Computer Science II — CSci 1200
Homework 1
Due: September 9, 2004

This homework contains a relatively short, multi-part programming problem worth 50 points. The solution is due by 11:59:59pm on Thursday, September 9th. See the handout on homework and programming guidelines for style, submission instructions, and grading criteria. In particular, all of your code must be in a single source file.

Instructions

Write a program that reads in a first name and a last name on a single line of input and then:

- (**15 points**) Outputs the names with every 3rd character of each name string interchanged, starting with the 0-th character;
- (**15 points**) Outputs a framed right-justified greeting, as shown below;
- (**20 points**) Outputs the greeting in the shape of a V, with the 'H' of Hello in the upper left corner, and the last letter of the last name in the upper right corner. There should be a space between the '!' and the first letter of the first name and a space between the last letter of the first name and the first letter of the last name.

Examples

Here are two examples of the way the program should behave. Your program's output should **exactly** the same (to make grading substantially easier):
Example 1:

```
Please enter your first and last name:  Jay Smith

Exchanging every 3rd letter your first and last names become
Say Jmith

**********
*        *
* Hello! *
```

```
*    Jay *
*  Smith *
*        *
**********

H            h
 e          t
  l        i
   l      m
    o    S
     !
        y
      Ja
```

Example 2:

```
Please enter your first and last name:  Donald Knuth

Exchanging every 3rd letter your name becomes
Kontld Dnuah

***********
*        *
* Hello! *
* Donald *
*  Knuth *
*        *
**********

H                 h
 e               t
  l             u
   l           n
    o         K
     !
            d
       D   l
        o a
         n
```

Comments and Hints

- Make sure you have each part working before you proceed to the next part. Be sure to keep copies of code that works so that you can earn full-credit for each part that works.
- Part 3 is a bit harder than the other two parts, but least one very simple idea that will make it easier. Neither the instructor nor the TA's will tell you what this idea is. That is for you to think about.
- In part 3, note that when the number of letters in the output string is even there are two letters printed on the bottom line (the 'J' and 'a' in the first example) and when the number of letters is odd there will be only one letter on the bottom line (the 'n' in the second example.