Python Object-Oriented Program with Libraries

Unit 6: Flask Web App Development

CHAPTER 2: TEMPLATES

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Objectives

- Build a web-site with template
- Build a multiple-page web-site with templates
- Build a multiple-page web-site with base-extended templates

First App with Template

LECTURE 1

Render Template

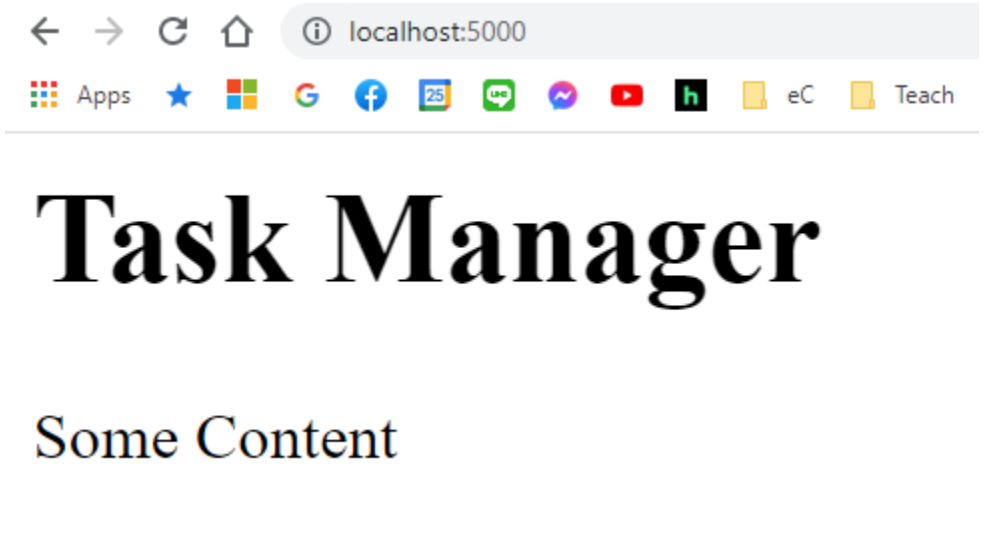
Demo Program: Site2/app4.py

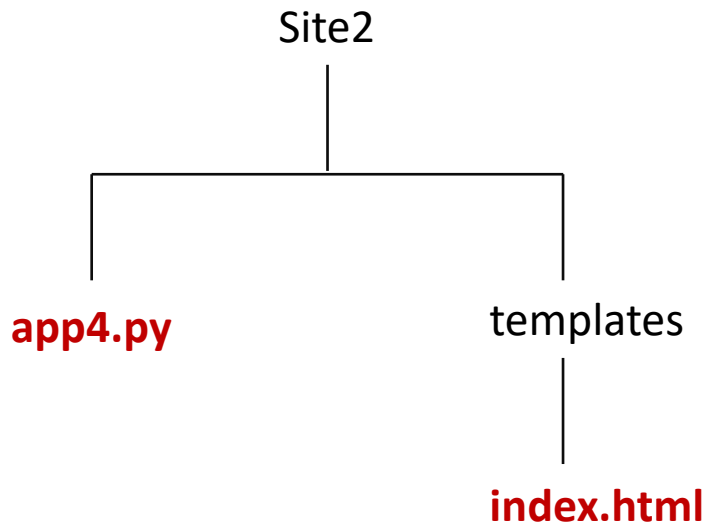
Site2/app4.py

```
from flask import Flask, render_template
app = Flask(__name__)    # create Flask as app

@app.route('/')
@app.route('/index')
def index():
    return render_template('index.html')

if __name__ == "__main__":
    app.run(debug=True)
```

Site2/templates/index.html

```
<html>
  <head>
    <title>Task Manager</title>
  </head>
  <body>
    <h1>Task Manager</h1>
    <p>Some Content</p>
  </body>
</html>
```





