Editorial - Turing Baths

Here inputs of the problem are ***T, N, S***$_i$ where ***T*** is the number of tests and ***N*** will be the number of activities, ***S***$_i$ is the sequence of activity. For each test the sequence of activity will be followed by the amount of activity.

For every character of ***S***$_i$ you have to check the following rules are passed. Here we have used ***cg, co, cf, cc, cs, cd, ca*** as the counter for each character (*i.e.:* ***cg*** denotes count of ***G***), If the they pass the rule you have to increase the count by 1 and increase the appropriate character counter.

For (i=0; i<N; i++)

{

Switch(S[i])

Case ***G***:*cg++*

break;

Case ***O***: (He should shower inside bathroom so the total count of existing G sould be in an odd number) *If (cg%2>0)*

co++

else

print 'N' + i

exit

break;

Case ***F***: (if co is greater than cf , F is possible)

If (co-cf=1)

cf++

else

print 'N' + i

exit

break;

Case ***C***: (conditioner should be used inside bathroom so existing G should be in odd number, the number of times conditioner already used should be less than the (brought conditioner count)*2 +2, and He would never apply conditioner without washing away shampoo, therefore F should be present before C or co-cf should be 1).

*If cg%2=1 && (co-cf=1|| S[i-1]= F)&& ((cb*2)+2 > cc)*

cc++

else

print 'N' + i

exit

break;

Case ***S***: (it same as conditioner condition)

*If cg%2=1 && (co-cf=1|| S[i-1]= F)&& ((ca*2)+2 > cs)*

cs++

else

print 'N' + i

exit

break;

Case ***D***: (he is not drying hair when shower is on inside the bathroom so, count of co-cf should be 0 or he can dry hair outside of the bathroom *i.e.:* cg will even number. He would never dry hair with anything on it therefore F should be present before D or co-cf should be 1.)

If (cg%2=0 || co-cf= 0) && (S[i-1]= F || co-cf= 1)

cd++

else

print 'N' + i

exit

break;

Case ***A***: (He would never leave the house without checking he closed the shower and bathroom door, therefore count of cg should be even and co-cf should be 0)

```
If (cg%2=0 && co-cf=0)
        ca++
    else
    print 'N' + i
    exit
break;
```

Case ***B***: (same as case **A**)

```
        If(co-cd>0) && (cb*2) +2>=cc
        cb++
    else
    print 'N' + i
    exit
break;
}
If(N=i+1)
        Print 'Y'
```