# Examples of Code Listings in LATEX

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June 23, 2013

#### Abstract

This is a short file to test the various features and shortcuts built in our preamble file. The purpose is to provide T<sub>E</sub>X files with their output in a PDF. Users may then easily read, learn, or simply copy from the T<sub>E</sub>X files to jumstart their projects.

Note that all code is licensed under the Simplified BSD License, a copy of which is included with the project code, found on github.

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### 1 Code Listing

#### 1.1 **verbatim** Environment

Here is an example that uses LATEX's verbatim environment.

```
from django.db import models

class Poll(models.Model):
    question = models.CharField(max_length=200)
    pub_date = models.DateTimeField('date published')

class Choice(models.Model):
    poll = models.ForeignKey(Poll)
```

```
choice_text = models.CharField(max_length=200)
votes = models.IntegerField(default=0)
```

Note that the quotes used are standard programming quotes, as opposed to LaTeX's backtick-quote combination. This is possible because of the upquote package, included in the preamble of the document.

LATEX further supplies the \verb command, allowing for inline verbatim formatting.

On a related note, note that the \verb command can only be used in captions if the entire command is preceded by the \cprotect command, included in the cprotect package, which you can read more about on the documentation provided by CTAN. An example is demonstrated in the caption of listing 1.1 on page 3.

Finally, text in chapter titles (or section, subsection, etc) are formatted with \texttt in this document, as the use of \verb in these areas appears to conflict with the hyperref package. We could use \texttt in captions as well, but that would defeat our purpose of demonstrating all the tools.

#### 1.2 listings Package

The following uses the listings package to create an environment.

Listing 1: models.py from Django Tutorial

```
1
   from django.db import models
2
3
  class Poll(models.Model):
4
       question = models.CharField(max_length=200)
5
       pub_date = models.DateTimeField('date published')
6
7
   class Choice (models.Model):
       poll = models.ForeignKey(Poll)
8
9
       choice_text = models.CharField(max_length=200)
10
       votes = models.IntegerField(default=0)
```

On top of an environment, the listings package also provides a way to format inline text using \lstinline{}, replacing the verb command. Note that the settings for \lstinline{} must be set in the options of \lstset{} in the preamble. For more on the listings package, please see the wikibook on the subject, or else the documentation provided by CTAN. Note that while not discussed here, it is possible to create a list of listings (a table of contents of all the listings).

#### 1.3 Minted Package

The last environment I'll demonstrate is the minted package. It takes code in the environment, and runs it through Python's pygments library. The resulting colored LATEX syntax is placed in a verbatim environment.

```
from django.db import models

class Poll(models.Model):
    question = models.CharField(max_length=200)
    pub_date = models.DateTimeField('date published')

class Choice(models.Model):
    poll = models.ForeignKey(Poll)
    choice_text = models.CharField(max_length=200)
    votes = models.IntegerField(default=0)
```

While minted does not provide an inline formatting command, it does provide a shortcut command mint for short code snippets.

```
fib = lambda n: n if n < 2 else fib(n-1) + fib(n-2)
```

The minted environment also provides the ability to be inserted into listings, with labels and captions.

```
from django.db import models

class Poll(models.Model):
    question = models.CharField(max_length=200)
    pub_date = models.DateTimeField('date published')

class Choice(models.Model):
    poll = models.ForeignKey(Poll)
    choice_text = models.CharField(max_length=200)
    votes = models.IntegerField(default=0)
```

### List of listings

1	models.py from Django Tutorial	 2
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Listing 1.1: models.py from Django Tutorial

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