Render Template with Parameter

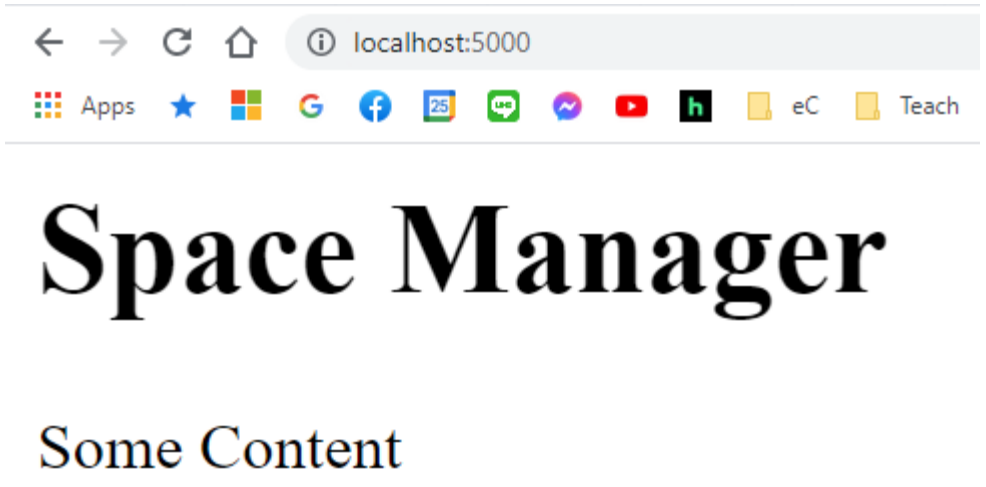
Demo Program: Site2/app5.py

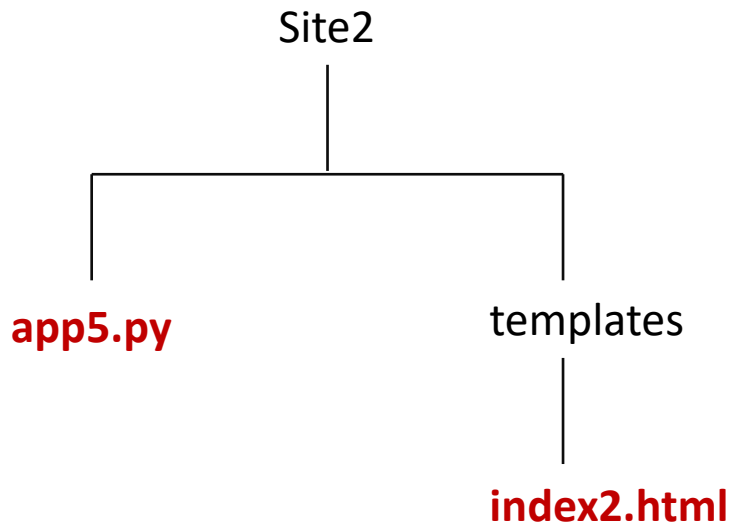
Site2/app5.py

```
from flask import Flask, render_template
app = Flask(__name__)    # create Flask as app

@app.route('/')
@app.route('/index')
def index():
    return render_template('index2.html', current_title = 'Space Manager')

if __name__ == "__main__":
    app.run(debug=True)
```

Site2/templates/index2.html

```
<html>
  <head>
    <title>Task Manager</title>
  </head>
  <body>
    <h1>{{ current_title }}</h1>
    <p>Some Content</p>
  </body>
</html>
```





Multiple Page Site

LECTURE 2

Multiple Page Site

- In this section, we are going to cover multiple page/multiple entry site.
- The multiple entry site can be achieved by giving more than 1 @app.route()
- The multiple page site can be achieved by giving more than 1 page with a same app program

Multiple Page Site

Demo Program: Site3/app6.py

Site3/app6.py

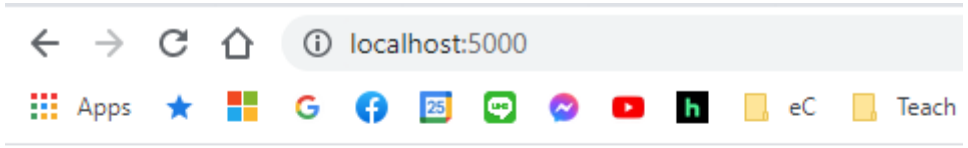
```
from flask import Flask, render_template
app = Flask(__name__)    # create Flask as app

@app.route('/')
@app.route('/index')
def index():
    return render_template('index.html', current_title = 'Page Manager')

@app.route('/about')
def about():
    return render_template('about.html')

if __name__ == "__main__":
    app.run(debug=True)
```

Site3/templates/index3.html

```
<html>
  <head>
    <title>Task Manager</title>
  </head>
  <body>
    <h1>{{ current_title }}</h1>
    <p>Some Content</p>
  </body>
</html>
```

