

# WOBURN CHALLENGE

**2017-18 Online Round 1**

Friday, January 26<sup>th</sup>, 2018

*Junior Division Problems*

Automated grading is available for these problems at:

[wcipeg.com](http://wcipeg.com)

For more problems from past contests, visit:

[woburnchallenge.com](http://woburnchallenge.com)

## Problem J1: Canadian Accent

20 Points / Time Limit: 2.00s / Memory Limit: 16M

Submit online: <http://wcipeg.com/problem/wc171j1>

Your friend Jim prides himself on doing the best impressions. On this occasion, he's showing off what Canadians sound like. Unfortunately, his idea of a Canadian accent simply consists of following words with "eh". Maybe that's not so inaccurate, eh?

Jim is given a single word, a non-empty string  $S$  made up of at most 10 lowercase/uppercase letters. He'll then produce his Canadian-ified version of that word, simply by appending the string ", eh" onto the end of  $S$ .

Given  $S$ , help Jim determine the resulting string which he should pronounce in order to achieve the perfect Canadian accent!

### Input Format

The first and only line of input consists of a single string,  $S$ .

### Output Format

Output a single string,  $S$  with a "Canadian accent" (that is, with ", eh" added onto the end).

### Sample Input

Snow

### Sample Output

Snow, eh



## Problem J2: How's the Weather?

20 Points / Time Limit: 2.00s / Memory Limit: 16M

Submit online: <http://wcipeg.com/problem/wc171j2>

"Ugh, It's been so hot out lately, why does it have to be 32 degrees..."

"32 degrees? That's freezing!"

You're had quite enough of confusing conversations with Americans who assume you're using Farenheit when Celsius is clearly the way to go. Rather than argue with them, you've settled for writing a program to conveniently convert temperatures measured in degrees Celsius to Farenheit instead.

You came across the following formula, which holds true given that  $F$  is a temperature in degrees Farenheit while  $C$  is that same temperature in degrees Celsius:

$$C = 5/9 \times (F - 32)$$

Given a value of  $C$ , which is an integer between  $-40$  and  $40$  (inclusive), determine the corresponding value of  $F$ , so that you can express the equivalent temperature in degrees Farenheit for the Americans' benefit.

It's guaranteed that  $C$  will be chosen such that  $F$  will come out to exactly an integer, but you may output it with 0 or more digits after the decimal point.

### Input Format

The first and only line of input consists of a single integer,  $C$ .

### Output Format

Output a single integer, the temperature in degrees Farenheit which is equivalent to  $C$  degrees Celsius.

### Sample Input

20

### Sample Output

68



## Problem J3: Stanley

28 Points / Time Limit: 2.00s / Memory Limit: 16M

Submit online: <http://wcipeg.com/problem/wc171j3>

This is it – the exciting finals of the Stanley Cup playoffs are about to begin! The format is a best-of-7 series, in which the first team to win 4 games will claim the Cup!

In each game, the team which scores more points than the other team wins (there are no ties). The series ends as soon as one team has won 4 games, and no further games are played after that point. This means that the series may last between 4 and 7 games, inclusive.

By collecting data on all hockey games which have ever been played, and performing some sophisticated data analysis, you've managed to predict all of the upcoming games' scores with absolute certainty. You know that, in the  $i$ -th game, Team A will score  $A_i$  points and Team B will score  $B_i$  points ( $0 \leq A_i, B_i \leq 10, A_i \neq B_i$ ). In fact, you have these values for all 7 potential games in the series, even though the 5th, 6th, and/or 7th games may not actually get played, in which case their scores should be ignored.



All that's left is to place your bets on the winning team. You can rake in even more cash if you bet on the exact final game counts. As such, given your predicted scores, determine the number of games won by each of the teams when the series ends.

### Input Format

The input consists of seven lines, the  $i$ -th of which consists of two space-separated integers,  $A_i$  and  $B_i$  (for  $i = 1..7$ ).

### Output Format

Output two space-separated integers, the number of games won by Teams A and B respectively when the series ends.

### Sample Input

```
5 3
4 1
1 5
1 4
0 6
0 2
3 1
```

### Sample Output

```
2 4
```

### Sample Explanation

After the 6th game, Team A has won 2 games (games 1 and 2), while Team B has won the remaining 4 (games 3, 4, 5, and 6). Because Team B has just reached a total of 4 games won, the series ends. Note that the potential scores for game 7 are included in the input, but aren't considered because that game doesn't end up getting played.

## Problem J4: Canuck Detection

32 Points / Time Limit: 2.00s / Memory Limit: 16M

Submit online: <http://wcipeg.com/problem/wc171j4>

Nice, you've just landed your first software engineering internship at a popular blog site! Your first task is to collect data about which countries all of the site's bloggers live in, for further analysis.

Now, you don't exactly have the most experience with such things, but it's important that you get it done somehow. Asking for help would make you look weak! As a first step, it shouldn't be too hard to figure out whether or not a given user is Canadian, right?



You've already gotten a script together to load the text from a single blog post and strip it down into a more convenient format – a non-empty string  $S$  consisting of at most 50,000 lowercase letters.

Unfortunately, from there, your algorithm is questionable at best. You know that a characteristic of words written by Canadians is that they sometimes end in "our" rather an "or". However, due to faulty programming, your script will decide that the blogger is Canadian if their text contains at least one instance of the *subsequence* "our".

A string subsequence is an ordered but possibly non-consecutive set of characters in it. For example, the string "abac" contains subsequences "ab", "ac", "bc", and "abc", among others. However, it does not contain the subsequence "ca", as an "a" never appears anywhere after a "c".

Things aren't looking great for your internship, but might as well at least test out your approach. Given a string  $S$ , output "Y" if your script would determine that the blogger is Canadian, or "N" otherwise.

### Subtasks

In test cases worth 26/32 of the points,  $S$  contains at most 50 letters.

### Input Format

The first and only line of input consists of a single string,  $S$ .

### Output Format

Output a single character, either "Y" if the blogger is identified as a Canadian, or "N" otherwise

### Sample Input 1

```
colorusedtobemyfavoriteword
```

### Sample Output 1

```
Y
```

**Sample Input 2**

torontousedtobemytowneh

**Sample Output 2**

N

**Sample Explanation**

In the first case, though the blogger doesn't seem very Canadian, the subsequence "our" is present at least once in S. One instance of it is indicated below:

```
col[o]r[u]sedtobemyfavoritewo[r]d
```

In the second case, though the blogger is clearly Canadian and S does contain the subsequence "rou", it does not contain the subsequence "our".