**Week -1**

1. **Uncle Johny**

**C++ solution:**

#include <iostream>

#include <bits/stdc++.h>

using namespace std;

int main(){

int t;

cin >> t;

while(t--){

int n, a[101], k, t;

cin >> n;

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

cin >> a[i];

}

cin >> k;

t = a[k - 1];

sort(a, a + n);

int i;

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

if(a[i] == t){

break;

}

}

cout << i+1 << endl;

}

return 0;

}

**Python Solution:**

t=int(input())

for i in range(t):

    n=int(input())

    a=list(map(int,input().split()))

    k=int(input())

    unclejohnny=a[k-1]

    a.sort()

    print(a.index(unclejohnny)+1)

1. **Lucky Four**

**Python solution:**

t = int(input())

l = []

while(t != 0 ):

    a = input()

    l.append(a.count('4'))

    t -= 1

for i in l:

    print(i)

**C++ Solution:**

#include <iostream>

using namespace std;

int main() {

int n,x,num,co=0;

scanf("%d",&n);

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

{   co=0;

    scanf("%d",&x);

    while(x!=0)

    {

        num=x%10;

        if(num==4)

        {

            co++;

        }

        x/=10;

    }

  printf("%d\n",co);

}

return 0;

}

1. **WGHTS**

**C++ solution:**

#include <iostream>

using namespace std;

int main() {

int T,w,x,y,z;

cin>>T;

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

    cin>>w>>x>>y>>z;

    if(w==(x+y)||w==(y+z)||w==(x+z)||w==(x+y+z)||w==x||w==y||w==z){

        cout<<"yes"<<endl;

    }else{

        cout<<"no"<<endl;

    }

}

return 0;

}

**Python Solution:**

t=int(input())

for i in range(t):

    w,x,y,z=map(int,input().split())

    if w==x or w==y or w==z or w==(x+y) or w==(y+z) or w==(x+z) or w==(x+y+z):

        print("YES")

    else:

        print("NO")

1. **Practice makes us perfect**

**Python solution:**

x = input().split(" ")

arr = []

for i in x:

    arr.append(int(i))

n = 0

for i in arr:

    if i >= 10:

        n = n + 1

print(n)

**C++ Solution:**

#include <iostream>

#include <bits/stdc++.h>

using namespace std;

int main()

{

    int arr[4];

    int ans;

    for (int i = 0; i < 4; i++)

    {

        cin >> arr[i];

        if (arr[i] >= 10)

        {

            ans++;

        }

    }

    cout << ans;

    return 0;

}

1. **Problems in your to-do list**

**Python solution:**

lists=[]

t=int(input())

for i in range(0,t):

    num=int(input())

    lists=list(map(int,input().split()))

    count=0

    for j in lists:

        if(j>=1000):

            count+=1

    print(count)

**C++ Solution:**

#include <iostream>

using namespace std;

int main() {

        int t;

        cin>>t;

        while(t--)

        {

            int n,cnt=0;

            cin>>n;

            int arr[n];

            for(int i = 0;i<n;i++)

            {

               cin>>arr[i];

            }

            for(int i = 0;i<n;i++)

            {

                if(arr[i]>=1000)

                {

                    cnt++;

                }

            }

            cout<<cnt<<"\n";

        }

return 0;

}

1. **Recent contest problems**

**Python solution:**

T=int(input())

for i in range(T):

    N=int(input())

    D=list(map(str,input().split()))

    C1,C2=0,0

    for j in range(len(D)):

        if D[j]=="START38":

            C1+=1

        elif D[j]=="LTIME108":

            C2+=1

    print(C1,C2)

**C++ Solution:**

#include <iostream>

using namespace std;

int main() {

// your code goes here

int t;

cin>>t;

while(t--){

    int n,p=0,q=0;

    cin>>n;

    string a[n];

    for(int i=0;i<n;i++){

        cin>>a[i];

    }

    for(int i=0;i<n;i++){

        if(a[i]=="START38"){

            p++;

        }

        else{

            q++;

        }

    }

    cout<<p<<" "<<q<<endl;

}

return 0;

}

1. **Make all equal using Pairs**

**Python solution:**

for \_ in range(int(input())):

    n=int(input())

    lst=list(map(int,input().split()))

    dic={}

    for i in  lst:

        if i in dic:

            dic[i]+= 1

        else:

            dic.update({i:1})

    val = dic.values()

    m = max(val)

    print(n-m)

**C++ Solution:**

#include <iostream>

using namespace std;

int main() {

int t;

cin>>t;

while(t--)

{

    int N;

    cin>>N;

    int A[N];

    int arr[1001] = { 0 };

    for(int i=0; i<N ; i++)

    {

        cin>>A[i];

        arr[A[i]]++;

    }

    int max = -1;

    int maxindex =-1;

    for(int i=0 ; i<=1000 ; i++)

    {

        if(arr[i] > max)

        {

            max = arr[i];

            maxindex = i;

        }

    }

    int count =0 ;

    for(int i=0 ; i< N ; i++)

    {

        if(A[i] != maxindex)

        {

            count++;

        }

    }

    cout<< count << endl;

}

return 0;

}

1. **The Lead Game**

**Python solution:**

no\_of\_rounds = int(input())

cumulative\_Score\_1 = 0

cumulative\_Score\_2 = 0

lead = 0

player =  0

for i in range(no\_of\_rounds):

    x, y = tuple(map(int,input().split()))

    cumulative\_Score\_1+=x

    cumulative\_Score\_2+=y

    if cumulative\_Score\_1 > cumulative\_Score\_2 :

        difference = cumulative\_Score\_1 - cumulative\_Score\_2

        if difference > lead :

            lead = difference

            player =  1

    else:

        difference = cumulative\_Score\_2 - cumulative\_Score\_1

        if difference > lead :

            lead = difference

            player = 2

print(f"{player} {lead}")

**C++ Solution:**

#include <iostream>

    using namespace std;

    int k;

    int modulus1(int a)

    {

        if(a>0)

           k=a;

        else

           k=-a;

           return k;

    }

        int main()

    {

      int i,rounds,j,q,l,s;

            cin>>rounds;

      int playerone[rounds];

     int playertwo[rounds];

      int lead[rounds];//stores lead of player one over player 2

      int moduluslead[rounds];//stores modulus of lead

       s=0;

      for(i=0;i<rounds;i++)

      {

               cin>>playerone[i];

          cin>>playertwo[i];

          s=s+playerone[i]-playertwo[i];

          lead[i]=s;

          moduluslead[i]=modulus1(lead[i]);

      }

      j=moduluslead[0];

      q=0;

      for(i = 1;i<rounds; i++)//loop to find modulus of maximum lead

     {

         if(moduluslead[i]>j)

         {

             j=moduluslead[i];

             q=i;

         }

     }

     l=2;

     if (lead[q]>0)

              l=1;

              cout<<l<<" "<<moduluslead[q];

    }

1. **Turbo Sort**

**Python solution:**

lis=[]

t=int(input())

while t>0:

    n=int(input())

    lis.append(n)

    t-=1

lis.sort()

for i in range(0,len(lis)):

    print(lis[i])

