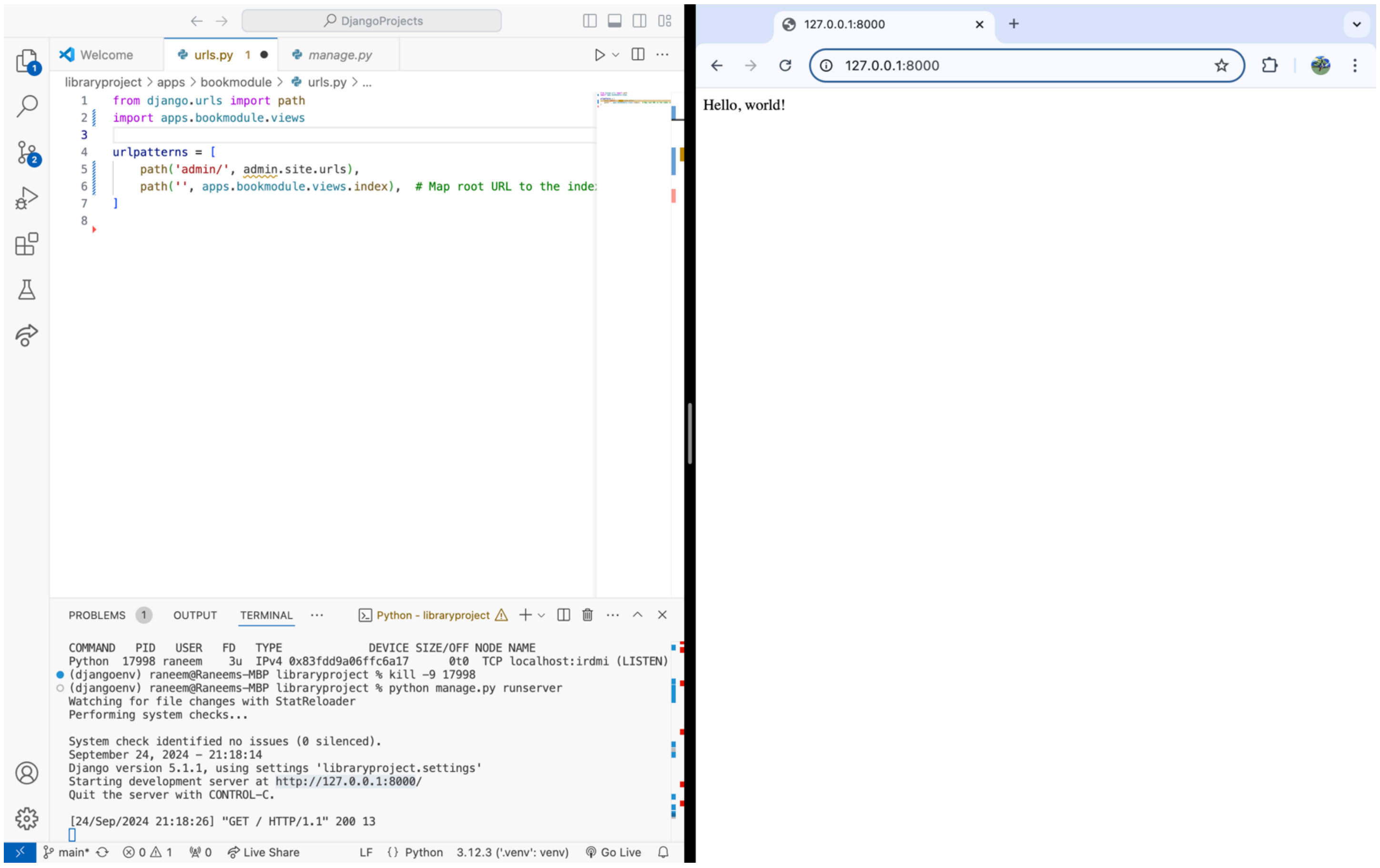
CS471 – Web Technologies (Laboratory)	Qassim University College of Computer | جامعة القصيم كلية الحاسب	Lab Week 4
		Django and MVT Architecture

Activities: Build and configure a simple link between a URL and a view (simple pattern), along with a simple HTML template.