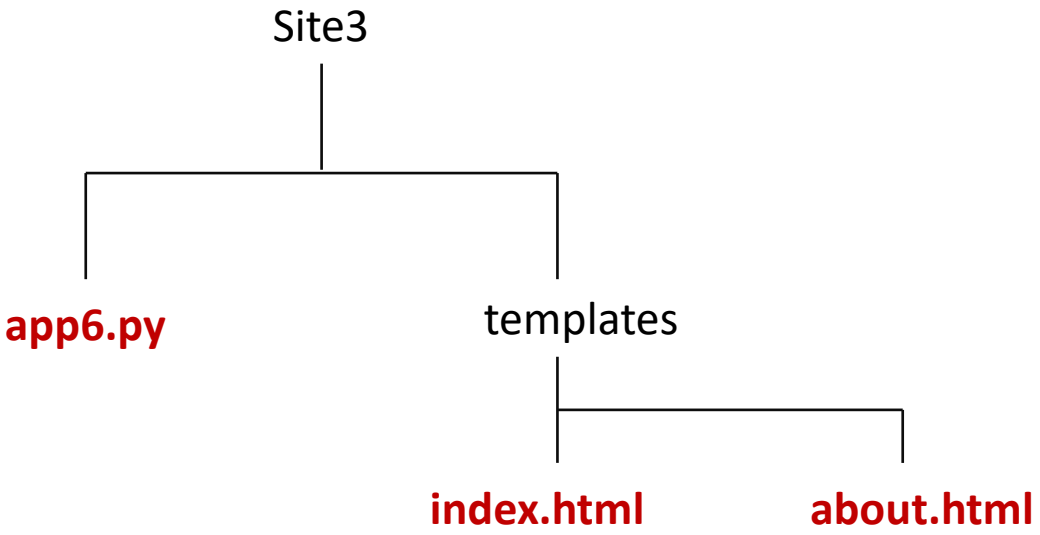
Site3/templates/about.html

```
<html>
    <head><title>About</title>
        <h1>About this web-site</h1>
        <h3>A multiple-page site</h3><hr></head>
    <body>
        <ul><li><a href="#">Home Page</a></li>
            <li><a href="#">About Page</a></li></ul>
        <p>Some Content on the Page</p></body>
</html>
```



Page Manager

Some Content



About this web-site

A multiple-page site

- Home Page
- About Page

Some Content on the Page

Base Extension

LECTURE 3

The purpose of using Base Page Extension

- Provide a base page so that the whole system can have uniform page style.
- Allow customization on each page so the pages can have its own features.
- Fast changing of design styles.

Before Using Base Extension

```
<head><title>Index</title>
  <h1>About this web-site</h1>
  <h3>A multiple-page site</h3>
  <hr>
</head>
<body>
  <ul>
    <li><a href="#">Home Page</a></li>
    <li><a href="#">About Page</a></li>
  </ul>
  <p>Some Content on the home Page</p>
</body>
```

```
<head><title>About</title>
        <h1>About this web-site</h1>
        <h3>A multiple-page site</h3>
        <hr>
</head>
<body>
    <ul>
      <li><a href="#">Home Page</a></li>
      <li><a href="#">About Page</a></li>
      </ul>
      <p>Some Content on the about Page</p>
</body>
```

Top Level

Demo Program app7.py

Site4/app7.py

```
from flask import Flask, render_template
app = Flask(__name__)    # create Flask as app

@app.route('/')
@app.route('/index')
def index():
    return render_template('index.html')

@app.route('/about')
def about():
    return render_template('about.html')

if __name__ == "__main__": # not much change
    app.run(debug=True)
```

