

Homework 6

Due: 27 Feb 2024

Input/output examples for some of these tasks are on the back of this page.

Problem 6.1 — practical

Write the following two short Perl programs using regular expressions to process their input and then print it back out:

- a. Write a script whose output is identical to its input (file or standard input) except that on lines that start with tabs, the tabs are replaced with the corresponding number of spaces (eight per tab).
- b. In HTML, some people prefer uppercase tag names and others prefer lowercase. (Start tags are surrounded by angle brackets, and end tags are surrounded by angle brackets and preceded by a slash.) Write a script whose output is identical to its input (file or stdin) except that tag names are lowercased.

Problem 6.2 — practical

My outgoing personal emails always have a random quote at the bottom, which I generate with a script reading from a file. For this problem, write a script to perform a slightly simplified version of this task. The input to the script is a file of quotations. Its format is primarily lines of text separated by blank lines—quotations can be several lines long but will never contain a blank line within them. Other than the text itself and the blank lines that separate quotes, the only thing in the file are “comments”—if the first character on the line is a pound sign (`#`), the whole line is ignored.

Your script will read input in this format, select one quote from it at random, and print out that quote (not including any associated comment lines).

(To generate the random numbers, you’ll want the `rand` function. You can look it up on with `perldoc -f`.)

EXAMPLES

For the main part of 6.1b, given a line like

```
<P>And I can be <EM>emphatic</EM> about many things (<STRONG>really
```

it would output

```
<p>And I can be <em>emphatic</em> about many things (<strong>really
```

For problem 6.2, here is some example input data:

```
"Maintenance, cleanup on aisle three please. We have a can of worms  
opened on aisle three." --Eva Schillace
```

```
#Rob gets his bluetooth phone and...
```

```
"Why are you so defensive about this? I *like* that you have neat cool  
impractical things." --Angela Feraco
```

```
"I think sometimes we focus a little too much attention on whiz-bang  
medical technology (like stents) while losing the broader picture that,  
basically, the only things we have found to save people from the #1  
#note: this line is a comment, but the previous line isn't!  
killer is what you learned in second-grade nutrition lessons."  
--Keith Winstein
```

```
"Not only does the English Language borrow words from other languages,  
it sometimes chases them down dark alleys, hits them over the head, and  
goes through their pockets." --Eddy Peters
```

Collaboration policy: collaborative. You each have to hand in your own version of the assignment, but you can talk to other people about the problems. Mention in a comment or readme who you worked with. (Still no copying, though.)