Task 1: Build your first view function and corresponding URL mapping in the core/urls.py

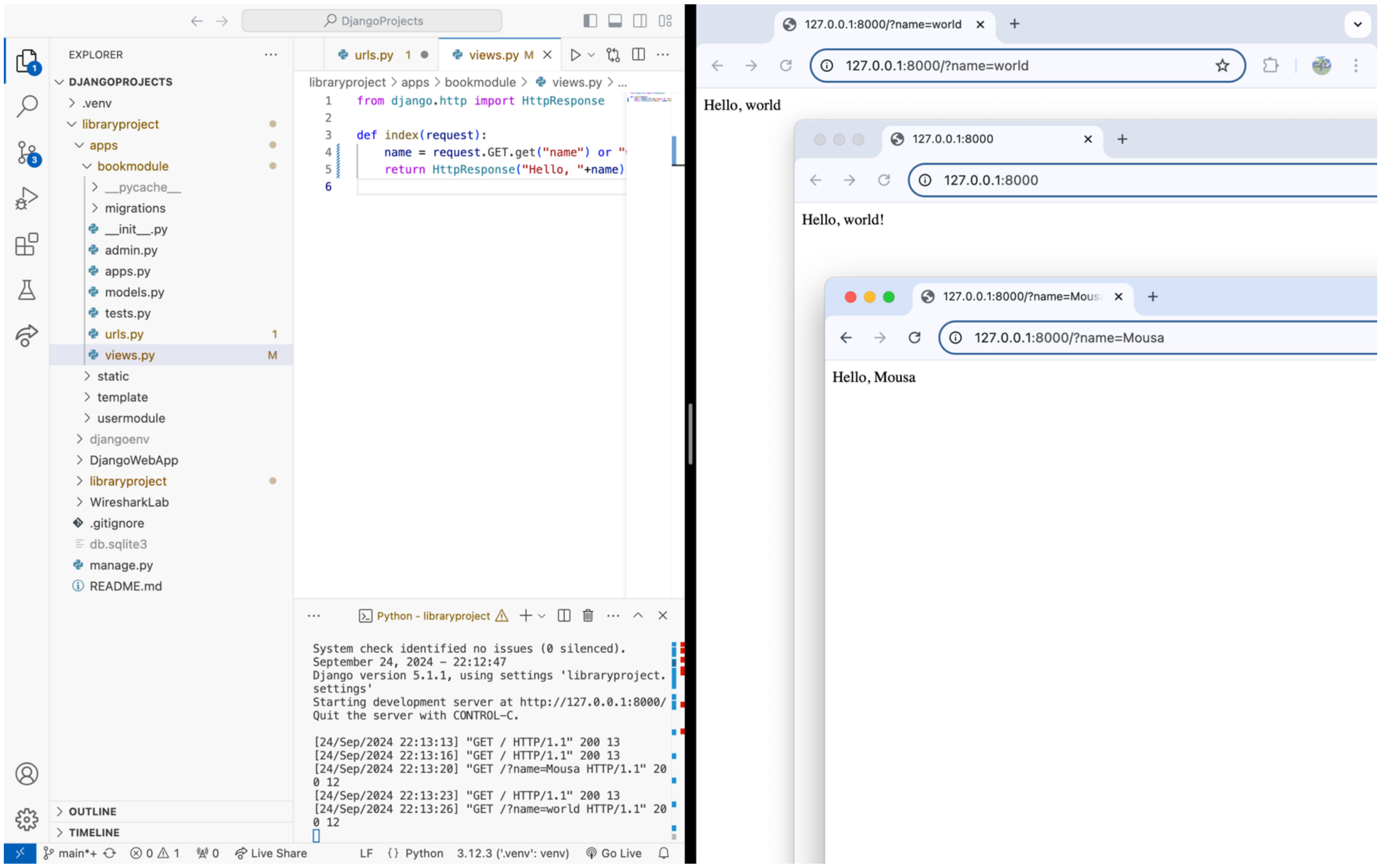


```python
from django.urls import path
import apps.bookmodule.views

urlpatterns = [
    path('admin/', admin.site.urls),
    path('', apps.bookmodule.views.index),  # Map root URL to the inde
]
```

```
COMMAND   PID   USER   FD   TYPE             DEVICE SIZE/OFF NODE NAME
Python  17998 raneem    3u  IPv4 0x83fdd9a06ffc6a17      0t0  TCP localhost:irdmi (LISTEN)
(djangoenv) raneem@Raneems-MBP libraryproject % kill -9 17998
(djangoenv) raneem@Raneems-MBP libraryproject % python manage.py runserver
Watching for file changes with StatReloader
Performing system checks...

System check identified no issues (0 silenced).
September 24, 2024 - 21:18:14
Django version 5.1.1, using settings 'libraryproject.settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CONTROL-C.

[24/Sep/2024 21:18:26] "GET / HTTP/1.1" 200 13
```

```
Hello, world!
```

