

Grzegorz Murzynowski

Hacking verbatim

How do you get *italics* inside a verbatim? By a ‘verbatim’ I mean a LaTeX’s environment that changes the catcodes of special chars and thus allows typesetting them verbatim (the tricks below apply to TeX in general, though). LaTeX’s `\begin{verbatim}` expands mostly to `\begingroup\csname verbatim\endcsname` and `\verbatim` acts mostly like DEK’s `\ttverbatim`, `\end{verbatim}` is needed to delimit `\verbatim`’s argument.

Let’s remind that the chars of codes 1–32 (except the line end etc.) are catcoded as ‘invalid’ in LaTeX. Therefore I dare to assume there are not used neither present in decent (La)TeX files. The verbatim environments do not recatcode them, so I can use them for my wicked purpose:

```
\catcode'\^^E\active
\catcode'\^^F\active
\def^^E{\bgroup\it}
\let^^F\egroup
\begin{verbatim*}
How do you get <char5>italics<char6> inside a-verbatim?
\end{verbatim*}
```

Gives

```
How do you get italics inside a-verbatim?
```

Note that we should use explicit `<char5>` and `<char6>` since verbatims recatcode `^` to category ‘other’ so `^^E` would produce just `^^E`.

Now, how to input selected lines of a file verbatim?

```
\long\def\firstofone#1{#1}
\catcode'\@=11
\newread\my@file
\openin\my@file=bachotex2007-grzegorz-murzynowski-pearl1.tex
\def\my@reading#1 #2{%
  \loop\ifnum\count\z@<#1%
    \advance\count\z@\@ne\read\my@file to\@tempa
    \ifx.#2\@tempa\endgraf\fi\repeat}%
\firstofone{%
  \begin{verbatim}%
  \count\z@\z@
  \my@reading1 -%
  \my@reading2 .%
  \my@reading22 -%
  \my@reading26 .%
}\end{verbatim}
```

The given code results in the following:

```
%%% Hacking verbatim (LaTeX)

\author{Natror (Grzegorz Murzynowski)}
\title{Is there a-pearl?}
\address{Sulej\`owek\Poland}
```

What is the most fundamental trick? The `\firstofone` macro (I learnt it from my TeX Guru who didn’t invent it either). Apparently it doesn’t do anything: it has one parameter and expands exactly to it. But there is one very important thing it does: it ‘freezes’ the catcodes in the argument. Therefore all the commands and their arguments cannot be recatcoded by `\verbatim` and they are expanded and executed.