Site4/template/base.html

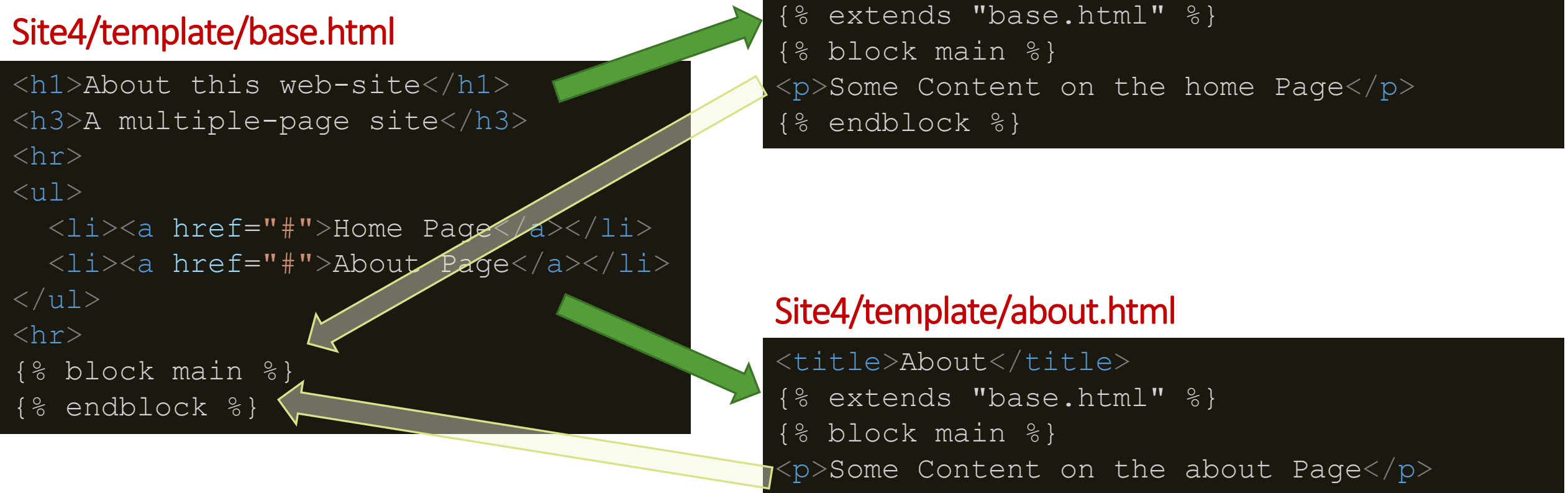
```
<h1>About this web-site</h1>
<h3>A multiple-page site</h3>
<hr>
<ul>
  <li><a href="#">Home Page</a></li>
  <li><a href="#">About Page</a></li>
</ul>
<hr>
{% block main %}
{% endblock %}
```

