Longest Palindrome

Problem Code	hw01a_palin
Running Time Limit	1 sec
Memory Limit	16 mb

Objective

- Be able to read/write string.
- Be able to iterate over element in string.

Introduction

A string x is called a palindrome when reading that string backward is the same as reading it normally. For example, RADAR is a palindrome since it can be read as RADAR both ways.

In this problem, several strings are given and we have to identify the longest string that is a palindrome. If there is no palindrome in given strings, the program should display the text "NONE".

Task

Find longest palindrome from the given strings.

Input

The first line contains the number of strings $(1 \leq N \leq 1,000)$. This is followed by N lines; each contains a non-empty string that is not longer than 999 characters. Each string will not contain whitespace.

Output

The output must have exactly single line. That line must contain the longest palindrome from the given strings or the word "--NONE--" if there is no palindrom in the given strings. If there are multiple largest palindromes, display the latest one.

Example

Ex1

Input	Output
5 JACK POP THEWORLD PRICELESS RACECAR	RACECAR

Ex2

Input	Output
3 abba theworld deed	deed

Ex3

Input	Output
4 BOY CAT HORSE 1234	--NONE--

Supplymental Tutorial

Reading String

Reading a string in C and C++ can be done easily. First, a string is defined by an array of `char`. For example, a string named `st` of size not more than 99 can be declared as

```
char st[100];
```

To let a user input a string into the variable `st`, we use a format string `"%s"` in `scanf()` as follows.

```
Scanf("%s", &st);
```

Each character in the string can be accessed as a `char` variable normally since `st` is, in fact, an array of `char`. For example, if we input `"algorithm"` in `st`. `st[0]` would be `'a'` and `st[4]` would be `'r'`. To get the length of the string, we can use function `strlen()` available in `<string.h>`. To display a string, a format `"%s"` is used in `printf()` function.

The following code asks a name from the user and displays the name and its length.

```
#include <stdio.h>
#include <string.h>

int main ()
{
  char st[256];
  printf ("Enter your name: ");
  scanf("%s ",&st);
  printf("Your name is %s\n",st);
  printf ("Your name is %d characters long.\n",strlen(st));
  return 0;
}
```

Be noted that there is a string class in C++, however, its usage is not covered here.