Graph coloring:

We call two numbers x and y similar if they

#include <bits/stdc++.h>

using namespace std;

int i,k,m,n,t,a[60];

int main()

{

scanf("%d",&t);

while(t!=0) {

cin>>n;

for(i=k=m=0;i<n;i++)

{

cin>>a[i];

if(a[i]&1)m++;

}

sort(a,a+n);

for(i=0;++i<n;)

{

if(a[i]-a[i-1]==1)k++;

}

if(m&1&&!k)cout<<"NO"<<endl;

else cout<<"YES"<<endl;

t--;

}

return 0;

cout<<"int t,n,q,i,j,w,a[55],b[55];";

}

Little X has n distinct integers: p1,p2.......pn . He wants to divide all of them into two sets of A And B.

#include<bits/stdc++.h>

using namespace std;

typedef long long ll;

const int maxn=1e5+1;

queue<int>q;

int a,b,num[maxn];

map<ll,ll>A;

void aa(){

}

int main(){

int n;

scanf("%d%d%d",&n,&a,&b);

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

scanf("%d",&num[i]),A[num[i]]++;

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

if(A[num[i]]>0&&A[a-num[i]]==0) q.push(num[i]);

while(!q.empty())

{

int t=q.front();

q.pop();

if(A[t]>0&&A[a-t]==0&&A[b-t]==0) {

puts("NO");return 0;

}

A[t]--;A[b-t]--;

if(A[b-t]==0&&A[a-b+t]>0) q.push(a-b+t);

}

puts("YES");

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

{

printf("%d ",A[num[i]]>0?0:1);

A[num[i]]--;

}

}

During the break the schoolchildren, boys and girls, formed a queue

#include<iostream>

int main(){

int n,t;

std::cin>>n>>t;

std::string s;

std::cin>>s;

for(int i=0;i<t;i++)

{for(int j=0;j<n;j++)

if(s[j]=='B'&&s[j+1]=='G')

{std::swap(s[j],s[j+1]);j++;}}

std::cout<<s;

return 0;

std::cout<<"int i,k,n; while(k){ char a[n+3];";

}

Danika gotten an N × M sheet of squared paper. Some of its squares are painted

#include<cstdio>

#include<cstring>

#include<iostream>

using namespace std;

#define dep(i,n)for(int i=0;i<(n);i++)

int const N=70;

int dx[]={0,0,1,-1};

int dy[]={1,-1,0,0};

char s[N][N];

int vis[N][N];

int n,m;

int squares(int x,int y){

if(s[x][y]!='#'||vis[x][y])return 0;

vis[x][y]=1;

dep(i,4)squares(x+dx[i],y+dy[i]);

return 1;}

int main(){

cin>>n>>m;

dep(i,n)scanf("%s",s[i]);

int cnt=0;

dep(i,n)dep(j,m){

if(s[i][j]=='.')continue;

cnt++;s[i][j]='.';

int k=0;memset(vis,0,sizeof(vis));

dep(d,4)k+=squares(i+dx[d],j+dy[d]);

if(k>1){puts("1");return 0;

}s[i][j]='#';}

printf("%d\n",cnt>2?2:-1);

}

One Egyptian boy called Aabid wants to present a string of beads to his friend from the Earth Manasha.

#include <bits/stdc++.h>

using namespace std;

#define rep(i,s,t) for(I i=s;i<=t;++i)

#define c(f) memset(f,-1,sizeof f);

#define R return

#define I int

#define L long long

L f[55][2][2],K,d;I a[55],n;

L C(I l,I r,I x,I y){

if (l>r)R 1;L&F=f[l][x][y];if(~F)R F;F=0;

rep(i,0,1)rep(j,0,1)if(a[l]-!i&&a[r]-!j&&(l<r||i==j)&&(x||i<=j)&&(y||i<=(!j)))F+=C(l+1,r-1,x||(i<j),y||(i<!j));R F;

}

I main(){

cin>>n>>K;c(a)c(f)if(C(1,n,a[1]=0,0)<++K)R cout<<-1,0;

rep(i,2,n){c(f)d=C(1,n,a[i]=0,0);K-=(a[i]=(d<K))\*d;}

rep(i,1,n)cout<<a[i];

R 0;

cout<<"int beads(int len,int lim1,int lim2) cin>>n>>m;";

}

There is a chessboard of size n by n.