**C++ Solution:**

#include<bits/stdc++.h>

using namespace std;

int main()

{

        int n;

        cin>>n;

         int a[n];

        for(int i=0;i<n;i++)

          cin>>a[i];

            sort(a,a+n);

            for(int i=0;i<n;i++)

            cout<<a[i]<<'\n';

    return 0;

}

1. **Small factorials**

**Python solution:**

def factorial(n):

    if n==0 or n==1:

        return 1

    else:

         return n\*factorial(n-1)

n=int(input())

for i in range(n):

    ni=int(input())

    print(factorial(ni))

**C++ Solution:**

#include <bits/stdc++.h>

#include <boost/multiprecision/cpp\_int.hpp>

#include <iostream>

using namespace std;

using namespace boost::multiprecision;

int main() {

int t;

cin>>t;

while(t--)

{

    int n;

    cin>>n;

    cpp\_int fact=1;

    for(int i=n;i>0;i--)

    fact=fact\*i;

    cout<<fact<<endl;

}

return 0;

}

1. **Compress the Video**

**Python solution:**

for i in range(int(input())):

    x= int(input())

    s= list(map(int,input().split(" ")))

    c=0

    if(x==1):

        print("1")

    else:

        for i in range(x-1):

            if(s[i]==s[i+1]):

                c=c+1

        print(x-c)

**C++ Solution:**

#include <bits/stdc++.h>

using namespace std;

#define ll long long

#define pb push\_back

#define ppb pop\_back

#define M 1e9+7

int main()

{

ios\_base::sync\_with\_stdio(false);

    cin.tie(NULL);

int t;

cin>>t;

while(t--)

{

    int n;

    cin>>n;

    int a[n];

    for(int i=0;i<n;i++)

    {

        cin>>a[i];

    }

    int ans=n;

    for(int i=1;i<=n;i++)

    {

        if(a[i]==a[i-1])

            ans--;

    }

    cout<<ans<<"\n";

}

return 0;

}

1. **Rearranging digits to get a multiple of 5**

**Python solution:**

for i in range(int(input())):

    d= int(input())

    n= str(input())

    c=0

    for i in range(d):

        if(n[i] =='0' or n[i]=='5'):

            c= c+1

    if(c>0):

        print("YES")

    else:

        print("NO")

**C++ Solution:**

#include <iostream>

using namespace std;

int main() {

int t;

cin>>t;

while(t--)

{

  int d,count=0,i;

  cin>>d;

  char a[d];

  for(i=0;i<d;i++)

    cin>>a[i];

  for(i=0;i<d;i++)

  {

      if(a[i]=='0'||a[i]=='5')

        count++;

  }

  if(count>0)

    cout<<"Yes"<<endl;

  else

    cout<<"No"<<endl;

}

return 0;

}

1. **Red Light, Green Light**

**Python solution:**

n = int(input())

while(n>0):

    a = [int(j) for j in input().split()]

    lis = [int(x) for x in input().split()]

    count = 0

    for i in range(len(lis)):

        if(lis[i]>a[1]):

            count = count +1

    print(count)

    n = n-1

**C++ Solution:**

#include <iostream>

using namespace std;

int main() {

int t;

cin>>t;

while(t--)

{

    int N,K;

    cin>>N;

    cin>>K;

    int arr[N];

    int count =0 ;

    for(int i =0 ;i<N ; i++)

    {

        cin>>arr[i];

        if(arr[i]>K)

        {

            count++;

        }

    }

    cout<<count<<endl;

}

return 0;

}

1. **Transform the Expression**

**Python solution:**

for j in range(int(input())):

    a=input()

    l=""

    b=[]

    for i in a:

        if i=='(':

            continue

        elif i.isalpha():

            l+=i

        elif i==')':

            l+=b.pop()

        else:

            b.append(i)

    print(l)

**C++ Solution:**

#include <iostream>

#include <cstring>

#include <bits/stdc++.h>

#include <stack>

using namespace std;

int main() {

int t;

cin>>t;

while(t--){

    string s;

    cin>>s;

    stack<char>a;

    string ans;

    for(int i=0;i<s.size();i++){

        if(s[i]>='a' && s[i]<='z'){

            ans.push\_back(s[i]);

        }

        else if(s[i]==')'){

             char temp=a.top();

             a.pop();

             a.pop();

             ans.push\_back(temp);

        }

    else a.push(s[i]);

}

cout<<ans<<endl;

}

return 0;

}

1. **Chef and Cook-Off**

**Python solution:**

user\_choice = int(input())

for i in range(user\_choice):

    x = map(int,input().split())

    total = sum(x)

    if total==0:

        print("Beginner")

    elif total==1:

        print("Junior Developer")

    elif total==2:

        print("Middle Developer")

    elif total==3:

        print("Senior Developer")

    elif total==4:

        print("Hacker")

    elif total==5:

        print("Jeff Dean")

**C++ Solution:**

#include <iostream>

using namespace std;

int main() {

int N;

cin>>N;

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

{

    int a,b,c,d,e,sum;

    cin>>a>>b>>c>>d>>e;

    sum = a+b+c+d+e;

    if(sum==0)

    {

        cout<<"Beginner"<<endl;

    }

    else if(sum==1)

    {

        cout<<"Junior Developer"<<endl;

    }

    else if(sum==2)

    {

        cout<<"Middle Developer"<<endl;

    }

    else if(sum==3)

    {

        cout<<"Senior Developer"<<endl;

    }

    else if(sum==4)

    {

        cout<<"Hacker"<<endl;

    }

    else

    {

        cout<<"Jeff Dean"<<endl;

    }

}

return 0;

}

**16.Kitchen Timetable**

**Python solution:**

T = int(input())

for i in range(T):

    n = int(input())

    a=list(map(int,input().split()))

    b=list(map(int,input().split()))

    x=0

    if b[0] <= a[0]:

            x += 1

    for i in range(1,n):

        if a[i]-a[i-1] >= b[i]:

            x += 1

    print(x)

**C++ solution:**

#include <iostream>

using namespace std;

int main() {

int t;

cin>>t;

while(t--)

{

    int n,count=0;

    cin>>n;

    int a[n],b[n];

    for(int i=0;i<n;i++)

    {

        cin>>a[i];

    }

    for(int i=0;i<n;i++)

    {

        cin>>b[i];

    }

    if(a[0]>=b[0])

    count++;

    for(int i=1;i<n;i++)

    {

        if((a[i]-a[i-1])>=b[i])

        count++;

    }

    cout<<count<<endl;

}

return 0;

}

**17. Game between friends**

**Python solution:**

for i in range(int(input())):

    a,b,c,d=map(int,input().split())

    if a<b:

        a+=c

    elif(a>=b):

        b+=c

    if a<b:

        a+=d

    elif a>=b:

        b+=d

    print('s' if a<b else 'n')

**C++ solution:**

#include <iostream>

using namespace std;

int main() {

int t;

cin>>t;

while(t--){

    int nitin,sodhya;

    int a,b,c,d;

    cin>>a>>b>>c>>d;

    nitin=a;

    sodhya=b;

    if(a>b){

        sodhya=sodhya+c;

        if(sodhya>nitin){

            nitin=nitin+d;