Task 2: Add parameters with HTTP requests


urls.py 1
views.py M
libraryproject > apps > bookmodule > views.py > ...
EXPLORER
DJANGOPROJECTS
Python - libraryproject
main*+
Live Share
Go Live
127.0.0.1:8000/?name=world
127.0.0.1:8000
127.0.0.1:8000/?name=Mousa

```python
from django.http import HttpResponse

def index(request):
    name = request.GET.get("name") or "
    return HttpResponse("Hello, "+name)
```

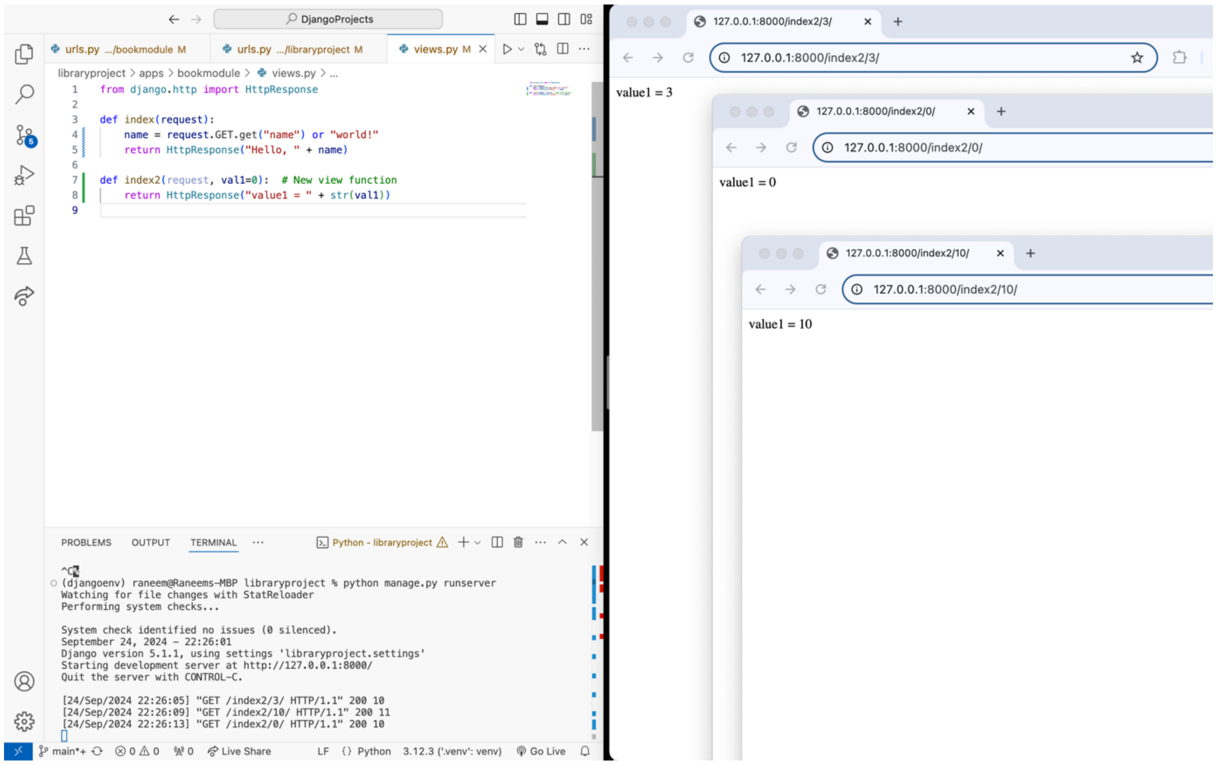
```
System check identified no issues (0 silenced).
September 24, 2024 - 22:12:47
Django version 5.1.1, using settings 'libraryproject.
settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CONTROL-C.

[24/Sep/2024 22:13:13] "GET / HTTP/1.1" 200 13
[24/Sep/2024 22:13:16] "GET / HTTP/1.1" 200 13
[24/Sep/2024 22:13:20] "GET /?name=Mousa HTTP/1.1" 20
0 12
[24/Sep/2024 22:13:23] "GET / HTTP/1.1" 200 13
[24/Sep/2024 22:13:26] "GET /?name=world HTTP/1.1" 20
0 12
```

