

## EM 板子

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#include <bits/stdc++.h>
using namespace std;
#define sfi(a) scanf("%d",&a)
#define sfd(a) scanf("%lf",&a)
#define sfl(a) scanf("%lld",&a)
#define sfs(a) scanf("%s",a)
#define rep(i,a,b) for(int i=int(a);i<int(b);++i)
#define dwn(i,b,a) for(int i=int(b-1);i>=int(a);--i)
#define mem(a,p) memset(a,p,sizeof(a))
#pragma comment(linker,"/STACK:102400000,102400000")
typedef long long LL;
typedef unsigned UINT;
typedef unsigned long long ULL;
const int MAXN=10005;
struct EM
{
    int n;
    vector<double> ps[MAXN];
    int pn, fail[MAXN];
    double delta[MAXN];
    void Solve(double *x, int n)
    {
        pn=0;
        mem(fail,0);
        mem(delta,0);
        ps[0].clear();
        rep(i,1,n+1)
        {
            double dt=-x[i];
            rep(j,0,ps[pn].size())
                dt+=x[i-j-1]*ps[pn][j];
            delta[i]=dt;
            if(fabs(dt)<=1e-8) continue;
            fail[pn]=i;
            if(!pn)
            {
                ps[++pn].resize(1);
                continue;
            }
            vector<double> &ls=ps[pn-1];
            double k=-dt/delta[fail[pn-1]];
            vector<double> cur;
            cur.resize(i-fail[pn-1]-1);
            cur.push_back(-k);
            rep(j,0,ls.size()) cur.push_back(ls[j]*k);
            if(cur.size()<ps[pn].size()) cur.resize(ps[pn].size());
            rep(j,0,ps[pn].size()) cur[j]+=ps[pn][j];
            ps[++pn]=cur;
        }
    }
    void print()
    {
        rep(g,0,ps[pn].size())
            printf("%lf ",ps[pn][g]);
        printf("\n");
    }
}B;
double x[MAXN];
int main()
{
    int n;
    while(~sfi(n))
    {
        rep(i,1,n+1)
            sfd(x[i]);
        B.Solve(x,n);
        B.print();
    }
}
```