        }

        else if(nitin>=sodhya)

        sodhya=sodhya+d;

    }

    else{

    nitin=nitin+c;

    if(nitin>=sodhya){

        sodhya=sodhya+d;

    }

    else

    nitin=nitin+d;

}

    if(nitin>=sodhya)

    cout<<"N"<<endl;

    else

    cout<<"S"<<endl;

}

return 0;

}

**Week -2**

1. The Lead Game

**Python Solution:**

c,d=0,0

l,m=[],[]

for \_ in range(int(input())):

    a,b=map(int,input().split())

    c+=a;d+=b

    l.append(c-d) if a>b else m.append(d-c)

l.sort()

m.sort()

print(1,l[-1]) if(l[-1]>m[-1]) else print(2,m[-1])

**C++ Solution:**

#include <iostream>

using namespace std;

int main()

{

int s1,s2,lead1=0,r,winner,cs1=0,cs2=0;

cin>>r;

while(r--)

{

    cin>>s1>>s2;

cs1=cs1+s1;

cs2=cs2+s2;

    int lead=0;

    if(cs1>cs2)

    {

        lead=cs1-cs2;

        if(lead1<lead)

            {

                lead1=lead;

                winner=1;

            }

      }

            else if(cs2>cs1)

            {

                lead=cs2-cs1;

              if(lead1<lead)

                {

                lead1=lead;

                winner=2;

                }

            }

    }

    cout<<winner<<" "<<lead1;

    return 0;

}

1. The Block Game

**Python Solution:**

t=int(input())

while(t>0):

    n=int(input())

    rev = 0

    p=n

    while(p>0):

        rem = p%10

        rev = rev\*10 + rem

        p=p//10

    if n==rev:

        print("wins")

    else:

        print("loses")

**C++ Solution:**

#include <iostream>

using namespace std;

int main() {

int t;

int in,i,rem,rev=0,temp;

cin>>t;

while(t>0)

{

        cin>>in;

        temp=in;

        rev=0;

        while(in>0)

        {

            rem=in%10;

            rev=rev\*10+rem;

            in=in/10;

        }

        if(temp==rev)

        {

            cout<<"wins"<<endl;

        }

        else

        {

            cout<<"loses"<<endl;

        }

          t--;

}

return 0;

}

1. Compress the Video

**Python Solution:**

for i in range(int(input())):

    x= int(input())

    s= list(map(int,input().split(" ")))

    c=0

    if(x==1):

        print("1")

    else:

        for i in range(x-1):

            if(s[i]==s[i+1]):

                c=c+1

        print(x-c)

**C++ Solution:**

#include <iostream>

using namespace std;

int main() {

int t;

cin>>t;

while(t--){

    int n;

    cin>>n;

    int A[n];

    int cnt=0;

    for(int i=0;i<n;i++){

        cin>>A[i];

    }

    for(int i=0;i<n;i++){

        if(A[i]!=A[i-1]){

            cnt++;

        }

    }

    cout<<cnt<<endl;

}

return 0;

}

1. Wordle

**Python Solution:**

t=int(input())

while t:

    s1=input()

    s2=input()

    for i in range(5):

        if s1[i]==s2[i]:

            print("G",end="")

        else:

            print("B",end="")

    print("")

    t-=1

**C++ Solution:**

#include<iostream>

#include<string.h>

using namespace std;

int main()

{

    int t;

    cin>>t;

    while(t--){

        string S,T;

        string M;

        cin>>S>>T;

        for(int i=0; i<5; i++){

            if(S[i]==T[i]){

                M[i]='G';

            }

            else{

                M[i]='B';

            }

        }

        for(int i=0; i<5; i++){

            cout<<M[i];

        }

        cout<<endl;

    }

    return 0;

}

1. Rearranging digits to get a multiple of 5

**Python Solution:**

for i in range(int(input())):

    d= int(input())

    n= str(input())

    c=0

    for i in range(d):

        if(n[i] =='0' or n[i]=='5'):

            c= c+1

    if(c>0):

        print("YES")

    else:

        print("NO")

**C++ Solution:**

#include <iostream>

using namespace std;

int main() {

int t;

cin>>t;

while(t--){

    int n;

    cin>>n;

    char a[n];

    for(int i=0;i<n;i++){

        cin>>a[i];

    }

    int count=0;

    for(int i=0;i<n;i++){

        if(a[i]=='0' || a[i]=='5'){

            count++;

        }

        else{

            count;

        }

    }

    if(count>0){

        cout<<"YES"<<endl;

    }

    else{

        cout<<"NO"<<endl;

    }

}

return 0;

}

1. Counting Pretty Numbers

**Python Solution:**

for J in range(int(input())):

    a,b=map(int,input().split())

    count=0

    for i in range(a,b+1):

        if i%10==2 or i%10==3 or i%10==9:

            count+=1

    print(count)

C++ Solution:

#include <iostream>

using namespace std;

int main() {

// your code goes here

int t;

cin>>t;

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

{

    int count=0;

    int a,b;

    cin>>a>>b;

    for(int i=a;i<=b;i++)

    {

        int add=i%10;

        if(add==2 || add==3 || add==9)

        {

            count++;

        }

    }

  cout<<count<<endl;

}

return 0;

}

1. Red Light, Green Light

**Python Solution:**

for \_ in range(int(input())):

    n,k = map(int,input().split())

    a = list(map(int,input().split()))

    count = 0

    for i in a:

        if i>k:

            count+=1

    print(count)

**C++ Solution:**

#include <iostream>

using namespace std;

int main()

{

    int t;

    std::cin >> t;

    while(t--)

    {

        int n,k;

          int sum=0;

        std::cin >> n>> k;

        int arr[10000];

        for (int i = 0; i < n; i++)

        {

            std::cin >> arr[i];

         if(arr[i]>k)

          {

            sum ++;

          }

        }

        cout<<sum<<endl;

    }

return 0;

}

1. Kitchen Timetable

**Python Solution:**

for \_ in range(int(input())):

    N = int(input())

    lst = list(map(int,input().split()))

    lst2 = list(map(int,input().split()))

    count = 0

    for i in range(N):

        if i==0:

            if lst2[i]<=lst[i]:

                count += 1

        elif lst2[i] <= lst[i]-lst[i-1]:

            count += 1

    print(count)

**C++ Solution:**

#include <iostream>

using namespace std;

int main() {

int t;

cin>>t;

while(t--){

    int n;

    cin>>n;

    int \*a  = new int[n];

    for(int i=0; i<n; i++){

        cin>>a[i];

    }

    int \*b = new int[n];

    for(int i=0; i<n; i++){

        cin>>b[i];

    }

    int count = 0;

    int moment = a[0];

    for(int i=0; i<n; i++){

            if(b[i] <= moment){

                count++;

            }

            moment = a[i+1] - a[i];

    }

    cout<<count<<endl;

}

return 0;

}

1. Game between friends

**Python Solution:**

for i in range(int(input())):

    a,b,c,d=map(int,input().split())

    if a<b:

        a+=c

    elif a>=b:

        b+=c

    if a<b:

        a+=d

    elif a>=b:

        b+=d

    if a<b:

        print('s')

    else:

        print('n')