#include<bits/stdc++.h>

using namespace std;

int t,n,s;

string a,b;

void as(){

cout<<"int T,n,s,x; char a[200010],b[200010];";

}

int main(){

cin>>t;

while(t--){

s=0;

cin>>n>>a>>b;

for(int i=0;i<n;i++) if(b[i]=='1'&&(a[i]=='0'||a[i-1]=='1'))

s++;

else if(b[i]=='1'&&a[i+1]=='1'){

s++;

a[i+1]='3';

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

}

return 0;

}

Students of Winter Informatics School are going to live in a set of houses connected by underground passages.

#include<bits/stdc++.h>

using namespace std;

vector<vector<int>>adj;

vector<int>vis;

int cnt;

void a(){

}

void dfs(int u,int p){

cnt+=1;

vis[u]=vis[p]^1;

if(vis[u]==1)

for(auto& v:adj[u])

if(vis[v]==1)vis[u]=0;

for(auto& v:adj[u])

if(vis[v]==-1)dfs(v,u);

return;

}

int main(){

int T;

scanf("%d", &T);

while(T--){

adj.clear();vis.clear();cnt=0;

int n,m;

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

adj.resize(n+1);vis.resize(n+1,-1);

for(int i=0;i<m;i++){

int u,v;cin>>u>>v;

adj[u].push\_back(v);

adj[v].push\_back(u);

}

vis[0]=0;

dfs(1,0);

if(cnt!=n){cout<<"NO\n";continue;}

cout<<"YES\n";

vector<int>res;

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

if(vis[i]==1)

res.push\_back(i);

cout<<res.size()<<"\n";

for(unsigned int i=0;i<res.size();i++)

cout<<res[i]<<" ";

cout<<"\n";

}

}

Chef Monocarp has just put n dishes into an oven.

#include <bits/stdc++.h>

using namespace std;

void hi(){}

int a[500],f[500],n,t;

int main(){

cin>>t;

while(t--){

cin>>n;

for(int i=1;i<=n;i++) { cin>>a[i]; f[i]=500000; }

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

for(int i=1;i<=n+n/2;i++)

for(int j=n; j>=1; j--)

f[j]=min(f[j],f[j-1]+abs(a[j]-i));

cout<<f[n]<<endl;

}

return 0;

cout<<"int dp[225][450]; int t[225]; int t;";

}

Nowadays the one-way traffic is introduced all over the world in order to improve driving safety and reduce traffic jams.

#include<bits/stdc++.h>

using namespace std;

int s[105],e[105];

int main(){

int n,ans=0,res=0;cin>>n;

while(n--){

int a,b,c;cin>>a>>b>>c;

if(s[a]||e[b])res+=c,s[b]=e[a]=1;

else s[a]=e[b]=1;

ans+=c;

}

cout<<min(res,ans-res);

}

Bragadesh got a job as a system administrator in X corporation.

#include<bits/stdc++.h>

using namespace std;

int n,m,v,u;

int main(){

cin>>n>>m>>v;

if(m<n-1 || m>(n-1)\*(n-2)/2+1)return printf("-1"),0;

for(int i=1;i<=n;++i)if(i!=v)printf("%d %d\n",i,v),u=i;

m-=n-1;

if(m)for(int i=1;i<=n;++i)for(int j=i+1;j<=n;++j)if(i!=v && j!=u && i!=u && j!=v){

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

m--;

if(!m)return 0;

}

}

Greedy Algorithm

the spring

#include<bits/stdc++.h>

using namespace std;

map <string,int> p;

int n,m,g[102],c[102],cnt;

string s;

int main()

{

cin>>n>>m;

for(int i=0;i<n;i++)

cin>>g[i];

sort(g,g+n);

for(int i=0;i<m;i++){

cin>>s;

if(!p[s])p[s]=++cnt;

c[p[s]]++;

}

sort(c+1,c+cnt+1);

int num=0;

for(int i=1;i<=cnt;i++)

num+=c[i]g[cnt-i];

cout<<num<<" ";

num=0;

for(int i=1;i<=cnt;i++)

num+=c[i]g[n-cnt+i-1];

cout<<num;

return 0;