Hello, world

Hello, world!

Hello, Mousa

Task 3: Build your second view function and corresponding URL mapping with parameters within URL



```python
from django.http import HttpResponse

def index(request):
    name = request.GET.get("name") or "world!"
    return HttpResponse("Hello, " + name)

def index2(request, val1=0):  # New view function
    return HttpResponse("value1 = " + str(val1))
```

```
^C
(djangoenv) raneem@Raneems-MBP libraryproject % python manage.py runserver
Watching for file changes with StatReloader
Performing system checks...

System check identified no issues (0 silenced).
September 24, 2024 - 22:26:01
Django version 5.1.1, using settings 'libraryproject.settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CONTROL-C.

[24/Sep/2024 22:26:05] "GET /index2/3/ HTTP/1.1" 200 10
[24/Sep/2024 22:26:09] "GET /index2/10/ HTTP/1.1" 200 11
[24/Sep/2024 22:26:13] "GET /index2/0/ HTTP/1.1" 200 10
```

value1 = 3

value1 = 0

value1 = 10

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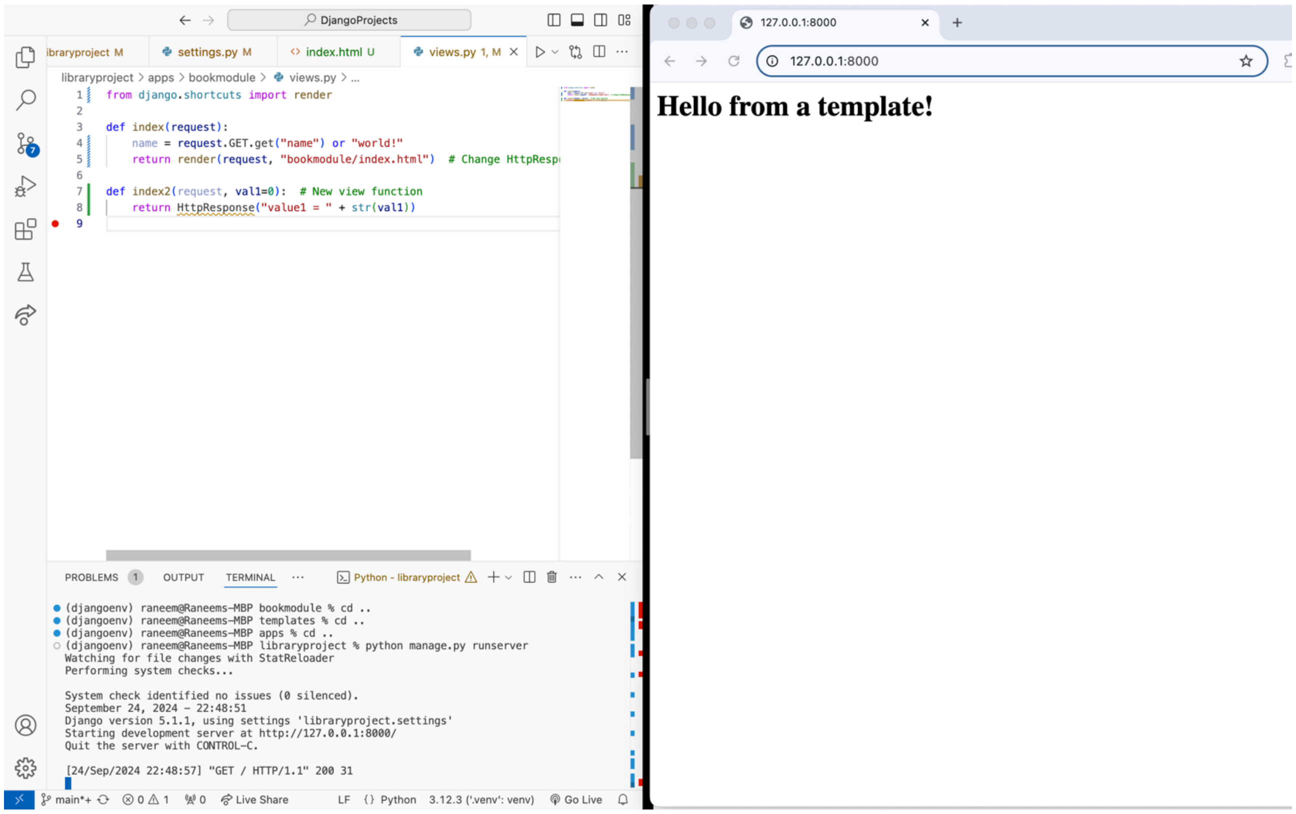
Task 4: Create a simple HTML template

