Problem A: Recursive World

It was just a mathematics problem. You have to find a formula for finding the value. There may be many types of formulas that match the output. But here we will give you two formulas:
Judge Solution formula:

```
n=n*2;
ans=1+(n*(n+1))/2-n;
```

Alternate solution formula:

```
ans = 2 + (n-1)*5 + (n-1)*(n-2)*2;
```

Problem Setter: Md. Abdul Alim
Alternate writer: Raihat Zaman Neloy

Problem B: Equation Equals Hazards

This was a number theory problem. Though it was given as a Give Away problem. The solution is: if M = 1 then, the output should be “No”, otherwise “Yes”. Because, as GCD(A,M) = 1, there will be always an integer X, for which A*X mod M = 1, except M = 1.

Problem Setter: Md. Abdul Alim
Alternate writer: Raihat Zaman Neloy

Problem C: Dance Party

The problem asked you to find Maximum Cardinality Matching in general graph. We got a straight forward algorithm which solves this problem. The name of the algorithm is: Blossom’s Algorithm of general graph matching. You just need to learn this algorithm to solve this problem.

Problem Setter: S. M. Shaheen Sha
Alternate writer: Raihat Zaman Neloy & Nafis Sadique

Problem D: Array Simulation

A basic lazy propagation segment tree problem was D. You just need to keep three lazy variables for three operations. Just when you set the values, you need to reset the lazy variables for multiplication & addition. And you need to do a little bit mathematics for adding the arithmetic progression between a segment. This is a common problem. So, you just need to think more deeply to find the formula. The main challenge of this problem is to code.

Problem setter: Raihat Zaman Neloy
Alternate writer: Nafis Sadique

Problem E: Bangla Calendar

Just an implementation problem. You can precalculate two arrays, one containing 365 days for non-leap year, and another for 366 days for leap year. Then in every test case, you just can give the answer in O(1).

Problem Setter: Raihat Zaman Neloy
Alternate writer: Abu Obaida Opu