**C++ Solution:**

#include <iostream>

using namespace std;

void program(){

    int a,b,c,d;

    cin>>a>>b>>c>>d;

    if(a>=b){

        b=b+c;

    }

    else{

        a=a+c;

    }

    if(a>=b){

        b=b+d;

    }

    else{

        a=a+d;

    }

    if(a>=b){

        cout<<"N"<<endl;

    }

    else{

        cout<<"S"<<endl;

    }

}

int main() {

// your code goes here

int t;

cin>>t;

while(t>0){

    program();

    t--;

}

return 0;

}

1. Naive Chef

**Python Solution:**

for i in range(int(input())):

    n,x,y=map(int,input().split())

    p=list(map(int,input().split()))

    a=p.count(x)

    b=p.count(y)

    print((a/n)\*(b/n))

**C++ Solution:**

#include <iostream>

using namespace std;

int main() {

int t;

cin>>t;

if(1<=t<=70)

while(t--)

{

    int  n,a,b;

    cin>>n>>a>>b;

    int x[n];

    float count=0.0;

    float count1=0.0;

    for(int i=0;i<n;i++)

    {

        cin>>x[i];

    }

    float prob;

    for(int i=0;i<n;i++)

    {

        if(a==x[i])

        count++;

    }

    for(int i=0;i<n;i++)

    {

        if(b==x[i])

        count1++;

    }

    prob=(count/n)\*(count1/n);

    cout<<prob<<endl;

}

return 0;

}

1. Can\_Reach

**Python Solution:**

for i in range(int(input())):

    x,y,k=map(int,input().split())

    print('Yes' if (x%k==0 and y%k==0) else 'no')

**C++ Solution:**

#include <iostream>

using namespace std;

int main() {

int t;

cin>>t;

if(1<=t<=70)

while(t--)

{

    int  n,a,b;

    cin>>n>>a>>b;

    int x[n];

    float count=0.0;

    float count1=0.0;

    for(int i=0;i<n;i++)

    {

        cin>>x[i];

    }

    float prob;

    for(int i=0;i<n;i++)

    {

        if(a==x[i])

        count++;

    }

    for(int i=0;i<n;i++)

    {

        if(b==x[i])

        count1++;

    }

    prob=(count/n)\*(count1/n);

    cout<<prob<<endl;

}

return 0;

}

1. WA Test Cases

**Python Solution:**

for i in range(int(input())):

    n=int(input())

    l1=list(map(int,input().split()))

    l2=[]

    bs=input()

    for i in range(n):

        if bs[i]=="0":

            l2.append(l1[i])

    print(min(l2))

**C++ Solution:**

#include<bits/stdc++.h>

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];

    }

    string s;

    cin>>s;

    int a;

  for (int i = 0; i < n; i++)

  {

    if(s[i]=='0')

    { a=i; break;}

  }

  int sm=arr[a];

  for (int i = 0; i < n; i++)

  {

    if(s[i]=='0')

    {if(sm>arr[i])

    { sm=arr[i];

        a=i;

    }

  }

  }

  cout<<arr[a]<<endl;

    }

    return 0;

}

1. Cricket Ranking

**Python Solution:**

user\_input = int(input())

for i in range(user\_input):

    r1,w1,c1 = map(int,input().split())

    r2,w2,c2 = map(int,input().split())

    a\_point = 0

    b\_point = 0

    if r1>r2:

        a\_point+=1

    else:

        b\_point+=1

    if w1>w2:

        a\_point+=1

    else:

        b\_point+=1

    if c1>c2:

        a\_point+=1

    else:

        b\_point+=1

    if a\_point>b\_point:

        print("A")

    else:

        print("B")

**C++ Solution:**

#include <iostream>

using namespace std;

int main() {

int t;

cin>>t;

while(t--)

{

    int r1,r2,w1,w2,c1,c2,a,b;

    cin>>r1>>w1>>c1>>r2>>w2>>c2;

    a=0;

    if(r1>r2)   a++;

    if (w1>w2)  a++;

    if(c1>c2)   a++;

    if(a>1)

    cout<<"A"<<endl;

    else

    cout<<"B"<<endl;

}

return 0;

}

1. Chef and Spells

**Python Solution:**

for \_ in range(int(input())):

    a,b,c = map(int,input().split())

    if a>=b and a>=c:

        print(a+b if b>c else a+c)

    elif b>=a and b>=c:

        print(b+a if a>c else b+c)

    elif c>a and c>b:

        print(c+a if a>b else c+b)

**C++ Solution:**

#include <bits/stdc++.h>

using namespace std;

int main()

{

    int t;

    cin >> t;

    while (t--)

    {

        int a, b, c;

        cin>>a>>b>>c;

        int ans = a+b+c;

        int mini = min(a, b);

        mini = min(mini, c);

        ans -= mini;

        cout<<ans<<endl;

    }

    return 0;

}

1. Puppy and Sum

**Python Solution:**

x = int(input())

for \_ in range(x):

    a,b = map(int,input().split())

    count = sum(range(b+1))

    while a>1:

        count = sum(range(count+1))

        a-=1

    print(count)

**C++ Solution:**

#include <iostream>

using namespace std;

void solve(int d, int n){

    while(d--){

       n = n\*(n+1)/2;

    }

    cout<<n<<endl;

}

int main() {

// your code goes here

int t;

cin>>t;

while(t--){

    int d,n;

    cin>>d>>n;

    solve(d,n);

}

return 0;

}

1. Marathon

**Python Solution:**

t = int(input())

for i in range(t):

    a,b,c,d,e = list(map(int,input().split()))

    if a\*b >= 42:

        print(e)

    elif a\*b >=21:

        print(d)

    elif a\*b >= 10:

        print(c)

    else:

        print(0)

**C++ Solution:**

#include <iostream>

using namespace std;

int main() {

int t;

cin>>t;

while(t--){

    int D,d,a,b,c;

    cin>>D>>d>>a>>b>>c;

    int q=D\*d;

    if(q<10)cout<<0<<endl;

    else if(q>=10 && q<21)std::cout << a << std::endl;

    else if(q>=21 && q<42)std::cout << b << std::endl;

    else if(q>=42)std::cout << c << std::endl;

}

return 0;

}

1. Two Rooks

**Python Solution:**

def my\_func(a,b,c,d):

    if a == c or b == d:

        print("YES")

    else:

        print("NO")

for \_ in range(int(input())):

    a,b,c,d = map(int,input().split())

    my\_func(a,b,c,d)

**C++ Solution:**

#include <iostream>

using namespace std;

int main() {

int t ;

cin>>t;

while(t!=0){

    int x1, y1, x2, y2;

    cin>>x1>>y1>>x2>>y2;

    if((x1<x2) && (y1==y2)){

            do{

                x1++;

            }while(x1==x2);

            cout<<"Yes\n";

        }

  else if((x1>x2) && (y1==y2)){

            do{

                x2++;

            }while(x1==x2);

            cout<<"Yes\n";

        }

        else if((y1<y2)&& (x1==x2)){

            do{

                y1++;