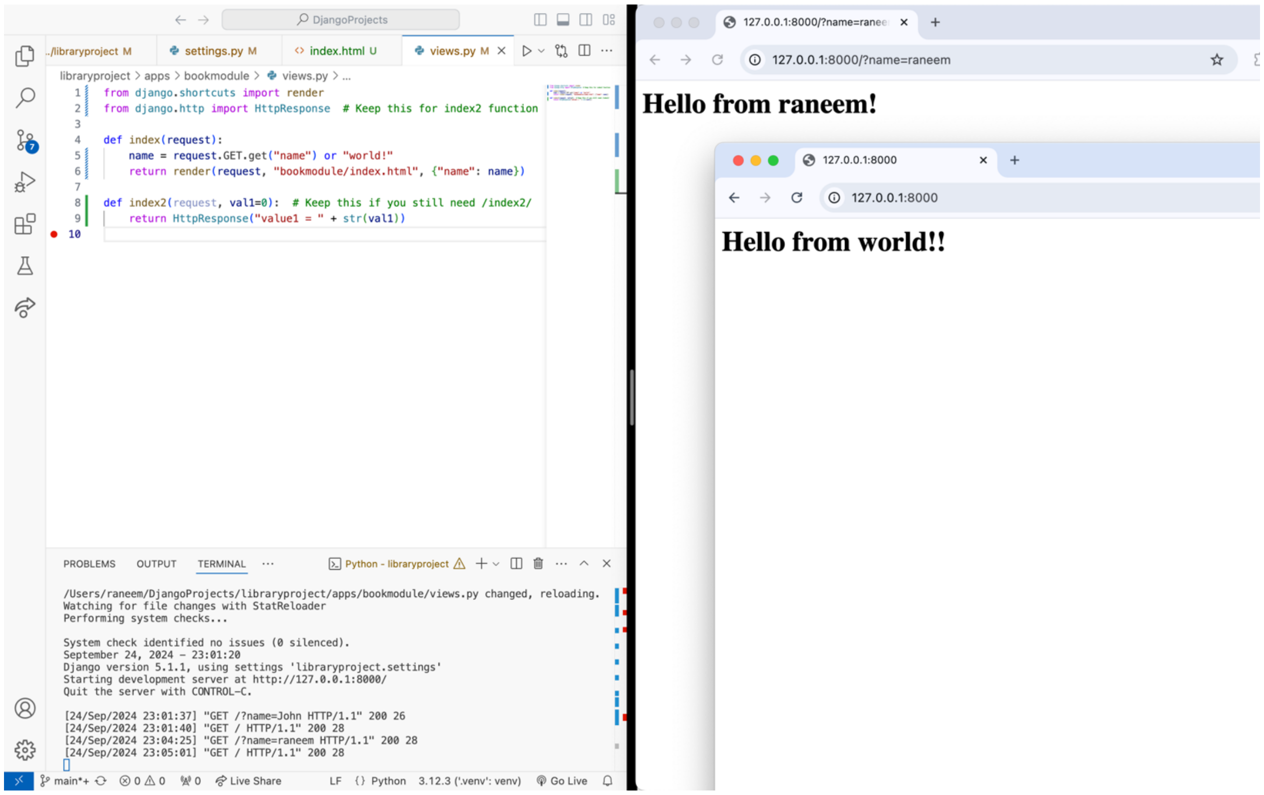


```python
from django.shortcuts import render

def index(request):
    name = request.GET.get("name") or "world!"
    return render(request, "bookmodule/index.html")  # Change HttpResp

def index2(request, val1=0):  # New view function
    return HttpResponse("value1 = " + str(val1))
```

```
(djangoenv) raneem@Raneems-MBP bookmodule % cd ..
(djangoenv) raneem@Raneems-MBP templates % cd ..
(djangoenv) raneem@Raneems-MBP apps % cd ..
(djangoenv) raneem@Raneems-MBP libraryproject % python manage.py runserver
Watching for file changes with StatReloader
Performing system checks...

System check identified no issues (0 silenced).
September 24, 2024 - 22:48:51
Django version 5.1.1, using settings 'libraryproject.settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CONTROL-C.

[24/Sep/2024 22:48:57] "GET / HTTP/1.1" 200 31
```

Hello from a template!

