T durga nayak

106119132

1)

```cpp
#include<iostream>
#include<vector>
#include<map>
#include<climits>
using namespace std;
int tsp(vector<vector<int>>&weights,map<int,bool>&m,int st)
{
int min_cost=INT_MAX;
bool flag=false;
m[st]=true;
for(int i=0;i<weights.size();i++)
{
int curr_cost=0;
if(!m[i]&&i!=st)
{
curr_cost=weights[st][i];
curr_cost+=tsp(weights,m,i);
flag=true;
if(curr_cost<min_cost)
{
min_cost=curr_cost;
}
}
}
}
```

```cpp
    m[st]=false;
    if(flag)
    return min_cost;
    return weights[st][0];
}
int main()
{
    vector<vector<int>>weights={{0,10,15,20},{5,0,9,10},{6,13,0,12},{8,8,9,0}};
    map<int,bool>m;
    int min_cost=tsp(weights,m,0);
    cout<<"Minimum cost is"<<min_cost;



}
```

Out put:

```
Minimum cost is35
```

2)

```cpp
#include<cstring>
#include<iostream>
using namespace std;
char s[125005],t[125005];
int a[26][26],f[26];
int get(int x)
{
```

```
return x==f[x]?x:f[x]=get(f[x]);

}

int main()

{

scanf("%s%s",s+1,t+1);

int n=strlen(s+1);

int m=strlen(t+1);

for(int i=m;i<=n;i++){

memset(a,0,sizeof(a));

for(int j=1;j<=m;j++)

a[s[i-m+j]-'a'][t[j]-'a']=1;

for(int j=0;j<26;j++)

f[j]=j;

int ans=0;

for(int j=0;j<26;j++)

for(int k=0;k<26;k++)

if(a[j][k])

{

int x=get(j),y=get(k);

if(x!=y)

f[x]=y,ans++;

}

printf("%d",ans);

}

printf("\n");

}
```

Out put:

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