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// 11 grade
#include <bits/stdc++.h>
using namespace std;
ifstream fin("in.in");
ofstream fout("output.out");

int
v[101],nr5[]={3,8,13,18,31,36,41,46},nr4[]={4,9,14,19,32,37,42,47},nr3[]={5,10,15,20,33,38,43,48},nr
2[]={6,11,16,21,34,39,44,49,26};

int prim(int n)
{
    if(n<2) return 0;
    if(n==2) return 1;
    if(n%2==0) return 0;
    for(int i=3;i*i<=n;i+=2)
        if(n%i==0) return 0;
    return 1;
}

int caut(int x,int v[])
{
    int i=1;
    while(v[i]!=0)
    {
        if(v[i]==x)
            return 1;
        i++;
    }
    return 0;
}

int main()
{

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int n,i,x,m1,m2,m3;
for(int o=1;o<=5;o++)
{
for(i=1;i<=3;i++)
{
    fin>>x;
    v[x]=1;
}
fin>>m1>>m2>>m3>>n;
v[m1]=1,v[m2]=1,v[m3]=1;
for(i=1;i<=n;i++)
{
    fin>>x;
    int minn=min(min(m1,m2),m3);
    if(m1==minn)
    {
        if(v[m1+x]==0 && m1+x<=52)
        {
            if(prim(m1+x)==1)
            {
                int j=m1+x;
                while(j<=j+6 && v[j]!=1)
                    j++;
                if(v[j]==1)
                    j--;
                v[m1]=0;
                v[j]=1;
                m1=j;
            }
        }
    }
    else
    {

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if(sqrt(m1+x)==int(sqrt(m1+x)) && m1+x>4)
{
    int j=m1+x;
    while(j>=j-6 && v[j]!=1)
        j--;
    if(v[j]==1)
        j++;
    v[m1]=0;
    v[j]=1;
    m1=j;
}
else
{
    int ok=0;
    if(x==6 && (m1<=26 && m1>=2 || m1>=30))
        ok=1;
    else
    {
        if(x>=2)
        {
            if(caut(m1,nr2))
                ok=1;
        }
        if(x>=3)
        {
            if(caut(m1,nr3))
                ok=1;
        }
        if(x>=4)
        {
            if(caut(m1,nr4))

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        ok=1;
    }
    if(x>=5)
    {
        if(caut(m1,nr5))
            ok=1;
    }
}
if(ok)
{
    int j=m1+1,p=-1;
    v[m1]=0;
    while(j<=m1+x)
    {
        if(v[j]==0 && j%x==0)
        {
            p=j;
            break;
        }
        j++;
    }
    if(p!=-1)
        v[m1]=1;
    else
    {
        v[p]=1;
        m1=p;
    }
}
else
{
```

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        v[m1+x]=1;
        v[m1]=0;
        m1=m1+x;
    }
}
}
}
}
if(m2==minn)
{
    if(v[m2+x]==0 && m2+x<=52)
    {
        if(prim(m2+x)==1)
        {
            int j=m2+x;
            while(j<=j+6 && v[j]!=1)
                j++;
            if(v[j]==1)
                j--;
            v[m2]=0;
            v[j]=1;
            m2=j;
        }
    }
    else
    {
        if(sqrt(m2+x)==int(sqrt(m2+x)) && m2+x>4)
        {
            int j=m2+x;
            while(j>=j-6 && v[j]!=1)
                j--;
            if(v[j]==1)

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    j++;
    v[m2]=0;
    v[j]=1;
    m2=j;
}
else
{
    int ok=0;
    if(x==6 && (m2<=26 && m2>=2 || m2>=30))
        ok=1;
    else
    {
        if(x>=2)
        {
            if(caut(m2,nr2))
                ok=1;
        }
        if(x>=3)
        {
            if(caut(m2,nr3))
                ok=1;
        }
        if(x>=4)
        {
            if(caut(m2,nr4))
                ok=1;
        }
        if(x>=5)
        {
            if(caut(m2,nr5))
                ok=1;
        }
    }
}
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```
    }  
  }  
  if(ok)  
  {  
    int j=m2+1,p=-1;  
    v[m2]=0;  
    while(j<=m2+x)  
    {  
      if(v[j]==0 && j%x==0)  
      {  
        p=j;  
        break;  
      }  
      j++;  
    }  
    if(p!=-1)  
      v[m2]=1;  
    else  
    {  
      v[p]=1;  
      m2=p;  
    }  
  }  
  else  
  {  
    v[m2+x]=1;  
    v[m2]=0;  
    m2=m2+x;  
  }  
}  
}
```

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    }
}
if(m3==minn)
{
    if(v[m3+x]==0 && m3+x<=52)
    {
        if(prim(m3+x)==1)
        {
            int j=m3+x;
            while(j<=j+6 && v[j]!=1)
                j++;
            if(v[j]==1)
                j--;
            v[m3]=0;
            v[j]=1;
            m3=j;
        }
    }
else
{
    if(sqrt(m3+x)==int(sqrt(m3+x)) && m3+x>4)
    {
        int j=m3+x;
        while(j>=j-6 && v[j]!=1)
            j--;
        if(v[j]==1)
            j++;
        v[m3]=0;
        v[j]=1;
        m3=j;
    }
}
else

```



```
{
int ok=0;
if(x==6 && (m3<=26 && m3>=2 || m3>=30))
    ok=1;
else
{
    if(x>=2)
    {
        if(caut(m3,nr2))
            ok=1;
    }
    if(x>=3)
    {
        if(caut(m3,nr3))
            ok=1;
    }
    if(x>=4)
    {
        if(caut(m3,nr4))
            ok=1;
    }
    if(x>=5)
    {
        if(caut(m3,nr5))
            ok=1;
    }
}
if(ok)
{
    int j=m3+1,p=-1;
    v[m3]=0;
```

```
while(j<=m3+x)
{
    if(v[j]==0 && j%x==0)
    {
        p=j;
        break;
    }
    j++;
}
if(p!=-1)
    v[m3]=1;
else
{
    v[p]=1;
    m3=p;
}
}
else
{
    v[m3+x]=1;
    v[m3]=0;
    m3=m3+x;
}
}
}
}
}
int f[4];
f[0]=0;
f[1]=m1,f[2]=m2,f[3]=m3;
```

```
sort(f,f+4);
int k=0;
for(i=1;i<=3;i++)
{
    if(f[i]!=52)
    {
        k=1;
        fout<<f[i]<<" ";
    }
}
if(k==0)
    fout<<"GAME OVER";
fout<<"\n";
for(i=1;i<=52;i++)
    v[i]=0;
}
return 0;
}
```