/\*

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Problem: A

\*/

#include<bits/stdc++.h>

using namespace std;

const int N = 222;

int n,a[N];

int main(){

int T,i,s,f;

scanf("%d",&T);

while(T--){

scanf("%d",&n);

s=0;

for(i=1;i<=n;i++)

scanf("%d",a+i),s+=a[i];

f=0;

for(i=2;i\*i<=s;i++)

if(s%i==0)

f=1;

if(!f){

for(i=1;i<=n;i++)

if(a[i]&1)

f=i;

printf("%d\n",n-1);

for(i=1;i<=n;i++)

if(i!=f)

printf("%d ",i);

printf("\n");

}

else{

printf("%d\n",n);

for(i=1;i<=n;i++)

printf("%d ",i);

printf("\n");

}

}

return 0;

}

/\*

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B

\*/

#include<bits/stdc++.h>

using namespace std;

const int N = 222222;

int n,m,a[N];

int main(){

int T,i,x,y,z;

scanf("%d",&T);

while(T--){

scanf("%d%d",&n,&m);

for(i=1;i<=m;i++)

scanf("%d%d%d",&x,&y,&z),a[y]=1;

for(i=1;i<=n;i++){

if(!a[i])

x=i;

else

a[i]=0;

}

for(i=1;i<=n;i++)

if(i!=x)

printf("%d %d\n",x,i);

}

return 0;

}

/\*

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C

\*/

#include<bits/stdc++.h>

using namespace std;

const int N = 1111111;

int n,m,q,b[N],c[N];

vector<int> v[N];

char s[N];

int main(){

int T,i,j,x,y;

scanf("%d%d",&n,&m);

for(i=1;i<=n;i++){

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

v[i].push\_back(0);

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

v[i].push\_back(s[j]=='X');

}

for(i=1;i<n;i++)

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

if(v[i][j+1]&&v[i+1][j])

b[j]++;

for(i=1;i<=n;i++)

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

if(v[i][j]&&!c[j])

c[j]=i;

for(i=1;i<=m;i++)

b[i]+=b[i-1];

scanf("%d",&q);

for(i=1;i<=q;i++){

scanf("%d%d",&x,&y);

if(b[y-1]==b[x-1])

printf("YES\n");

else

printf("NO\n");

}

return 0;

}

/\*

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D

\*/

#include<bits/stdc++.h>

using namespace std;

const int N = 111;

int n,a[N],b[N],p[N];

int go(int x,int y){

int i;

cout<<"? ";

for(i=1;i<n;i++)

cout<<x+1<<' ';

cout<<y+1<<endl;

cin>>x;

return x;

}

int main(){

int i,x,y;

cin>>n;

for(i=1;i<=n;i++){

if(i==n){

x=n;

break;

}

a[i]=go(0,i);

if(!a[i]){

x=i;

break;

}

}

for(i=1;i<=n-x;i++)

b[i]=go(i,0);

y=0;

for(i=n-x;i>=1;i--)

p[b[i]]=++y;

p[n]=++y;

for(i=1;i<=x;i++)

p[a[i]]=++y;

cout<<"! ";

for(i=1;i<=n;i++)

cout<<p[i]<<' ';

cout<<endl;

return 0;

}

/\*

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E

\*/

#include<bits/stdc++.h>

using namespace std;

const int N = 333333;

int n,m,q,f[N],a[N];

vector<int> v[N],s[N];

int fnd(int x){

if(f[x]==x)

return x;

return f[x]=fnd(f[x]);

}

int dfs(int x,int fa,int t,int o){

int i,y;

s[o].push\_back(x);

if(x==t)

return 1;

for(i=0;i<v[x].size();i++){

y=v[x][i];

if(y!=fa)

if(dfs(y,x,t,o))

return 1;

}

s[o].pop\_back();

return 0;

}

int main(){

int i,j,x,y;

scanf("%d%d",&n,&m);

for(i=1;i<=n;i++)

f[i]=i;

for(i=1;i<=m;i++){

scanf("%d%d",&x,&y);

if(fnd(x)!=fnd(y)){

v[x].push\_back(y);

v[y].push\_back(x);

f[fnd(x)]=fnd(y);

}

}

scanf("%d",&q);

for(i=1;i<=q;i++){

scanf("%d%d",&x,&y);

a[x]^=1,a[y]^=1;

dfs(x,0,y,i);

}

x=0;

for(i=1;i<=n;i++)

x+=a[i];

if(x){

printf("NO\n%d\n",x/2);

}

else{

printf("YES\n");

for(i=1;i<=q;i++){

printf("%d\n",(int)s[i].size());

for(x=0;x<s[i].size();x++)

printf("%d ",s[i][x]);

printf("\n");

}

}

return 0;

}

/\*

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F

\*/

#include<bits/stdc++.h>

using namespace std;

const int N = 1111;

int n,k,m,a[N][N];

void solve(int l,int r,int t){

if(l==r)

return;

m=max(m,t);

int i,j,u=(r-l)/k+1;

for(i=l;i<=r;i++)

for(j=i+1;j<=r;j++)

if((i-l)/u!=(j-l)/u)

a[i][j]=t;

for(i=l;i<=r;i+=u)

solve(i,min(i+u-1,r),t+1);

}

int main(){

int i,j,x,y;

scanf("%d%d",&n,&k);

solve(1,n,1);

printf("%d\n",m);

for(i=1;i<=n;i++)

for(j=i+1;j<=n;j++)

printf("%d ",a[i][j]);

return 0;

