

```
#include <conio.h>
#include <iostream.h>
#define MAX 10
int n;
class Router {
    char adj-new[MAX], adj-old[MAX];
    int table-new[MAX], table-old[MAX];
public:
    Router() {
        for (int i = 0; i < MAX; i++)
            table-old[i] = table-new[i] = 99;
    }
    void copy() {
        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 (table-old[i] != table-new[i] ||
                adj-new[i] != adj-old[i]) return 0;
        }
        return 1;
    }
    void input (int j) {
        cout << "Enter 1 if the corresponding\n";
        cout << "Router is adjacent to Router" << (char) ('A' + j) << "else enter 99:" << endl << " ";
    }
};
```

```

for(int i=0; i<n; i++)
    if (i!=j) cout << (char) ('A'+i) << " ";
    cout << "Enter nodes";
for (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;

```

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void display() {
    cout << "Destination route: ";
    for (int i=0; i<n; i++)
        cout << (char) ('A'+i) << " ";
    for (int i=0; i<n; i++)
        cout << adj_new[i] << " ";
    cout << "\nHop count: ";
    for (i=0; i<n; i++)
        cout << table_new[i] << " ";
}

```

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void build(i, j)
    for (int i=0; i<n; i++)
        for (int k=0; (i!=j) && (k<n); k++)
            if (table_old[i] != 99)
                " if (table_new[i] + x[i] + table_new[k]
                    < table_new[k]) {
                        table_new[k] = table_new[i] + x[i]
                            + table_new[k];
                        adj_new[k] = (char) ('A'+i);
                    }
}

```


2[16] :-

}

```
void buildtable () {
```

```
    int i=0 ; j=0 ;
```

```
    while (i!=n) {
```

```
        for (i=j ; i<n ; i++) {
```

```
            2[i] = copy();
```

```
            2[i] = build();
```

```
        }
```

```
        for (i=0 ; i<n ; i++)
```

```
            if ( ! 2[i] . equals() ) {
```

```
                j=i ;
```

```
                break;
```

```
            }
```

```
        }
```

```
    }
```

```
void main () {
```

```
    clrscr();
```

```
    cout << "Enter no of routes" << endl << n;
```

```
    for (int i=0 ; i<n ; i++) 2[i] = input();
```

```
    build-table();
```

```
    for (int i=0 ; i<n ; i++) {
```

```
        cout << "Route table entries for
```

```
        route " << (char)('A'+i) << "A:"
```

```
        2[i] . display();
```

```
        cout << endl << endl;
```

```
    }
```

```
    getch();
```

```
}
```