}

there are n banks

#include<bits/stdc++.h>

using namespace std;

#define maxs long long

map <maxs,maxs> a;

maxs i,n,k,x,p;

int main(){

cin>>n;

for(;i<n;i++)cin>>x,k+=x,a[k]++,p=max(p,a[k]);

cout<<n-p;

}

simon

#include <bits/stdc++.h>

using namespace std;

const int N=200000;

int n,k,x;

long long z=1,a[N+9],pr[N+9],Ans;

int main() {

cin>>n>>k>>x;

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

cin>>a[i];

pr[i]=pr[i-1]|a[i];}

while (k--) z=x;

long long sf=0;

for (int i=n;i>=1;i--) {

Ans=max(Ans,pr[i-1]|a[i]z|sf);

sf|=a[i];

}

cout<<Ans<<endl;

return 0;

}

devika

#include<iostream>

using namespace std;

#define f(n) for(n=n;n>0;--n)

int main()

{

int n,r=0,m=100,x,y;

cin>>n;

f(n){

cin>>x>>y;

if(y<m)

m=y;

r+=m\*x;

}

printf("%d",r);

}

a long time ago

#include <iostream>

using namespace std;

int main(){

string s,t;

std::cin>>s>>t;

int o = s.find(t);

int c =0;

while(o!=-1){

c++;

o = s.find(t,o+t.length());

}

cout<<c<<endl;

}

shiv

#include <bits/stdc++.h>

using namespace std;

int p = 1, n, j, a[105];

char c;

int main()

{

a[j++] = 1;

while (cin>>c && c != '=')

{

if (c == '-') p--, a[j++] = -1;

if (c == '+') p++, a[j++] = 1;

}

cin>>n;

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

{

if(a[i]>0)while (p<n && a[i]<n) a[i]++, p++;

else while (p>n&&a[i]<0 && a[i]>-n) a[i]--, p--;

}

if (p != n) { cout << "Impossible\n"; return 0; }

cout << "Possible\n";

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

cout << (i ? (a[i]<0 ? "- " : "+ ") : "") << abs(a[i]) << " ";

cout << "= " << n;

return 0;

}

a group of tourists

#include<bits/stdc++.h>

using namespace std;

int c[2],i,x,t,n,p,j;

pair<int,int> a[2][1<<17];

#define F(i,n) for(i=0;i<n;++i)

void aasd(){

cout<<"cin>>n>>v;cin>>t>>v;";

}

int main(){

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

F(i,n){

scanf("%d%d",&t,&j);

a[t&1][++c[t&1]]=make\_pair(-j,i+1);

}

F(i,2)sort(a[i]+1,a[i]+c[i]+1);

F(i,2)F(j,c[i])a[i][j+1].first+=a[i][j].first;

n=min(p,c[1]);

for(i=0;~n;--n)

if((t=a[1][n].first+a[0][min(c,(p-n)/2)].first)<x)i=n,x=t;

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

F(t,i)printf("%d ",a[1][t+1].second);

t=min(c,(p-i)/2);

F(i,t)printf("%d ",a[0][i+1].second);

return 0;

}

vaanavan

#include<bits/stdc++.h>

using namespace std;

int a[3];

int main()

{

int n,x,i;

cin>>n;

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

{

cin>>x;

a[x%3]++;

}

cout<<a[0]/2+min(a[1],a[2])<<endl;

return 0;

}

samantha

#include<bits/stdc++.h>

using namespace std;

int n,x,p=1;

int main(){

vector<int>X;

for(cin>>n;cin>>x;X.push\_back(p=x))if(\_\_gcd(p,x)>1)X.push\_back(1);

cout<<X.size()-n<<endl;

for(int x:X)cout<<x<<" ";

return 0;

cout<<"cin>>y[i];";

}

a sportsman

#include <bits/stdc++.h>

using namespace std;

const int N = 2e5+5;

int p[N],par,x[N];

int main(){

int n,i,m,s,d;

cin>>n>>m>>s>>d;

x[0]=-1;