            }while(y1==y2);

            cout<<"Yes\n";

        }

        else if((y1>y2)&& (x1==x2)){

            do{

                y2++;

            }while(y1==y2);

            cout<<"Yes\n";

        }

            else {

                cout<<"No\n";

            }

    t--;

}

return 0;

}

**Week -3**

1. **Devu and friendship testing**

**C++ solution:**

#include <bits/stdc++.h>

using namespace std;

int main() {

int T;

cin>>T;

while(T){

    int n;

    cin>>n;

    unordered\_set<int>set;

    for(int i=0;i<n;i++) {

        int elem;

        cin>>elem;

        set.insert(elem);

    }

    cout<<set.size()<<endl;

    T--;

}

return 0;

}

**Python Solution:**

t=int(input())

for i in range(t):

    ul=[]

    n=int(input())

    a=list(map(int,input().split()))

    # print(a)

    for j in a:

        if j not in ul:

            ul.append(j)

    print(len(ul))

1. **Binary String Cost**

**C++ solution:**

#include <iostream>

#include<bits/stdc++.h>

using namespace std;

int main() {

    int t,n,x,y,flag0,flag1;

    string s;

    cin>>t;

    for (int i = 0; i < t; i++)

    {

        cin>>n>>x>>y;

        cin>>s;

        flag1 = 0;

        flag0 = 0;

  for (int j = 0; j < n; j++)

        {

            if (s[j] == '1')

            {

                flag1 = flag1 + 1;

            }

            else

            {

                flag0 = flag0 + 1;

            }

        }

        if (flag1 == n || flag0 == n)

        {

            cout<<"0"<<endl;

        }

        else

        {

            cout<<min(x,y)<<endl;

        }

    }

return 0;

}

**Python Solution:**

t=int(input())

for i in range(t):

    n,x,y=map(int,input().split())

    s=input()

    if x>y:

        s=s.count("1")\*"1"+s.count("0")\*"0"

        print(s.count("10")\*y)

    else:

        s=s.count("0")\*"0"+s.count("1")\*"1"

        print(s.count("01")\*x)

1. **Chef and Dolls**

**C++ solution:**

#include<iostream>

using namespace std;

int main()

{

    int t,n;

    cin>>t;

    for(int i=0; i<t; i++)

    {

        cin>>n;

        int a[n];

        for(int j=0; j<n; j++)

        {

            cin>>a[j];

        }

        for(int k=0; k<n; k++)

        {

            if(a[k]!=-1)

            {

                for(int l=k+1;l<n;l++)

                {

                    if(a[l]==a[k])

                    {

                        a[l]=-1;

                        a[k]=-1;

                    }

                }

            }

        }

        for(int i=0; i<n; i++)

        {

            if(a[i]!=-1)

            {

                cout<<a[i]<<endl;

            }

        }

    }

    return 0;

}

**Python Solution:**

size=int(input())

for i in range(size):

    arrsize=int(input())

    arr=[]

    for j in range(arrsize):

        a=int(input())

        if a not in arr:

            arr.append(a)

        else:

            arr.remove(a)

    for k in arr:

        print(k)

1. **Can You Eat It**

**C++ solution:**

#include <iostream>

using namespace std;

int main() {

// your code goes here

int t;

cin >> t;

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

    int n,k;

    cin >> n >> k;

    if (n==0) {

        cout << 0 << endl;

    } else if (n%k==0) {

        cout << n/k << endl;

    } else {

        cout << -1 << endl;

    }

}

return 0;

}

**Python Solution:**

def my\_func(a, b):

    bites = a

    if bites % b == 0:

        print(int(a/b))

    else:

        print("-1")

for \_ in range(int(input())):

    a,b = map(int,input().split())

    my\_func(a,b)

1. **The Old Saint And Three Questions**

**C++ solution:**

#include <iostream>

using namespace std;

int main() {

// your code goes here

int t,a,b,c,x,y,z;

cin>>t;

while(t--){

    cin>>x>>y>>z;

    cin>>a>>b>>c;

    x = x+y+z;

    a = a+b+c;

    if(x==a) cout<<"Pass";

    else cout<<"Fail";

    cout<<endl;

}

return 0;

}

**Python Solution:**

n = int(input())

for i in range(n):

    x = list(map(int, input().split()))

    y = list(map(int, input().split()))

    a = x.count(1)

    b = y.count(1)

    if a == b :

        print("Pass")

    else :

        print("Fail")

1. **Vaccine Dates**

**C++ solution:**

#include <iostream>

using namespace std;

int main() {

int t,d,l,r;

cin>>t;

while (t--)

{

    cin>>d>>l>>r;

    if (d < l)

    {

        cout << "Too Early \n";

    }

    else if (d >= l && d <= r)

    {

        cout << "Take second dose now \n";

    }

    else

    {

        cout << "Too Late \n";

    }

}

return 0;

}

**Python Solution:**

T=int(input())

for i in range(T):

    d,l,r=list(map(int,input().split()))

    if l<=d:

        if r>=d:

            print("Take second dose now")

        else:

            print("Too Late")

    elif l>d:

        if r>d:

            print("Too Early")

1. **Penalty Shots**

**C++ solution:**

#include <iostream>

using namespace std;

int main() {

int t,a1,a2,a3,a4,a5,a6,a7,a8,a9,a10;

cin>>t;

while(t--){

    cin>>a1>>a2>>a3>>a4>>a5>>a6>>a7>>a8>>a9>>a10;

if((a1+a3+a5+a7+a9)>(a2+a4+a6+a8+a10)){

    cout<<"1";

}else if((a1+a3+a5+a7+a9)<(a2+a4+a6+a8+a10)){

    cout<<"2";

}else{

    cout<<"0";

}

cout<<endl;

}

return 0;

}

**Python Solution:**

# cook your dish here

for \_ in range(int(input())):

    lst = list(map(int,input().split()))

    t1 = 0

    t2 = 0

    for i in range(10):

        if i%2!=0 and lst[i]==1:

            t1 += 1

        elif i%2==0 and lst[i]==1:

            t2 += 1

        else:

            pass

    if t1 == t2:

        print(0)

    else:

        print(1 if t1<t2 else 2)

1. **Shoe Fit**

**C++ solution:**

#include <iostream>

using namespace std;

int main() {

    int t;

    cin>>t;

    while(t--)

    {

        int a,b,c;

        cin>>a>>b>>c;

        if((a==0 && b==0 && c==0)||(a==1 && b==1 && c==1))

        cout<<"0"<<endl;

        else

        cout<<"1"<<endl;

    }

return 0;

}

**Python Solution:**

n=int(input())

for i in range(n):

    list1=list(map(int,input().split()))

    if 0 in list1 and 1 in list1:

        print(1)

    else:

        print(0)

1. **A - Save Water Save Life**

**C++ solution:**

#include<bits/stdc++.h>

using namespace std;

string Y = "YES\n";

string N = "NO\n";

string q = "\n";

int main()

{

    ios\_base::sync\_with\_stdio(false);

    cin.tie(nullptr);

    int tt;

    cin>>tt;

    while(tt--)

