self.n = n

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

    def printdist(self, dist, src):
        print("Vector table of {}".format(chr(ord('A')+i),
                                          dist[i]))

        for i in range(self.n):
            print("{0}\t{1}".format(chr(ord('A')+i),
                                    dist[i]))

    def distancevector(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.printdist(dist, src)

def main():
    matrix = []
    print("Enter the number of vertices:")
    n = int(input())
    print("Enter the adjacency matrix:")
```

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```
for i in range(n):
    m = list(map(int, input().split(" ")))
    matrix.append(m)
g = Graph(n)
for i in range(n):
    for j in range(n):
        if matrix[i][j] == 1
            g.addedge(i, j, 1)
for _ in range(n):
    g.distancevector(_)
main()
```