Task 5: Rendering variables in the HTML template that processes a context



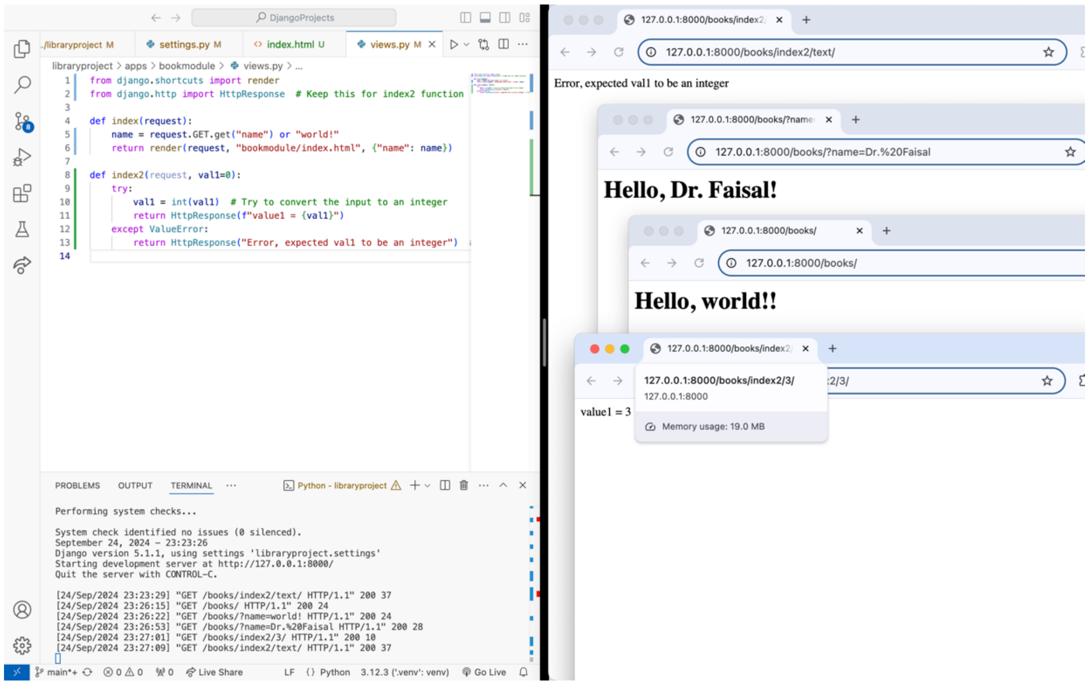
```python
from django.shortcuts import render
from django.http import HttpResponse  # Keep this for index2 function

def index(request):
    name = request.GET.get("name") or "world!"
    return render(request, "bookmodule/index.html", {"name": name})

def index2(request, val1=0):  # Keep this if you still need /index2/
    return HttpResponse("value1 = " + str(val1))
```

```
/Users/raneem/DjangoProjects/libraryproject/apps/bookmodule/views.py changed, reloading.
Watching for file changes with StatReloader
Performing system checks...

System check identified no issues (0 silenced).
September 24, 2024 - 23:01:20
Django version 5.1.1, using settings 'libraryproject.settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CONTROL-C.

[24/Sep/2024 23:01:37] "GET /?name=John HTTP/1.1" 200 26
[24/Sep/2024 23:01:40] "GET / HTTP/1.1" 200 28
[24/Sep/2024 23:04:25] "GET /?name=raneem HTTP/1.1" 200 28
[24/Sep/2024 23:05:01] "GET / HTTP/1.1" 200 28
```

Hello from raneem!

Hello from world!!

Task 6: Define patterns globally (DjangoProjects/urls.py) with specific urls.py file for each app/module



libraryproject > apps > bookmodule > views.py > ...