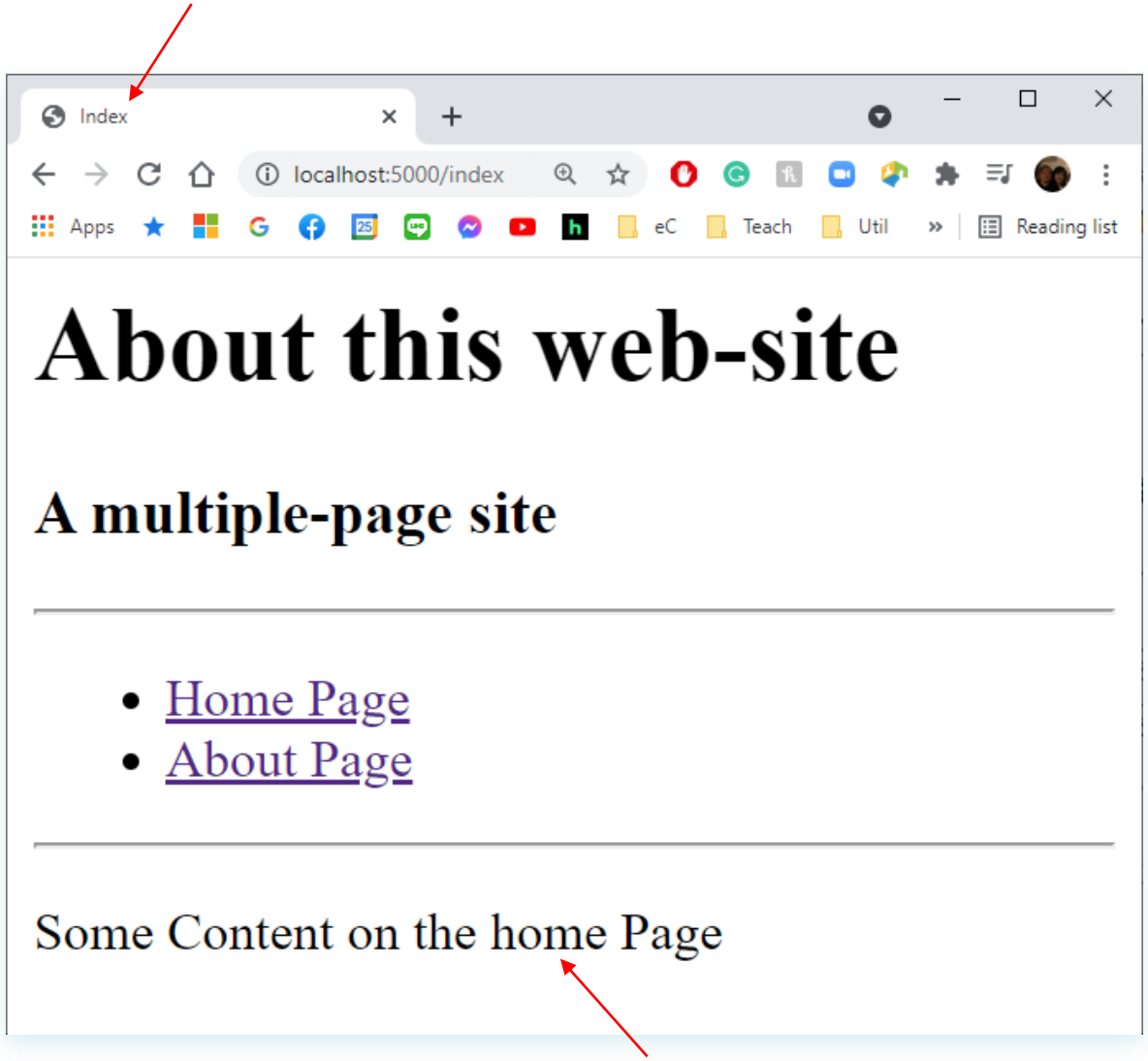
Site4/template/index.html

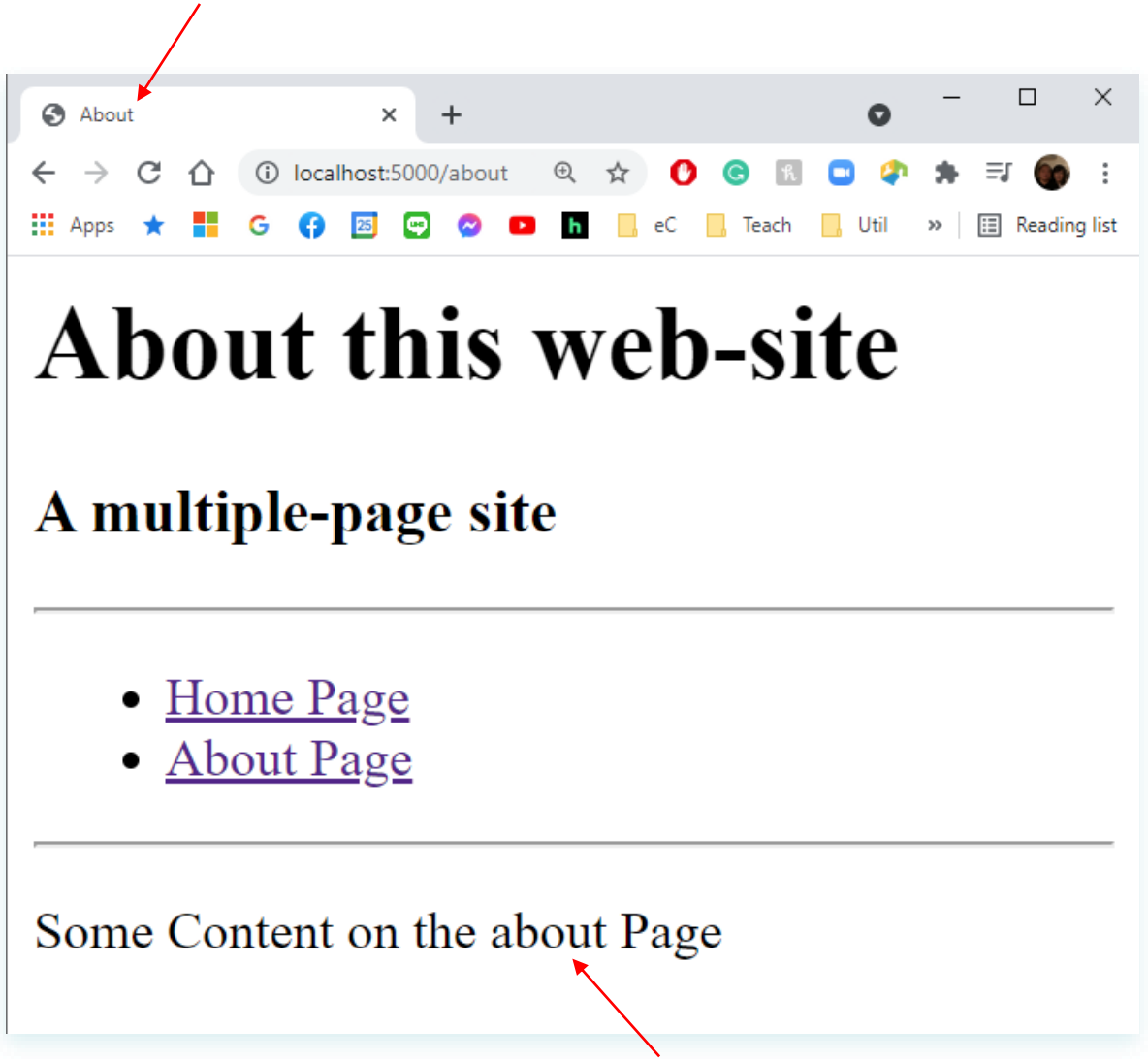
```
<title>Index</title>
{% extends "base.html" %}
{% block main %}
<p>Some Content on the home Page</p>
{% endblock %}
```

