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```cpp
# include <bits/stdc++.h>
using namespace std;

# define MAX 10
int n;
class router {
    char adj-new [MAX], adj-old [MAX];
    int table_new [MAX], table_old [MAX];
    public:    //# initialization of matrix
        router () {
            for (int i=0; i < MAX; i++)
                table_old [i] = table_new [i] = 99;
        }

    void copy () {   // copy the matrix
        for (int i=0; i<n; i++) {
            adj_old [i] = adj_new [i];
            table_old [i] = table_new [i];
        }
    }

    int equal () {
        for (int i=0; i<n; i++)
            if (adj_old[i] = adj_new [i] ||
                table_old [i] != table_new [i])
                return 0;
        return 1;
    }
}
```

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Rohit

```cpp
void input (int j) {
    cout << "1. Directly connected" << (char)
    ('A' + j) << " 99 if else : " << endl << " ";

    for (int i = 0 ; i < n ; i++) {
        if (i == j)
            table_new [i] = 0;
        else
            cin >> table_new [i];
            adj_new [i] = (char) ('A' + i);
    }
    cout << endl ; }

void display () {
    cout << " Destination router : " ;
    for (int i = 0 ; i < n ; i++)
        cout << (char) ('A' + i) << " " ;
    cout << " Outgoing line:"
    for (int i = 0 ; i < n ; i++)
        cout << (adj_new [i] << " ";
    cout << "(Hop count) "

    for (int i = 0 ; i < n ; i++)
        cout << table_new [i] << ") ";
}
void build (int j) {int r [10] ;
    for (int i = 0 ; i < n ; i++)
        for (int k = 0; (i != = j) && (k < n) ; k++)
            if (table_old [r] ! = 99)
                if ((table_new [i] + r [i] - table_new [k]
                    < table_new [k]) {
                    table_new [k] = table_new [i] +
                        r [i] + table_new [k] ;
```

```cpp
        adj_new [k] = (char) ('A' + i);
    }}} r[10];

void build_table () {
    int i=0;   int j =0;
while   (i !=n) {
    for ( i=j ; i<n ; i++ ) {
        r[i].copy() ;
        r[i].build (i);
    }
    for ( i=0; i< n ; i++)
        if ( ! r[i].equal () ) {
            j=i ;
            break;
        }
    }
}

void main () {
    cout << " Number of routes : (<" << MAX << ")";
    cin >> n;
    for (int i=0 ; i<n ; i++)
        r[i].input (i);
    build_table ();
    for (int i=0 ; i<n ; i++) {
        cout << Table entries" << (char)('A' + i)<<
        r[i]. display ();
        cout <<endl;
    }
}
```

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