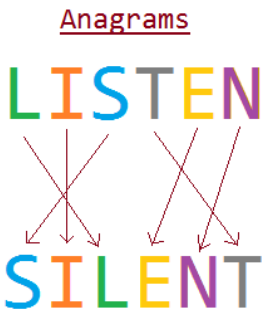
# Problem 28: Anagram Checker




**Difficulty:** Easy

**Originally Published:** Code Quest 2016

## Problem Background

An anagram is a type of word play, the result of rearranging the letters of a word or phrase to produce a new word or phrase using all of the original letters exactly once. For example, the word STOP can be rearranged into the words TOPS and POTS. An individual who creates anagrams is called an "anagrammatist."

## Problem Description

You have been hired by Anagrammy to create an anagram checker program that they can use to determine whether words submitted by their users are anagrams or not, for the purposes of determining a monthly contest winner. Anagrammy only wants to check word anagrams in their anagram checker, and not deal with phrases, for their first release. Anagrammy needs your help in order to officially release their website. Keep in mind that in order to really be considered an anagram, the two words have to be different!

## Sample Input

The first line of your program's input, received from the standard input channel, will contain a positive integer representing the number of test cases. Each test case will include a single line containing two words separated by a pipe character (|). Words will contain uppercase letters only.

```
11
STOP|POTS
ADMIRER|MARRIED
CAT|DOG
CREATIVE|REACTIVE
LISTEN|SILENT
ANGERED|ENRAGED
ELVIS|LIVES
RUN|FLY
DEDUCTIONS|DISCOUNTED
PATERNAL|PARENTAL
MIKE|MIKE
```

## Sample Output

For each test case, your program should identify if the words are anagrams or not. If they are, your program should print the words as they were read from the input, followed by " = ANAGRAM".

Otherwise, your program should print the words as they were read from the input, followed by " = NOT AN ANAGRAM".

```
STOP|POTS = ANAGRAM
ADMIRER|MARRIED = ANAGRAM
CAT|DOG = NOT AN ANAGRAM
CREATIVE|REACTIVE = ANAGRAM
LISTEN|SILENT = ANAGRAM
ANGERED|ENRAGED = ANAGRAM
ELVIS|LIVES = ANAGRAM
RUN|FLY = NOT AN ANAGRAM
DEDUCTIONS|DISCOUNTED = ANAGRAM
PATERNAL|PARENTAL = ANAGRAM
MIKE|MIKE = NOT AN ANAGRAM
```