Travelling_Sales_person

Problem	Submissions	Leaderboard	Discussions

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Write Java program to Implement Travelling Sales Person problem using Dynamic programming

Input Format

4 999 1 3 6 1 999 2 3 3 2 999 1 6 3 1 999

Constraints

No Constraints

Output Format

tsp tour 1--->2--->4--->3--->1 Tourcost=8

Sample Input 0

```
4
999 1 3 6
1 999 2 3
3 2 999 1
6 3 1 999
```

Sample Output 0

```
tsp tour
1--->2--->4--->3--->1
Tourcost=8
```

Java 7 ⌄   ⤢ ⚙

```java
import java.util.Scanner;
public class Tsp
{
    static int cost[][];
    public int tsp(int[] path,int start,int n)
    {
        int i,j,k,ccost;
        int[] mintour=new int[n+1];
        int[] temp=new int[n+1];
        if(start==n-1)
        return cost[path[n-1]][path[n]]+cost[path[n]][1];
        int mincost=999;
        for(i=start+1;i<=n;i++)
        {
            for(j=1;j<=n;j++)
            temp[j]=path[j];
            temp[start+1]=path[i];
            temp[i]=path[start+1];
            if(cost[path[start]][path[i]]+(ccost=tsp(temp,start+1,n))<mincost)
            {
                mincost=cost[path[start]][path[i]]+ccost;
                for(k=1;k<=n;k++)
                mintour[k]=temp[k];
```

```
                    }
25              }
26              for(i=1;i<=n;i++)
27                  path[i]=mintour[i];
28              return mincost;
29          }
30          public static void main(String[] args)
31          {
32              int mincost,n,i,j;
33              Scanner s = new Scanner(System.in);
34              //System.out.println("enter the no of cities: ");
35              n=s.nextInt();
36              int path[] =new int[n+1];
37              cost = new int[n+1][n+1];
38              //System.out.println("Enter the cost matrix:");
39              for(i=1;i<=n;i++)
40                  for(j=1;j<=n;j++)
41                      cost[i][j]=s.nextInt();
42              for(i=1;i<=n;i++)
43              path[i]=i;
44              Tsp obj = new Tsp();
45              mincost=obj.tsp(path,1,n);
46              System.out.println("tsp tour");
47              for(i=1;i<=n;i++)
48                  System.out.print(path[i] + "--->");
49              System.out.println("1");
50              System.out.println("Tourcost=" + mincost);
51          }
52  }
53
```

Line: 1 Col: 1

⬆ Upload Code as File   ☐ Test against custom input   Run Code   Submit Code

Testcase 0 ✔

Congratulations, you passed the sample test case.

Click the **Submit Code** button to run your code against all the test cases.

Input (stdin)

```
4
999 1 3 6
1 999 2 3
3 2 999 1
6 3 1 999
```

Your Output (stdout)

```
tsp tour
1--->2--->4--->3--->1
Tourcost=8
```

Expected Output

```
tsp tour
1--->2--->4--->3--->1
Tourcost=8
```