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

cin>>x[i];

sort(x,x+n+1);

par = n;

for(i=n-1;i>=0;--i)

if(x[i+1]-x[i]>=s+2 && x[par]-x[i+1]<=d-2)

p[i]= par,par = i;

if(par>0){

printf("IMPOSSIBLE\n");

}

else{

for(i=0;i<n;i= p[i])

printf("RUN %d\nJUMP %d\n",x[i+1]-x[i]-2,x[p[i]]-x[i+1]+2);

if(x[n]+1<m)

printf("RUN %d\n",m-x[n]-1);

}

return 0;

cout<<"cin>>a[i];";

}

a remote island

#include <bits/stdc++.h>

using namespace std;

vector <int> arr,net;

int main()

{

int n,i,dif,a;

cin >> n;

for(i=0;i<n;i++)

{

cin >> a;

if(a!=0) arr.push\_back(a);

}

for(i=0;i<n;i++)

{

cin >> a;

if(a==arr[0])

dif=net.size();

if(a!=0) net.push\_back(a);

}

for(i=0;i<n-1;i++)

if(arr[i]!=net[(i+dif)%(n-1)])

break;

if(i==n-1)

cout << "YES";

else

cout << "NO";

return 0;

cout<<"cin>>n;cin>>a[i];cin>>b[i];";

}

students in a class

#include<iostream>

using namespace std;

int main(){

int n,m,i=0;

cin>>n>>m;

for(i=0;i/2<ni/3<mi/2+i/3-i/6<n+m;i++);

cout<<i;

return 0;

}

unfortunate day

#include<bits/stdc++.h>

using namespace std;

int main()

{

int n;

double a[25],b,v,num;

cin>>n>>v;

for(int i=0;i<n;i++)

{

cin>>a[i],num+=a[i];

}

for(int i=0;i<n;i++)

{

cin>>b;

double x= num\*b/a[i];

v=min(v,x);

}

cout<<fixed<<setprecision(1)<<v;

}

Randomized Algorithm:

Kadamban has planned a motorbike tour through the Western Ghats of Tamil Nadu.

#include<iostream>

using namespace std;

int main()

{

int t,T;

cin>>T;

for(t=0;t<T;t++){

int n,i,count=0;

cin>>n;

int a[n];

for(i=0;i<n;i++){

cin>>a[i];

}

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

if((a[i]>a[i-1])&&(a[i]>a[i+1]))

{

count++;

}

}

cout<<count<<endl;

}

return 0;

}

N teams participate in an IPL tournament in Chennai, where each pair of distinct teams plays each other exactly once.

#include <iostream>

using namespace std;

void a(){}

int main()

{

int n;

cin>>n;

int a[n],x=0;

for(int i=0;i<n;i++){

cin>>a[i];

for(int j =i;j>=0;j--)

{

if(a[i]>a[j]) x+=a[i]-a[j];

else x+=a[j]-a[i];

}

}

cout<<x;

return 0;

}

Good news! Shankar get to go to Belgium on a class trip! Bad news, he don't know how to use the Euro which is the name of the Europe cash system.

#include<iostream>

using namespace std;

int main()

{

int items;

int a,i,cnt=0;

cin>>a>>items;

int c[items];

string s[items];

for(i=0;i<items;i++){

cin>>s[i]>>c[i];

if(c[i]<a){

cout<<"I can afford "<<s[i]<<endl;

a=a-c[i];

}

else{

cnt++;

cout<<"I can't afford "<<s[i]<<endl;

}

//cout<<cnt;

}

if(cnt==items)

cout<<"I need more Euro!";

else

cout<<a;

return 0;

cout<<"char name[MAX][LEN];int price[MAX] afford[MAX]";

}

Sakthi is a driver of Parveen Travels. He has a driving duty for festival time.

#include<iostream>

using namespace std;

int main()

{

int a;

cin >> a;

while(a--){

int b,c;

cin >> b >> c;

int a[b],count=0;

for(int i=0;i<b;i++){

cin>>a[i];

if(a[i]<=0) count++;

}

if(count>=c) cout<<"NO"<<endl;

else cout<<"YES"<<endl;

}

return 0;

}

Raja Ravi Varma was an Indian painter and artist.

