#include<stdio.h>

int required[100],allocate[100],need[100];

void main()

{

int n;

int max=12,allocateCount=0;

printf("Enter the number of processes:\n");

scanf("%d",&n);

printf("Enter the required resource for each process: \n");

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

{

printf("Requirement for Process %d:",i+1);

scanf("%d",&required[i]);

}

printf("\nEnter the Allocated resource for each process: \n");

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

{

printf("Allocated for process %d:",i+1);

scanf("%d",&allocate[i]);

allocateCount+=allocate[i];

need[i]=required[i]-allocate[i];

}

int available=max-allocateCount;

int count=n,sequence=0;

int ans[n],ind=0;

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

{

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

{

if(need[j]!=0)

{

if(need[j]>available)

{

continue;

}

else

{

ans[ind++]=j+1;

sequence++;

count--;

available+=need[j];

need[j]=0;

}

}

}

}

if(sequence<n)

{

printf("\nThe system is in a unsafe state!!\n");

}

else

{

printf("\nThe system is in a safe state!!\n");

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

{

printf("p%d->",ans[i]);

}

}

}