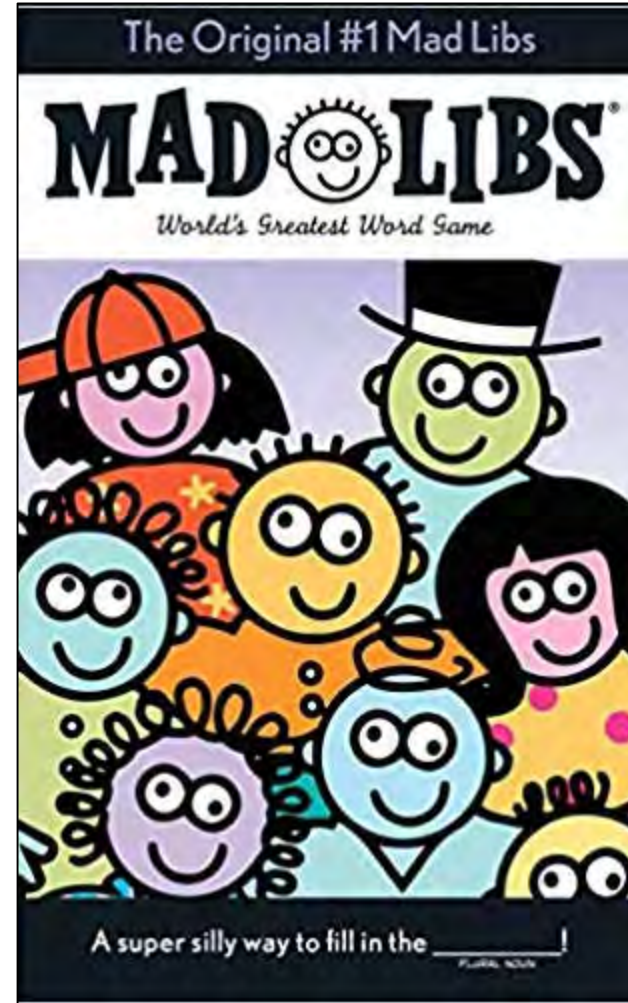# Becoming a Jinja Ninja
or making better GIS reports with Python

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Mad Libs: An Introduction

▶ It's a _____ day to have a _____
         adjective   adjective

  presentation about _____ !
                           noun

▶ If you understand Mad Libs, you already understand the basic mechanics behind Jinja

The Original #1 Mad Libs
MAD LIBS
World's Greatest Word Game
A super silly way to fill in the _____!

What is Jinja?

▶ Jinja2 = Python package

▶ A small programming language for inserting data into plain-text templates

▶ Often called a template language, or a "template engine"

A Simple Example

A Simple Example

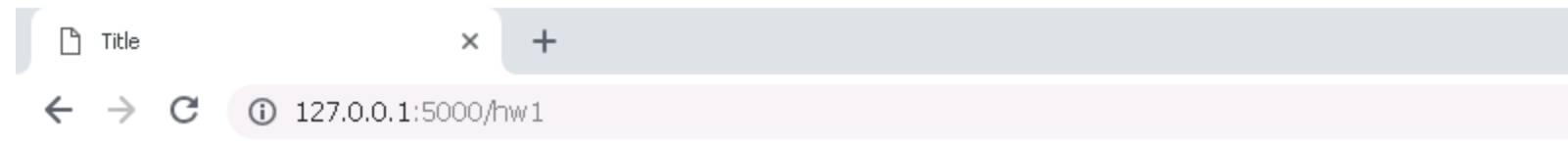# A Simple Example

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Title</title>
</head>
<body>
    Hello, {{ form.name }}.
</body>
</html>
```

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Title</title>
</head>
<body>
    Hello, Hilary.
</body>
</html>
```

A More Complicated Example

A More Complicated Example

```
context = {
    'Table_title': 'Cat Table!',
    'Cats': {
        'Margay':           {'Prey': 'Sloths',
                             'Weight': 7.9},
        'Pallas Cat':       {'Prey': 'Pikas',
                             'Weight': 6.7},
        'Sand Cat':         {'Prey': 'Venomous snakes',
                             'Weight': 6.1}
    }
}
```

A More Complicated Example

{% for species, description in Cats.items() %} {% endfor %}
{{Table_title}}

Species of Wild Cat	Average Weight (lb)	Random Prey Item
{{species}}	{{description.Weight}}	{{description.Prey}}

Cat Table!

Species of Wild Cat	Average Weight (lb)	Random Prey Item
Margay	7.9	Sloths
Sand Cat	6.1	Venomous snakes
Pallas Cat	6.7	Pikas

Bringing it All Together

- New workflow:
  - Python for geoprocessing
  - HTML & CSS for making attractive tables
  - Jinja for tying the two together
- Benefits
  - Separation of programming logic and presentation (easier maintenance)
  - Harness the full power of CSS for styling
  - HTML is easy to convert to PDF

Appendix I

{{Table_title}}

Species of Wild Cat	Average Weight (lb)	Random Prey Item
{%tr for species, description in Cats.items()%}		
{{species}}	{{description.Weight}}	{{description.Prey}}
{%tr endfor %}		

Cat Table!

Species of Wild Cat	Average Weight (lb)	Random Prey Item
Margay	7.9	Sloths
Sand Cat	6.1	Venomous vipers
Pallas Cat	6.7	Pikas

Appendix II: Resources

- https://blog.miguelgrinberg.com/post/the-flask-mega-tutorial-part-ii-templates

- https://realpython.com/primer-on-jinja-templating/

- http://zetcode.com/python/jinja/