```python
from django.shortcuts import render
from django.http import HttpResponse  # Keep this for index2 function

def index(request):
    name = request.GET.get("name") or "world!"
    return render(request, "bookmodule/index.html", {"name": name})

def index2(request, val1=0):
    try:
        val1 = int(val1)  # Try to convert the input to an integer
        return HttpResponse(f"value1 = {val1}")
    except ValueError:
        return HttpResponse("Error, expected val1 to be an integer")
```

```
Performing system checks...

System check identified no issues (0 silenced).
September 24, 2024 - 23:23:26
Django version 5.1.1, using settings 'libraryproject.settings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CONTROL-C.

[24/Sep/2024 23:23:29] "GET /books/index2/text/ HTTP/1.1" 200 37
[24/Sep/2024 23:26:15] "GET /books/ HTTP/1.1" 200 24
[24/Sep/2024 23:26:22] "GET /books/?name=world! HTTP/1.1" 200 24
[24/Sep/2024 23:26:53] "GET /books/?name=Dr.%20Faisal HTTP/1.1" 200 28
[24/Sep/2024 23:27:01] "GET /books/index2/3/ HTTP/1.1" 200 10
[24/Sep/2024 23:27:09] "GET /books/index2/text/ HTTP/1.1" 200 37
```

127.0.0.1:8000/books/index2/text/

Error, expected val1 to be an integer

127.0.0.1:8000/books/?name=Dr.%20Faisal

Hello, Dr. Faisal!