    {

        int h,x,y,c;

        cin>>h>>x>>y>>c;

        h\*=x+(y/2);

        if(h>c)cout<<N;

        else cout<<Y;

    }

    return 0;

}

**Python Solution:**

import math

n = int(input())

for i in range(n):

    a = list(map(int, input().split()))

    c = a[1] + math.floor(a[2]/2)

    e = a[3]

    d = a[0]\*c

    if d<=e:

        print("YES")

    else:

        print("NO")

1. **Count the Holidays**

**C++ solution:**

#include <iostream>

using namespace std;

int main() {

    int t;

    cin>>t;

    while(t--)

    {

        int n;

        cin>>n;

        int festival[n];

        for(int i=0;i<n;i++)

        {

            cin>>festival[i];

        }

        int tot=8+n;

            int holiday[8]={6,7,13,14,20,21,27,28};

            for(int i=0;i<n;i++)

            {

                for(int j=0;j<8;j++)

                {

                    if(festival[i]==holiday[j])

                    tot--;

                }

            }

        cout<<tot<<endl;

    }

// your code goes here

return 0;

}

**Python Solution:**

for i in range(int(input())):

    n = int(input())

    s = list(map(int, input().split()))

    a = [6,13,20,27,7,14,21,28]

    cnt = 8

    for j in s:

        if j in a:

            pass

        else:

            cnt+=1

    print(cnt)

1. **Chef and SnackDown**

**C++ solution:**

#include<bits/stdc++.h>

using namespace std;

string Y = "YES\n";

string N = "NO\n";

string q = "\n";

int main()

{

    ios\_base::sync\_with\_stdio(false);

    cin.tie(nullptr);

    int tt;

    cin >> tt;

    map<int, int> mp;

    mp[2010] = 1;

    mp[2015] = 1;

    mp[2016] = 1;

    mp[2017] = 1;

    mp[2019] = 1;

    while (tt--)

    {

        int n;

        cin >> n;

        if (mp[n] == 0)cout << "NOT ";

        cout << "HOSTED\n";

    }

    return 0;

}

**Python Solution:**

t=int(input())

y=[2010,2015,2016,2017,2019]

for i in range(t):

    d=int(input())

    if d in y:

        print("HOSTED")

    else:

        print("NOT HOSTED")

1. **Olympics Ranking**

**C++ solution:**

#include <iostream>

using namespace std;

int main() {

// your code goes here

int t;

cin>>t;

while (t--){

    int a = 0, b = 0, x;

    for (int i = 0; i < 6; i++){

        cin>>x;

        if (i<3) a+=x;

        else b+=x;

    }

    if (a > b) cout<<1<<endl;

    else cout<<2<<endl;

}

return 0;

}

**Python Solution:**

n=int(input())

for i in range(n):

    a,b,c,d,e,f=map(int,input().split())

    if (a+b+c)>(d+e+f):

        print(1)

    else:

        print(2)

1. **Chef on Vacation**

**C++ solution:**

#include<iostream>

using namespace std;

int main()

{

    int t;

    cin>>t;

    while(t--)

    {

        int x,y,z;

        cin>>x>>y>>z;

        if(x+y<=z)

        {

            cout<<"Yes"<<endl;

        }

        else if(x+y>z)cout<<"No"<<endl;

    }

}

**Python Solution:**

t=int(input())

for i in range(t):

    k=input()

    l=k.split()

    for j in range(len(l)):

        l[j]=int(l[j])

    if l[0]+l[1]>l[2]:

        print("NO")

    else:

        print("YES")

1. **Utkarsh and Placement tests**

**C++ solution:**

#include <iostream>

using namespace std;

int main() {

    int t;

    cin >> t;

    for(int i = 0; i < t; i++){

        char first,second,third;

    cin >> first >> second >> third;

    char x,y;

        cin >> x >> y;

        if(first == x || first == y){

            cout << first << "\n";

        }

        else if(second == x || second == y){

            cout << second << "\n";

        }

        else{

            cout << third << "\n";

        }

    }

return 0;

}

**Python Solution:**

n=int(input())

for i in range(n):

    list1=list(map(str,input().split()))

    a,b=map(str,input().split())

    if list1.index(a)<list1.index(b):

        print(a)

    else:

        print(b)

1. **Gold Mining**

**C++ solution:**

#include <iostream>

using namespace std;

int main() {

    int t;

    cin>>t;

    while(t--){

        int n,x,y;

        cin>>n>>x>>y;

        if(x<=(n+1)\*y){

            cout<<"yes"<<endl;}

            else{cout<<"no"<<endl;}

    }

return 0;

}

**Python Solution:**

t=int(input())

for i in range(t):

    n,x,y=map(int,input().split())

    if((n+1)\*y<x):

        print('No')

    else:

        print('Yes')

1. **Find the Direction**

**C++ solution:**

#include <iostream>

using namespace std;

int main() {

// your code goes here

int t;

cin>>t;

while(t--){

    int n;

    cin>>n;

        if (n % 4 == 0) cout <<"North";

        else if (n % 4 == 1) cout<<"East";

        else if (n % 4 == 2) cout<<"South";

        else if (n % 4 == 3) cout<<"West";

        cout<<endl;

}

return 0;

}

**Python Solution:**

for i in range(int(input())):

    a=int(input())

    f={0:"North",1:"East",2:"South",3:"West",4:"North"}

    n=a%4

    print(f[n])

1. **Chef On Island**

**C++ solution:**

#include<bits/stdc++.h>

using namespace std;

string Y = "YES\n";

string N = "NO\n";

string q = "\n";

int main()

{

    ios\_base::sync\_with\_stdio(false);

    cin.tie(nullptr);

    int tt;

    cin>>tt;

    while(tt--)

    {

        int x,y,x1,y1,d;

        cin>>x>>y>>x1>>y1>>d;

        int mi=1000;

        mi=min(mi,x/x1);

        mi=min(mi,y/y1);

        if(mi>=d)cout<<Y;

        else cout<<N;

    }

    return 0;

}

**Python Solution:**

n=int(input())

for i in range(n):

    x,y,x1,y1,d=map(int,input().split())

    if x>=x1\*d and y>=y1\*d:

        print('YES')

    else:

        print('No')

**Week -4**

1. MATCHES

**C++ solution:**

#include <bits/stdc++.h>

using namespace std;

int main()

{

    int t;

    cin >> t;

    for (size\_t i = 0; i < t; i++)

    {

        int a, b;

        cin >> a >> b;

        int res = a + b;

        int count = 0;

        while (res != 0)

        {

            int r = res % 10;

            switch (r)

            {

            case 1:

                count += 2;

                break;

            case 2:

                count += 5;

                break;

            case 3:

                count += 5;

                break;

            case 4:

                count += 4;

                break;

            case 5:

                count += 5;

                break;

            case 6:

                count += 6;

                break;

            case 7:

                count += 3;

                break;

            case 8:

                count += 7;

                break;

            case 9:

                count += 6;

                break;

            default:

                count += 6;

                break;

            }

            res/=10;

        }

        cout<<count<<endl;

    }

    return 0;