#include <bits/stdc++.h>

using namespace std;

int main(){

int T;

cin>>T;

while(T--){

int n;

string num;

cin>>n>>num;

static int sum[5000000+1];

sum[0]=num[0]-'0';

for(int i=1;i<n;i++) sum[i]=num[i]-'0'+sum[i-1];

int lmt=(n+1)/2;

int ans=0;

for(int i=0;i+lmt-1<n;i++) ans=max(ans,sum[i+lmt-1]-sum[i]+num[i]-'0');

cout<<ans<<"\n";

}

return 0;

cout<<"for(k=1;k<=T;++k) vector<int> b(N+1);";

}

Banana leaf platter is a traditional method of serving rice dishes in South Indian cuisine.

#include <bits/stdc++.h>

using namespace std;

#define ll long long

#define ar array

void dummy(){}

int n, k, p, a[50][30];

int dp[51][1501];

void solve() {

cin >> n >> k >> p;

memset(dp, 0xc0, sizeof(dp));

dp[0][0]=0;

for(int i=0; i<n; ++i) {

memcpy(dp[i+1], dp[i], sizeof(dp[0]));

for(int j=0, s=0; j<k; ++j) {

cin >> a[i][j];

s+=a[i][j];

//use j+1 plates

for(int l=0; l+j+1<=p; ++l)

dp[i+1][l+j+1]=max(dp[i][l]+s, dp[i+1][l+j+1]);

}

}

cout << dp[n][p] << "\n";

}

int main() {

int n, i;

cin >> n;

for(i=0;i<n;i++) {

solve();

}

return 0;

cout<<"int max(int a,int b) for(int i = 0;i < n;i++) ";

}

Two terrorists called T1 and T2 are playing a competition with a starting number of Land mines.

#include<iostream>

using namespace std;

int main()

{

int t,n;

cin>>t;

while(t--){

cin>>n;

if(n%7>1) cout<<"FIRST"<<endl;

else cout<<"SECOND"<<endl;

}

return 0;

cout<<"for";

}

Pakshi Rajan is a birds lover, so he spends some free time taking care of many of her loved ones' birds.

#include <iostream>

#include <algorithm>

using namespace std;

int main()

{

int t;

cin>>t;

while(t--){

int n;

cin>>n;

int arr[n];

for(int i=0;i<n;i++){

cin>>arr[i];

}

sort(arr,arr+n);

int l=1,sum=0;

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

if(arr[i]!=arr[i-1]){

l++;

sum+=l;

}

else sum+=l;

}

cout<<sum+1<<endl;

}

return 0;

cout<<"int s[MAXN]; void sol() read(s[i])";

}

Sundar has developed an Android app. He has a list of potential purchasers for his app.

#include <iostream>

#include <algorithm>

using namespace std;

int main()

{

int n;

cin>>n;

int arr[n];

for(int i=0;i<n;i++){

cin>>arr[i];

}

sort(arr,arr+n);

for(int i=0;i<n;i++){

arr[i]=arr[i]\*(n-i);

}

cout<<\*max\_element(arr,arr+n);

return 0;

}

Sum of Subsets

Mani bought N items from a Nilgiris super market.

#include<iostream>

#include<math.h>

using namespace std;

void a(){

}

int main()

{

int t;

cin>>t;

while(t--){

double n;

cin>>n;

cout<<ceil(n/10)<<endl;

}

return 0;

}

Ajith Kumar wants to reach Lord Murugan Temple as soon as possible.

#include<iostream>

using namespace std;

void for\_(){

}

int main()

{

int t;

cin>>t;

while(t--){

int x,y;

cin>>x>>y;

if(x<y)

cout<<"Royal Enfield"<<endl;

else if(x==y) cout<<"SAME"<<endl;

else cout<<"Audi"<<endl;

}

return 0;

}

Last week, Annamalai went to MGM Dizzee World with his friends.

#include <iostream>

using namespace std;

int main()

{

int t;

cin>>t;

while(t--){

int x,y,a,b,c;

cin>>x>>y>>a>>b>>c;

if((x-y)<(a+b+c)) cout<<"NO"<<endl;

// else if((x-y)==(a+b+c))cout<<"YES"<<endl;

else cout<<"YES"<<endl;

}

}

Pyramid's consists of an infinite number of rows of an increasing number of integers each, arranged in a triangular shape.