Site4/template/about.html

```
<title>About</title>
{% extends "base.html" %}
{% block main %}
<p>Some Content on the about Page</p>
{% endblock %}
```




Index
localhost:5000/index
Apps
eC
Teach
Util
Reading list
About this web-site
A multiple-page site
Home Page
About Page
Some Content on the home Page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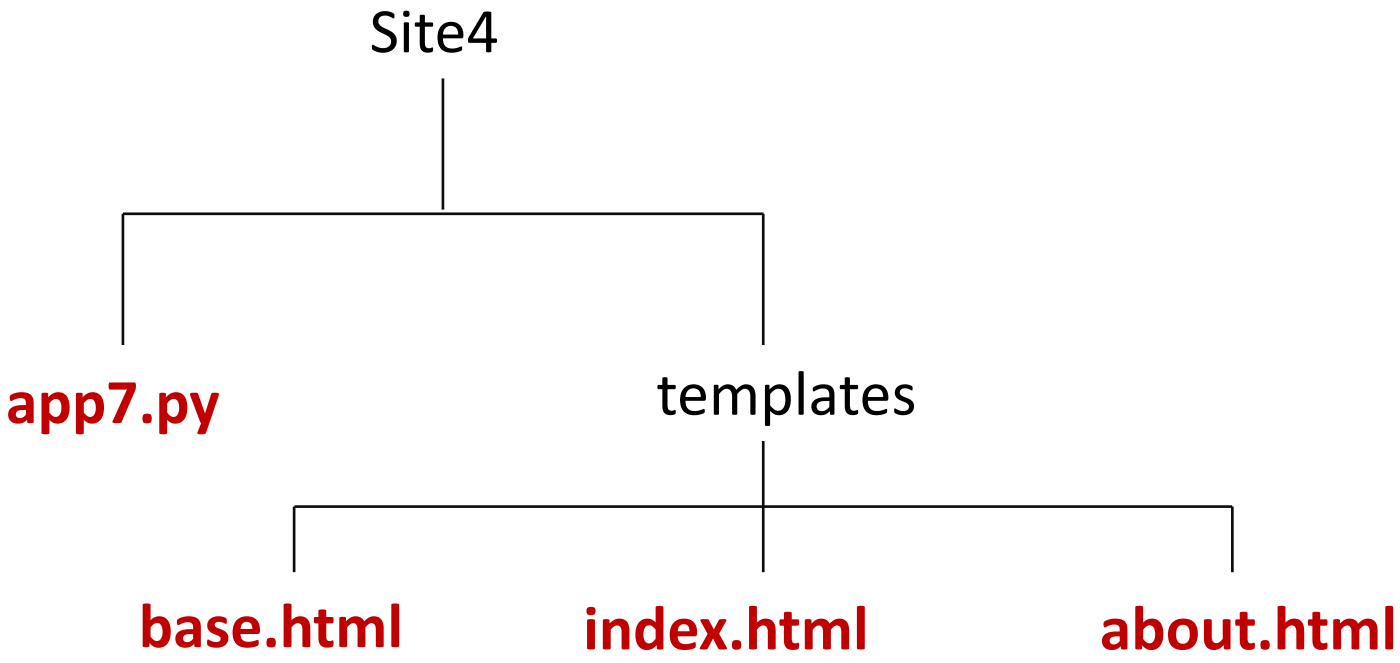
Site4
app7.py
templates
base.html
index.html
about.html