}

/\*

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G

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#include<bits/stdc++.h>

using namespace std;

const int N = 444444;

const int M = N<<5;

const int MO = 1e9+7;

void ad(int&x,int y){

x+=y;

if(x>=MO)

x-=MO;

}

int n,m,a[N],b[N],c[N],d[N],f[N],g[N];

pair<int,int> p[N];

int tot,t[M],ls[M],rs[M],rt[N];

void modify(int &k,int kk,int x,int y,int l=1,int r=n\*2){

if(!k){

k=++tot;

t[k]=t[kk];

}

ad(t[k],y);

if(l==r)

return;

int h=l+r>>1;

if(x<=h)

modify(ls[k],ls[kk],x,y,l,h),rs[k]=rs[kk];

else

modify(rs[k],rs[kk],x,y,h+1,r),ls[k]=ls[kk];

}

int query(int k,int L,int R,int l=1,int r=n\*2){

if(!k)

return 0;

if(L<=l&&r<=R)

return t[k];

int h=l+r>>1,o=0;

if(L<=h)

ad(o,query(ls[k],L,R,l,h));

if(h<R)

ad(o,query(rs[k],L,R,h+1,r));

return o;

}

int s[N];

void modify2(int x,int i){

x=n\*2+1-x;

while(x<=n\*2){

if(b[s[x]]<b[i])

s[x]=i;

x+=x&-x;

}

}

int query2(int x){

x=n\*2+1-x;

int i=0;

while(x){

if(b[s[x]]>b[i])

i=s[x];

x-=x&-x;

}

return i;

}

int main(){

int i,j,x,y;

scanf("%d",&n);

for(i=1;i<=n;i++)

scanf("%d%d",a+i,b+i),a[i]++,b[i]++;

n++,a[n]=1,b[n]=n\*2;

scanf("%d",&m);

for(i=1;i<=m;i++){

scanf("%d",&x);

c[x]=1;

}

for(i=1;i<=n;i++)

p[i]=make\_pair(b[i],i);

sort(p+1,p+n+1);

y=0;

for(i=1;i<=n;i++){

j=p[i].second;

while(y+1<b[j]){

rt[y+1]=rt[y];

y++;

}

d[j]=i;

f[j]=query(rt[b[j]-1],a[j],b[j])+1;

x=query2(a[j]);

if(c[j])

g[j]=1;

if(x){

ad(g[j],query(rt[b[x]-1],a[j],n\*2));

ad(g[j],g[x]);

}//cout<<f[j]<<' '<<g[j]<<endl;

modify(rt[b[j]],rt[b[j]-1],a[j],f[j]);

if(c[j])

modify2(a[j],j);

y=b[j];

}

printf("%d\n",g[n]);

return 0;

}

/\*

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H

\*/

#include<bits/stdc++.h>

using namespace std;

const int N = 222222;

int n,m,a[N],b[N],c[N],d[N],fa[N][22],va[N][22],e[N],s[N],t[N],f[N],g[N],ans[N][2];

vector<int> v[N],h[N];

pair<int,int> p[N],q[N];

int fnd(int x){

if(f[x]==x)

return x;

return f[x]=fnd(f[x]);

}

void dfs(int u,int ff){

int i,x;

d[u]=d[ff]+1;

fa[u][0]=ff;

for(i=0;i<v[u].size();i++){

x=v[u][i];

if(x!=ff){

va[x][0]=h[u][i];

dfs(x,u);

}

}

}

int cal(int x,int y){

int j,z=0;

if(d[x]<d[y])

swap(x,y);

for(j=20;j>=0;j--)

if(d[fa[x][j]]>=d[y])

z=max(z,va[x][j]),x=fa[x][j];

if(x==y)

return z;

for(j=20;j>=0;j--)

if(fa[x][j]!=fa[y][j])

z=max(z,max(va[x][j],va[y][j])),x=fa[x][j],y=fa[y][j];

return max(z,max(va[x][0],va[y][0]));

}

int main(){

int i,j,x,y,z,w,o;

scanf("%d%d",&n,&m);

for(i=1;i<=n;i++)

scanf("%d",e+i);

for(i=1;i<n;i++){

scanf("%d%d%d%d",&x,&y,&z,&w);

v[x].push\_back(y);

h[x].push\_back(w);

v[y].push\_back(x);

h[y].push\_back(w);

a[i]=x,b[i]=y,c[i]=z;

p[i]=make\_pair(z,i);

}

for(i=1;i<=m;i++){

scanf("%d%d",&x,&y);

t[i]=x,s[i]=y;

q[i]=make\_pair(x,i);

}

dfs(1,0);

for(j=1;j<=20;j++)

for(i=1;i<=n;i++)

fa[i][j]=fa[fa[i][j-1]][j-1],va[i][j]=max(va[i][j-1],va[fa[i][j-1]][j-1]);

sort(p+1,p+n);

sort(q+1,q+m+1);

for(i=1;i<=n;i++)

f[i]=i;

for(i=n-1,j=m;i||j;){

if(p[i].first>=q[j].first){

o=p[i].second;

x=fnd(a[o]),y=fnd(b[o]);//cout<<x<<y<<endl;

if(e[x]<e[y])

swap(x,y);

if(e[x]==e[y])

g[x]=max(max(g[x],g[y]),cal(x,y));

f[y]=x;

i--;

}

else{

o=q[j].second;

x=s[o];

y=fnd(x);//cout<<o<<x<<y<<endl;

ans[o][0]=e[y];

ans[o][1]=max(g[y],cal(x,y));

j--;

}

}

for(i=1;i<=m;i++){

printf("%d %d\n",ans[i][0],ans[i][1]);

}

return 0;

}