

```
// ***** All to all shortest paths *****
```

```
#include<iostream>
```

```
using namespace std;
```

```
#define dim 7
```

```
#define inf 99
```

```
int weight[dim][dim] = { { 0 , 1 , inf, inf, inf, 2 , inf },  
                          { 1 , 0 , 8 , inf, inf, inf, inf },  
                          { inf, 8 , 0 , 4 , inf, 3 , inf },  
                          { inf, inf, 4 , 0 , 2 , inf, inf },  
                          { inf, inf, inf, 2 , 0 , 1 , inf },  
                          { 2 , inf, 3 , inf, 1 , 0 , 2 },  
                          { inf, inf, inf, inf, inf, 2 , 0 } };
```

```
int main(void)
```

```
{
```

```
    int r, c, x, flag;
```

```
    for (r = 0; r < dim; r++)
```

```
    {
```

```
        for (c = 0; c < dim; c++)
```

```
        cout << weight[r][c] << "t";
```

```
        cout << "n";
```

```
    }
```

```
    do{
```

```
        flag = 0;
```

```
        for (r = 0; r < dim; r++)
```

```
        for (c = 0; c < dim; c++)
```

```
        for (x = 0; x < dim; x++)
```

```
            if (weight[r][c] > weight[r][x] + weight[x][c])
```

```
            {
```

```
                weight[r][c] = weight[r][x] + weight[x][c];
```

```
                flag++;
```

```
            }
```

```
        cout << "Flag = " << flag << endl;
```

```
    } while (flag > 0);
```

```
cout << "\n\n";  
for (r = 0; r < dim; r++)  
{  
    for (c = 0; c < dim; c++)  
        cout << weight[r][c] << "\t";  
    cout << "\n";  
}  
}
```