1376 - I2P CS 2017 Fall Chen Final Exam

Scoreboard (/contest/scoreboard/1376/)

Time		
2018/01/08 15:30:00	Contest Ended	2018/01/08 19:20:00

Clarification

#	Problem	Asker	Description	Reply	Replier	Reply Time	For all team
1	11790 - Secret Letter	judgevllab	考試剩不到15分鐘囉~ 保握第一筆測資	真的是範測	judgevllab	2018/01/08 18:44:44	✔

Overview | Problem

11786 - Final Exam - Problem F (bonus)

Status (/status/?pid=11786) | Limits

Submit (/users/submit/11786)

Description

Problem F - 2018

As you all know, Frank Lin likes to go mountain climbing. Unlike lonely Roy who celebrates New Year's Eve at the dorm himself, Frank decides to watch the smoky sunrise in the mountains at the beginning of 2018. Before the journey, Frank plans ***n*** different routes to climb up the mountain. Given the ***n*** different routes, your task is to find out how many different locations these routes will end up with.

You can consider the whole journey and the location as lines and points on the coordinate plane system. Frank will start his journey at point ***(0, 0)***. The route representation contains only four characters ***'N'***, ***'S'***, ***'E'***, and '***W'*** which stands for that Frank moves up, down, right, or left one unit parallel to the y-axis (***'N'*** and ***'S'***) or the x-axis (***'E'*** and ***'W'***) respectively.

source : http://www.ysnp.gov.tw

Input

The input consists of a single test case in the following format.

n

s_1

s_2

...

...

s_n

The first line contains an integer ***n*** satisfying ***1 ≤ n ≤ 2000***. ***n*** denotes the total number of different routes to climb up the mountains. The next ***n*** lines show the directions of routes. The ***i***-th line of them contains a string s_i with only four characters ***'N'***, ***'S'***, ***'E'***, and ***'W'*** whose length is between ***1*** and ***100***, inclusive, which is the information of the ***i***-th route.

Output

Print the number of locations these routes will end up with.

Sample Input

Download (data:text/plain;charset=utf-8,5%0D%0ANNNEEE%0D%0ANENENE%0D%0ANSNSNNNEEE%0D%0ANSWE%0D%0ANNSSWWEE)

```
5
NNNEEE
NENENE
NSNSNNNEEE
NSWE
NNSSWWEE
```

Sample Output

Download (data:text/plain;charset=utf-8,2%0D%0A)

```
2
```

Tags

Discuss