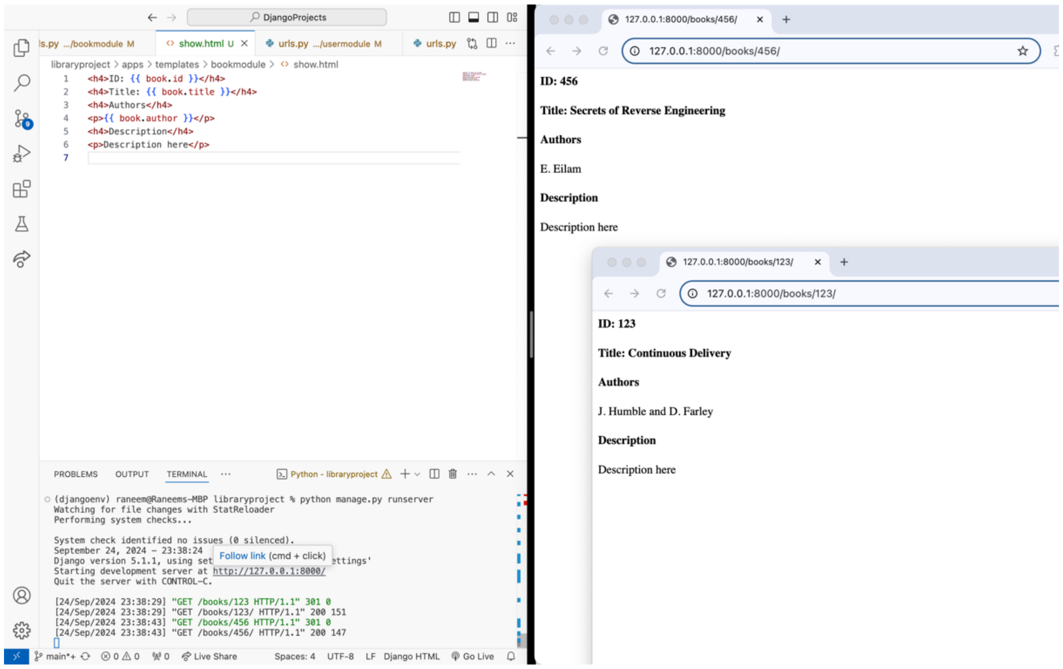
127.0.0.1:8000/books/

Hello, world!!

127.0.0.1:8000/books/index2/3/

value1 = 3

Task7: Create a URL, view, and HTML to display one book details



libraryproject > apps > templates > bookmodule > show.html

```html
<h4>ID: {{ book.id }}</h4>
<h4>Title: {{ book.title }}</h4>
<h4>Authors</h4>
<p>{{ book.author }}</p>
<h4>Description</h4>
<p>Description here</p>
```

```
(djangoenv) raneem@Raneems-MBP libraryproject % python manage.py runserver
Watching for file changes with StatReloader
Performing system checks...

System check identified no issues (0 silenced).
September 24, 2024 - 23:38:24
Django version 5.1.1, using set                    ettings'
Starting development server at http://127.0.0.1:8000/
Quit the server with CONTROL-C.

[24/Sep/2024 23:38:29] "GET /books/123 HTTP/1.1" 301 0
[24/Sep/2024 23:38:29] "GET /books/123/ HTTP/1.1" 200 151
[24/Sep/2024 23:38:43] "GET /books/456 HTTP/1.1" 301 0
[24/Sep/2024 23:38:43] "GET /books/456/ HTTP/1.1" 200 147
```

127.0.0.1:8000/books/456/

ID: 456

Title: Secrets of Reverse Engineering

Authors

E. Eilam

Description

Description here

127.0.0.1:8000/books/123/

ID: 123

Title: Continuous Delivery

Authors

J. Humble and D. Farley

Description

Description here