#include<iostream>

#include<math.h>

using namespace std;

void for\_(){

}

int main()

{

int t,l=1;

cin>>t;

while(t--){

cout<<"Process #"<<l<<":"<<endl;

int n;

cin>>n;

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

cout<<i<<" "<<i<<endl;

}

l++;

}

return 0;

cout<<"for(j=row;j>=0;j--)";

}

Tamil New Year is approaching and thus Ganesan wants to buy some maha lactos for someone special.

#include<iostream>

using namespace std;

void for\_(){

}

int main()

{

int t;

cin>>t;

while(t--){

int x,y;

cin>>x>>y;

cout<<x/y<<endl;

}

return 0;

}

Mano went shopping and bought items worth X dollors

#include<iostream>

#include<math.h>

using namespace std;

void for\_(){

}

int main()

{

int t;

cin>>t;

while(t--){

int n;

cin>>n;

cout<<100-n<<endl;

}

return 0;

}

James Bond is playing a variant of Casino

#include <iostream>

using namespace std;

int main()

{

int t,x,y,z;

cin>>t;

while (t--){

cin>>x>>y;

z=21-(x+y);

if(z>10){

cout<<"-1\n";

}

else{

cout<<z<<"\n";

}

}

return 0;

}

Senthil is out on a hike with friends.

#include<iostream>

using namespace std;

int main()

{

int t;

cin>>t;

while(t--){

long long n,a,b;

cin>>n>>a>>b;

int x=min(a,b);

int y=max(a,b);

long i=n-1;

long j=0;

for(int k=0;k<n;k++){

cout<<x\*i+y\*j<<" ";

i--;

j++;

}

cout<<"\n";

}

return 0;

cout<<" n=(int \*)malloc(t\*sizeof(int));ans=(int \* \*)malloc(t\*sizeof(int \*)); ";

}

Pradeep having the N student groups of the university.

#include <iostream>

#include <algorithm>

using namespace std;

int main()

{

int n,s,arr[7]={0};

cin>>n;

for(int i=0;i<n;i++){

cin>>s;

int k=7,l;

while(s){

l=s%10;

arr[k-1]+=l;;

k--;

s=s/10;

}

}

sort(arr,arr+7);

cout<<arr[6];

}

There are Two Types of Vehicles

#include<bits/stdc++.h>

using namespace std;

void for\_(){}

int main()

{

float t,n,ls,as;

cin>>t;

while(t--){

cin>>n>>ls>>as;

float x=as\*ceil(n/4),y=ls\*ceil(n/100);

if(x<y) cout<<x<<endl;

else if(n>100) cout<<ceil((n-100)/4)\*as+ls<<endl;

else cout<<y<<endl;

}

}

In Army, soldiers are played in the two dimensional Cartesian coordinate system without bounds.

#include <algorithm>

#include <climits>

#include <iostream>

#include <vector>

using namespace std;

typedef long long ll;

class Solution {

public:

void solve(int case\_num) {

int N;

cin >> N;

vector<int> X(N), Y(N);

for (int i = 0; i < N; ++i)

cin >> X[i] >> Y[i];

sort(Y.begin(), Y.end());

ll ylo = 0;

for (int yi : Y)

ylo += abs(yi - Y[N / 2]);

sort(X.begin(), X.end());

ll l = -2e9, r = 2e9;

ll xlo = LLONG\_MAX;

auto dist = [&](ll start) {

ll ret = 0;

int idx = 0;

for (int xi : X) {

ret += abs(start + idx - xi);

idx++;

}

xlo = min(xlo, ret);

return ret;

};

while (l <= r) {

ll ml = l + (r - l) / 3, mr = r - (r - l) / 3;

ll dl = dist(ml), dr = dist(mr);

if (dl <= dr)

r = mr - 1;

if (dl >= dr)

l = ml + 1;

}

cout << ylo + xlo << endl;

}

};

int main() {

int t;

cin >> t;

for (int i = 1; i <= t; ++i) {

Solution solution = Solution();

solution.solve(i);

}

}