}

**Python Solution:**

count = [6, 2, 5, 5, 4, 5, 6, 3, 7, 6]

for \_ in range(int(input())):

    a,b = map(int,input().split())

    c =a+b

    ans =0

    while(c>0):

        d = c%10

        ans = ans+count[d]

        c = c//10

    print(ans)

1. EZSPEAK

**C++ solution:**

#include <iostream>

using namespace std;

int

check (char c)

{

  if ((c == 'a') || (c == 'e') || (c == 'i') || (c == 'o') || (c == 'u'))

    {

      return 1;

    }

  else

    {

      return 0;

    }

}

int main ()

{

  int T;

  cin >> T;

  while (T--)

    {

      int len, flag = 0;

      string s;

      cin >> len;

      cin >> s;

      for (int i = 0; i < len - 3; i++)

{

  if (check (s[i]) || check (s[i + 1]) || check (s[i + 2])

      || check (s[i + 3]))

    {

      continue;

    }

  else

    {

      flag = 1;

      break;

    }

}

      if (flag == 0)

{

  cout << "YES";

}

      else

{

  cout << "NO";

}

cout<<endl;

    }

  return 0;

}

**Python Solution:**

n = int(input())

for i in range(n):

    q = int(input())

    s = str(input())

    count = 0

    flag = True

    for i in range(q):

        if s[i] != "a" and s[i] != "e" and s[i] != "i" and s[i] != "o" and s[i] != "u" :

            count += 1

            if count == 4:

                flag = False

                break

        else :

            count = 0

    if flag == False:

        print("NO")

    else:

        print("YES")

1. ZOOZ **C++ solution:**

#include<bits/stdc++.h>

using namespace std;

int main()

{

    ios\_base::sync\_with\_stdio(false);

    cin.tie(NULL);

    int t;

    cin>>t;

    while(t--)

    {

        int n;

        cin>>n;

        string s="0";

        s.resize(n);

            s[0]='1';

            s[n-1]='1';

            for(int i=1;i<n-1;i++)

            {

                s[i]='0';

            }

        cout<<s<<"\n";

    }

    return 0;

}

**Python Solution:**

**t=int(input())**

**for \_ in range(t):**

**n=int(input())**

**s=str()**

**i=0**

**while i<(n-2):**

**s=s+'0'**

**i=i+1**

**s='1'+s+'1'**

**print(s)**

1. Easy Pronunciation

**C++ solution:**

#include <iostream>

using namespace std;

int main() {

// your code goes here

int t,a;

cin>>t;

while(t--){

    cin>>a;

    int b=a/2;

    int c=a-b;

    cout<<(c\*3)-b<<endl;

}

return 0;

}

**Python Solution:**

t=int(input())

for t in range(t):

    k=int(input())

    if k%2==0:

        print(k)

    else:

        print(k+2)

1. Programming Languages

**C++ solution:**

#include <iostream>

using namespace std;

int

check (char c)

{

  if ((c == 'a') || (c == 'e') || (c == 'i') || (c == 'o') || (c == 'u'))

    {

      return 1;

    }

  else

    {

      return 0;

    }

}

int

main ()

{

  int T;

  cin >> T;

  while (T--)

    {

      int len, flag = 0;

      string s;

      cin >> len;

      cin >> s;

      for (int i = 0; i < len - 3; i++)

{

  if (check (s[i]) || check (s[i + 1]) || check (s[i + 2])

      || check (s[i + 3]))

    {

      continue;

    }

  else

    {

      flag = 1;

      break;

    }

}

      if (flag == 0)

{

  cout << "YES";

}

      else

{

  cout << "NO";

}

cout<<endl;

    }

  return 0;

}

**Python Solution:**

**t=int(input())**

**for \_ in range(t):**

**n=int(input())**

**s=str(input())**

**i=0**

**count=0**

**while i<n:**

**if s[i]=='a' or s[i]=='e' or s[i]=='o' or s[i]=='i' or s[i]=='u':**

**count=0**

**else:**

**count=count+1**

**if count==4:**

**break**

**i=i+1**

**if count==4:**

**print('NO')**

**else:**

**print('YES')**

1. Devu and friendship testing

**C++ solution:**

#include <iostream>

using namespace std;

int main() {

int t;

cin >> t;

while(t--){

    int a,b,c,d,e,f;

    cin >> a >>b>>c>>d>>e>>f;

    if((a==d && b== c)||(a==c && b== d)){

        cout << 1 << endl;

    }

    else if((a==f && b== e)||(a==e && b== f)){

        cout << 2 << endl;

    }

    else{

        cout << 0 << endl;

    }

}

return 0;

}

**Python Solution:**

for i in range(int(input())):

    l = list(map(int,input().split()))

    if( l[0]==l[2] and l[1]==l[3]) or ( l[1]==l[2] and l[0]==l[3]) :

        print(1)

    elif( l[0]==l[4] and l[1]==l[5]) or ( l[0]==l[5] and l[1]==l[4]):

        print(2)

    else:

        print(0)

1. That Is My Score!

**C++ solution:**

#include<bits/stdc++.h>

using namespace std;

typedef long long int ll;

int main()

{

    ios\_base::sync\_with\_stdio(false);

    cin.tie(NULL);

    ll t;

    cin>>t;

    while(t--)

    {

        int n,count=0;

        cin>>n;

        unordered\_map<int,int> mp;

        for(int i=0;i<n;i++)

        {

            int d;

            cin>>d;

            mp[d]++;

        }

        for(auto it=mp.begin();it!=mp.end();it++)

        {

            if(it->second!=1)

            {

                count+=(it->second-1);

            }

        }

        cout<<n-count<<"\n";

    }

    return 0;

}

**Python Solution:**

t=int(input())

for i in range(t):

    ul=[]

    n=int(input())

    a=list(map(int,input().split()))

    for j in a:

        if j not in ul:

            ul.append(j)

    print(len(ul))

1. Chef and String

**C++ solution:**

#include <bits/stdc++.h>

using namespace std;

int main() {

int T;

cin>>T;

while(T){

    int n;

    cin>>n;

    unordered\_map<int,int> mp;

    unordered\_map<int,int>:: iterator it;

    for(int i=0;i<n;i++){

        int elem,value;

        cin>>elem;//2

        cin>>value;//45

        if(elem>8) continue;

        if(mp[elem]<value){

            mp[elem]=value;

        }

    }

    int score=0;

    for(it=mp.begin();it!=mp.end();it++){

        score=score+it->second;

    }

    cout<<score<<endl;

    T--;

}

return 0;

}

**Python Solution:**

 lab=int(input())

for i in range(lab):

    sub=int(input())

    d={}

    ans=0

    for j in range(sub):

        x,y=list(map(int,input().split()))

        d.setdefault(x,[]).extend([y])

    for key in d.keys():

        d[key]=max(d[key])

        if(key!=9 and key!=10 and key!=11):

            ans+=d[key]

    print(ans)

1. Chef and Work

**C++ solution:**

#include <iostream>

#include <string>

using namespace std;

int main() {

int t;

cin >> t;

while (t--){

    string s;

    cin >> s;

    int c=0;

    for (int i=0;i<s.length();i++){

        if ((s[i]=='x' && s[i+1]=='y') || (s[i]=='y' && s[i+1]=='x')){

          c++;

          i++;

