

## Exercises for chapter: L<sup>A</sup>T<sub>E</sub>X

1. Discuss the difference between a macro and a function or procedure in a normal programming language. In a procedural language, looping is implemented with `goto` instructions. How would you do that in a macro language? Is there a difference in efficiency?
2. You read in a document ‘This happens only in 90rest of the time it works fine.’ What happened here? There are articles in print where the word ‘From’ has an upside down question mark in front of it. Try to think of an explanation.
3. Set up a document that will have the answers to your homework exercises of the whole course.
4. Why does the `\verb` command not have its argument in braces?
5. A document with references usually takes two passes to get right. Explain why a table of contents can increase this number to three.
6. Take a look at the headers and footers in Oetiker’s ‘Not so short introduction’ and ‘T<sub>E</sub>X by Topic’ (the L<sup>A</sup>T<sub>E</sub>X and T<sub>E</sub>X part of the handout). Can you find a reason to prefer one over the other from a point of usability? In both books, what is the rationale behind the header on the odd pages? See in particular page 35 of the former and 77 of the latter. Do you agree with this design?
7. Why does this not work:  

```
\newenvironment{examplecode}%
  {\textbf{Example code.}\begin{verbatim}}{\end{verbatim}}
```
8. Write macros for homework typesetting; make one master document that will contain all your homework throughout this course.
  - (a) Define an environment `exercise` so that
 

```
\begin{exercise}
My answer is...
\end{exercise}
```

 gives
 

**Problem 5.** My answer is...

 The counter should be incremented automatically. List your solution in your answer, and find a way that the listing is guaranteed to be the code you actually use.
  - (b) Write a macro `\Homework` that will go to a new page, and output
 

**Answers to the exercises for chapter 3**

 at the top of the page. The `exercise` environment should now take the question as argument:
 

```
\begin{exercise}{Here you paraphrase the question that was asked}
My answer is...
\end{exercise}
```

and this outputs

**Problem 3.0** *Here you paraphrase the question  
that was asked*

My answer is...

(Hint: read the section on text boxes. Also be sure to use `\par` to get  $\LaTeX$  to go to a new line.) Allow for the question to be more than one line long. Unfortunately you can not get verbatim text in the question. Find a way around that.