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//Senior 5
//Enloe HS
//Contest #4
#include <bits/stdc++.h>

using namespace std;

int t = 5, pos[6], r, roll, mn;
int tp[18] = {0,1,6,11,16,21,22,23,24,26,27,28,29,34,39,44,49,50}, row[52];
bool bad[52], blocked[52];

bool isPrime(int x)
{
    for(int i = 2; i*i<=x; i++)
        if(!(x%i))
            return false;
    return true;
}

int keep_going(int x, int y)
{
    int ctr = 0;
    while((!blocked[x+(y/abs(y))])||(x==50))&&(ctr<abs(y))&&(x>0)&&(x<51))
        x+=(y/abs(y)), ctr++;
    return x;
}

bool ok2(int x, int y)
{
    if(((x==1)||((x==6)||((x==11)||((x==16)||((x==29)||((x==34)||((x==39)||((x==44))))&&(y==6))))))
        return true;
    if(((x==21)||((x==22)||((x==23)||((x==24))))&&(x+y>=27))
        return true;
    return false;
}

int main()
{
    freopen("sr.txt", "r", stdin);
    for(int i = 0; i<18; i++)
        bad[tp[i]] = true, row[tp[i]+1]++;
}

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for(int i = 1; i<52; i++)
    row[i]+=row[i-1];
while(t--)
{
    memset(blocked,false,sizeof(blocked));
    for(int i = 0; i<6; i++)
        cin >> pos[i];
    for(int i = 0; i<6; i++)
        pos[i]--, blocked[pos[i]] = true;
    cin >> r;
    for(int i = 0; i<r; i++)
    {
        cin >> roll;
        mn = 3*(i%2);
        for(int j = 3*(i%2); j<3*(i%2+1); j++)
            if(pos[j]<pos[mn])
                mn = j;
        blocked[pos[mn]] = false;
        if(pos[mn]+roll>=51)
            pos[mn] = 51;
        else if(blocked[pos[mn]+roll])
            blocked[pos[mn]] = true;
        else if(isPrime(pos[mn]+roll+1))
            pos[mn] = keep_going(pos[mn]+roll,6);
        else
            if((pos[mn]+roll>4)&&(int(sqrt(pos[mn]+roll+1))==sqrt(pos[mn]+roll+1)))
                pos[mn] = keep_going(pos[mn]+roll,-6);
            else
                if((!bad[pos[mn]])||ok2(pos[mn],roll)&&(row[pos[mn]]!=row[pos[mn]+roll]))
                {
                    int temp = pos[mn]+roll+1;
                    while(((temp%roll)|| (blocked[temp-1]))&&(temp>pos[mn]+1))
                        temp--;
                    pos[mn] = temp-1;
                }
                else
                    pos[mn]+=roll;
            blocked[pos[mn]] = true;
        }
    for(int i = 0; i<6; i++)
        if(pos[i]==51)
            pos[i] = -1;
    cout << pos[0]+pos[1]+pos[2]+3 << " " << pos[3]+pos[4]+pos[5]+3 << endl;
}
}

```

