

LAB #20

StringBuffer ARRAYS

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This lab should be completed during the scheduled lab sessions. In order to complete this lab you must demonstrate programs to your lab TA. The technical knowledge on how to accomplish these tasks is found in the assigned reading or the lecture notes, but the lab TA will help as well.

1. Write a program that encodes English into Pig Latin (RITEWAY A ROGRAMPAY HATTAY NCODOSEAY NGLISTHEAY NTOIAY IGPAY ATINLAY).

BACKGROUND:

Pig Latin (IGPAY ATINLAY) is a form of coded language often used for amusement. Many variations exist in the methods used to form Pig Latin phrases. We will consider a simplified approach.

To form a pig Latin phrase from an English language phrase you need to break up the phrase into the individual tokens. To translate each English word into a pig Latin word, place the first letter of the English word at the end of the word and add the letters "ay". Thus the word "jump" becomes "umpjay", the word "the" becomes "hetay", the word "computer" becomes "omputercay". Single letter words just get the suffix: "I" becomes "Iay", "a" becomes "aay". Blanks remain as blanks. With a very small amount of practice, you can do this in your head and carry on secret conversations with your computer science friends in public places that those from other majors will only be able to gape at.

1. Begin by thinking about the design, the program must be flexible, so it makes sense to have a "pig Latin converter class" that can be used in the context of several methods of delivery.
2. The converter class must have methods to convert words from English to pig latin, from pig Latin to English. It should also have methods that work on whole phrases. The converter methods should take

Strings in and return String.

3. Write a method that converts a single word from English to Pig Latin. There are lots of ways to do this, but the StringBuffer class, described in your book seems very useful. Your method might build a StringBuffer out of the String, perform the manipulations and convert back to a String for return.
4. Same as previous step, but go the other way : Pig Latin to English. If the word is not a legal pig Latin word, then return it unchanged.
5. Your program must run directly from the command line. When your program is invoked from the command line, then it should just convert the remaining tokens on the command line and print them to standard output.

So, if you invoke your program with

```
java myPigLatinConverter covert these words to pig latin
```

Your program should respond with

```
overtcay hesetay ordsway otay igpay atinlay
```

```
to Standard.out
```

6. Cut and paste your source code and screen shots of running code into your lab document and hand it in. Be sure to demo your running code to your TA so that the TA has a record of "checking you off" as having done this lab.

NOTE: Electronic hand in should be working at this point. Submit your lab work through the homework drop box in WebCT. However, if you encounter any problems, revert to paper based hand in.