        }

    }

    cout << c << endl;

}

return 0;

}

**Python Solution:**

for n in range(int(input())):

    l=input()

    t=0

    x=1

    for j in range(len(l)-1):

        if x==1:

            if l[j]==l[j+1]:

                x=1

            else:

                t+=1

                x=0

        else:

            x=1

    print(t)

1. Hungry Chef

**C++ solution:**

#include <bits/stdc++.h>

using namespace std;

int main() {

// your code goes here

ios\_base::sync\_with\_stdio(false);

cin.tie(NULL);

int t;

cin>>t;

while(t--)

{

    int n,k;

    cin>>n>>k;

    vector<int> w(n);

    for(int i=0; i<n; i++)

        cin>>w[i];

    int rounds = 1;

    int lifted = 0;

    for(int i=0; i<n; i++)

    {

        if(w[i] > k)

        {

            rounds = -1;

            break;

        }

        lifted += w[i];

        if(lifted > k)

        {

            i--;

            lifted = 0;

            rounds++;

        }

    }

    cout<<rounds<<endl;

}

return 0;

}

**Python Solution:**

# cook your dish here

for \_ in range(int(input())):

    N,K = map(int,input().split())

    W = list(map(int,input().split()))

    c=0

    d,e=0,0

    for val in W:

        if val>K:

            e = 1

        else:

            c=c+val

            if c>K :

                c=val

                d=d+1

    if e==1:

        print(-1)

    else:

        print(d+1)

1. Split N

**C++ solution:**

#include <iostream>

using namespace std;

int main() {

// your code goes here

int t;

cin>>t;

while(t--){

    int x,y,n,r;

    cin>>x>>y>>n>>r;

    if(x\*n>r)

        cout<<-1<<endl;

    else{

        int count = (r-(n\*x))/(y-x);

        count=min(n,count);

        cout<<n-count<<" "<<count<<endl;

    }

}

return 0;

}

**Python Solution:**

t = int(input())

for i in range(t):

    x,y,n,r = list(map(int, input().split()))

    if( x\*n > r ):

        print("-1")

    else:

        Y = min( (r-n\*x)//(y-x), n )

        X = n - Y

        print( X, Y )

1. Ada and crayons

**C++ solution:**

#include<bits/stdc++.h>

using namespace std;

typedef long long ll;

double check(ll x)

{

    if(x==1)

        return 1;

    while(x>1)

    {

        if(x%2!=0)

            return 0;

        x/=2;

    }

    return 1;

}

ll log(ll x)

{

    ll abc=0;

    if(x==1)

        return 0;

    while(x>1)

    {

        x/=2;

        abc++;

    }

    return abc;

}

ll pow(int x)

{

    ll v=1;

    if(x==0)

        return 1;

    for(int i=1;i<=x;i++)

    {

        v\*=2;

    }

    return v;

}

int main()

{

    ll test;

    cin>>test;

    while(test--)

    {

        ll n;

        cin>>n;

        int flag=check(n);

        if(flag)

        {

            cout<<0<<'\n';

            continue;

        }

        ll ct=0;

        while(!check(n))

        {

            ll logn=log(n);

            ct++;

            n-=pow(logn);

        }

        cout<<ct<<'\n';

    }

}

**Python Solution:**

**for \_ in range(int(input())):**

**n = int(input())**

**print(bin(n).count('1') - 1)**

1. Chef and Employment Test

**C++ solution:**

#include <iostream>

using namespace std;

int main() {

// your code goes here

int t;

cin>>t;

while(t--)

{

    string s;

    cin>>s;

    int u=0,d=0;

      int n=s.length();

    for(int i=0;i<n-1;i++)

    {

        if(s[i]!=s[i+1])

        {

          if(s[i+1]=='U')

          {

              u++;

          }

          else

          {

              d++;

          }

        }

    }

    if (s[0]=='U')

    {

       u++;

    }

    else

    {

        d++;

    }

    cout<<min(u,d)<<endl;

}

return 0;

}

**Python Solution:**

T = int(input())

while T!=0:

    T-=1

    S = input('')

    if S[0] == 'U':

        x = S.count('UD')

        y = S.count('DU') + 1

        if x<y:

            print(x)

        else:

            print(y)

    else:

        x = S.count('DU')

        y = S.count('UD') + 1

        if x<y:

            print(x)

        else:

            print(y)

1. Balanced Reversals

**C++ solution:**

#include <bits/stdc++.h>

using namespace std;

int main()

{

int t;

cin>>t;

while(t--)

{

    int n;

    cin>>n;

    string s;

    cin>>s;

    sort(s.begin(),s.end());

    cout<<s<<endl;

}

return 0;

}

**Python Solution:**

n=int(input())

for i in range(n):

    n,k=map(int,input().split())

    l=list(map(int,input().split()))

    for i in range(1,k+1):

        l.append(1000+i)

    l.sort()

    if len(l)%2!=0:

        print(l[len(l)//2])

    else:

        val=l[len(l)//2]+l[(len(l)//2)+1]

        print(val)

1. A - Books

**C++ solution:**

#include <bits/stdc++.h>

using namespace std;

int main()

{

int t;

cin>>t;

while(t--)

{

    int n;

    cin>>n;

    string s;

    cin>>s;

    sort(s.begin(),s.end());

    cout<<s<<endl;

}

return 0;

}

**Python Solution:**

t=int(input())

for i in range(t):

    n=int(input())

    a=input()

    print(a.count('0')\*"0"+a.count('1')\*"1")

1. Chef and Table Tennis

**C++ solution:**

#include<iostream>

using namespace std;

int main(){

    int t;

    cin>>t;

    while(t--){

        int N;

        cin>>N;

        int Arr[N];

        int count=0;

        for(int i=0;i<N;i++){

            cin>>Arr[i];

        }

        for(int i=0;i<N;i++){

            for(int j=i+1;j<N;j++){

                if(Arr[i]<Arr[j])

                  count++;

            }

            cout<<count<<" ";

            count=0;

        }

        cout<<endl;

    }

    return 0;

}

**Python Solution:**

sh = int(input())

for \_ in range(sh):

    n = int(input())

    s = list(map(int,input().split()))

    h = [0]\*(n)

    for j in range(n-2,-1,-1):

        if s[j]==s[j+1]:

            h[j] = h[j+1]

        elif s[j]<s[j+1]:

            h[j] = n-j-1

    print(\*h)

1. Xor Palindrome

**C++ solution:**

#include <iostream>

using namespace std;

int main() {

int t; cin>>t;

while(t--){

    string s;

    cin>>s;

    int a,c0=0,c1=0;

    a=s.length();

    for(int i=0;i<a;i++){

        if(s[i]=='0') c0++;

        else if(s[i]=='1') c1++;

    }

    if(c0>c1) {

        cout<<"LOSE"<<endl;

    }

    else if(c1>c0){

        cout<<"WIN"<<endl;

    }

}

return 0;

}

**Python Solution:**

t=int(input())

for i in range(t):

    s=input()

    if s.count("1")>s.count("0"):

        print("WIN")

    else:

        print("LOSE")