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CN LAB - B3 batch.

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#include <conio.h>
#include <iostream.h>
#include <stdio.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 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<<"\n Enter metric: ";
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;
  }
void display(){
cout<<" Destination Router: ";
for(int i=0;i<n;i++) cout<<(char)('A'+i)<<" ";
cout<<"\nOutgoing Line: ";
for(i=0;i<n;i++)
cout<<adj_new[i]<<" ";
cout<<"\nHop count:";
```

```
for(i=0;i<n;i++)
cout<< table_new[i]<<" ";
}
void build(int j) {
for(i=0; i<n; i++)
for(k=0;(i!=j)&&(k<n);k++)
if(table_old[i]!=99)
if((table_new[i]+n[i].table_new[k])<
 table_new[k]) {
 table_new[k]= table_new[i]+n[i].
 table_new[k];
 adj_new[k]= (char)('A'+i);
 }
 }
}n[10];
void build_table (){
int i=0, j=0;
while(i!=n){
for(i=j; i<n; i++)
 { n[i].copy();
   n[j].build(i);
 }
```

```
for( i=0; i<n; i++)
if( !A[i].equal()) {
  j=i;
  break;
  }
  }
  }
void main()}
int i
cout<<"Enter the number of router (MAX<<i);
  cin>>n);
for( i=0; i<n; i++)
   A[i].input(i);
build_table();
for(i=0; i<n; i++){
  cout<< Router Table content: "<<
   (char)('A'+i)<<:-".
A[i].display();
cout<<endl<<endl;
}
}
```