[2019 Multi-University Training Contest 1]

比赛网址

训练详情

- 时间:2020-5-17 13:00~18:00
- rank:
- 完成情况：

题解

C Are They All Integers?

solved by hxm

题意

大水题

题解

略

E The League of Sequence Designers

solved by wxg&hxm

题意

给定一个数字序列，求最大的连续和乘以长度。

现在给出一个错误的做法，错误做法仅计算最大连续和来更新答案

求构造出一个长度大于l小于2000的序列，使得错误答案和正确答案相差正好为k

题解

分析发现，只要在最大连续和的串前加上一个负数，那么这个做法就会出错，现在要构造出两种答案相

差k

由于最大长度为1999，不妨就构造长度为1999的序列，第一位为-1，剩下为非负数，和为a则有

$(a - 1) \times 1999 - a \times 1998 = k$

即$a = k + 1999$算出a后，分配给剩下每一位即可

```
#include<algorithm>
#include<iostream>
#include<cstdlib>
#include<cstring>
#include<cstdio>
#include<vector>
#include<queue>
#include<cmath>
#include<map>
#include<set>
#define LL long long int
#define REP(i,n) for (int i = 1; i <= (n); i++)
#define Redge(u) for (int k = h[u],to; k; k = ed[k].nxt)
#define cls(s,v) memset(s,v,sizeof(s))
#define mp(a,b) make_pair<int,int>(a,b)
#define cp pair<int,int>
using namespace std;
const int maxn = 100005,maxm = 100005,INF = 0x3f3f3f3f;
inline int read(){
    int out = 0,flag = 1; char c = getchar();
    while (c < 48 || c > 57){if (c == '-') flag = 0; c = getchar();}
    while (c >= 48 && c <= 57){out = (out << 1) + (out << 3) + c - 48; c =
getchar();}
    return flag ? out : -out;
}
int K,L;
int ans[maxn];
void work(){
    int sum = 1999 + K;
    printf("1999\n");
    printf("-1");
    for (int i = 1; i <= 1997; i++) printf(" %d",sum / 1998);
    printf(" %d\n",sum - sum / 1998 * 1997);
}
int main(){
    int T = read();
    while (T--){
        K = read(); L = read();
        if (L >= 2000) puts("-1");
        else work();
    }
```

```
    return 0;
}
```

H Mining a

solved by hxm

题意

$\frac{1}{n} = \frac{1}{a Xor b} + \frac{1}{b}$

给定n□b是任意的，求最大的a使等式成立

题解

化简得$b = n + \frac{n^2}{a Xor b - n}$

枚举分母即可

```
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    while (c >= 48 && c <= 57){out = (out << 1) + (out << 3) + c - 48; c =
getchar();}
    return flag ? out : -out;
}
LL n,a,b,N,ans;
int main(){
```

```
    int T =read();
    while (T--){
        ans = 0;
        n = read(); N = n * n;
        LL t;
        for (int i = 1; i < n; i++){
            if (N % i == 0){
                //1
                t = i;
                b = N / t + n;
                a = (t + n) ^ b;
                ans = max(ans,a);
                //2
                t = N / i;
                b = N / t + n;
                a = (t + n) ^ b;
                ans = max(ans,a);
            }
        }
        printf("%I64d\n",ans);
    }
    return 0;
}
```

训练实况

训练总结

改进