

Лабораторная работа 7

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ИВТ 4 группа 1

first step

The image shows a screenshot of a development environment. The top half is a Visual Studio Code window with a dark theme. The Explorer sidebar on the left shows a project named 'lr7' with a subdirectory 'mysite' containing 'manage.py', 'Pipfile', and 'Pipfile.lock'. The main editor displays the 'Pipfile' content:

```
1 [[source]]
2 url = "https://pypi.org/simple"
3 verify_ssl = true
4 name = "pypi"
5
6 [packages]
7 django = "*"
8
9 [dev-packages]
10
11 [requires]
12 python_version = "3.9"
13
```

The bottom panel of VS Code shows the 'TERMINAL' with the following output:

```
Installing dependencies from Pipfile.lock (06f36b)...
0/0 - 00:00:00
To activate this project's virtualenv, run pipenv shell.
Alternatively, run a command inside the virtualenv with pipenv run.
PS D:\Study\sem7\Prog\lr7> pipenv shell
Launching subshell in virtual environment...
Windows PowerShell
(C) Корпорация Майкрософт (Microsoft Corporation). Все права защищены.

Попробуйте новую кроссплатформенную оболочку PowerShell (https://aka.ms/powershell)

PS D:\Study\sem7\Prog\lr7> django-admin startproject mysite
PS D:\Study\sem7\Prog\lr7>
```

The bottom half of the image shows a web browser window at 'localhost:8080' displaying the Django 4.0 installation success page. The page features the Django logo, a rocket icon, and the message: 'The install worked successfully! Congratulations!'. Below this, it states: 'You are seeing this page because `DEBUG=True` is in your settings file and you have not configured any URLs.' At the bottom of the page, there are three links: 'Django Documentation', 'Tutorial: A Polling App', and 'Django Community'.

```

PS D:\Study\sem7\Prog\lr7> django-admin startproject mysite
PS D:\Study\sem7\Prog\lr7> cd mysite
PS D:\Study\sem7\Prog\lr7\mysite> python manage.py runserver localhost:8080
Watching for file changes with StatReloader
Performing system checks...

System check identified no issues (0 silenced).

You have 18 unapplied migration(s). Your project may not work properly until you apply the migrations for app(s): admin, auth, contenttypes, session
5.
Run 'python manage.py migrate' to apply them.
December 10, 2021 - 23:40:33
Django version 4.0, using settings 'mysite.settings'
Starting development server at http://localhost:8080/
Quit the server with CTRL-BREAK.
[10/Dec/2021 23:40:41] "GET / HTTP/1.1" 200 10697
Not Found: /favicon.ico
[10/Dec/2021 23:40:41] "GET /favicon.ico HTTP/1.1" 404 2110
[10/Dec/2021 23:40:42] "GET /static/admin/css/fonts.css HTTP/1.1" 200 423
[10/Dec/2021 23:40:42] "GET /static/admin/fonts/Roboto-Light-webfont.woff HTTP/1.1" 200 85692
[10/Dec/2021 23:40:42] "GET /static/admin/fonts/Roboto-Regular-webfont.woff HTTP/1.1" 200 85876
Not Found: /favicon.ico
[10/Dec/2021 23:40:42] "GET /favicon.ico HTTP/1.1" 404 2110
[10/Dec/2021 23:40:42] "GET /static/admin/fonts/Roboto-Bold-webfont.woff HTTP/1.1" 200 86184
Not Found: /favicon.ico
[10/Dec/2021 23:40:43] "GET /favicon.ico HTTP/1.1" 404 2110

```

The screenshot shows the Visual Studio Code interface with the Explorer pane on the left displaying the project structure. The main editor shows the `admin.py` file with the following content:

```

1 from django.contrib import admin
2
3 # Register your models here.
4

```

The terminal pane at the bottom shows the output of the Django development server, including the system checks, the unapplied migrations message, and the server logs for the first few requests.

The screenshot shows the Visual Studio Code interface with the Explorer pane on the left displaying the project structure. The main editor shows the `views.py` file with the following content:

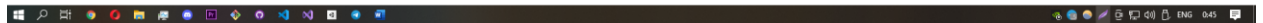
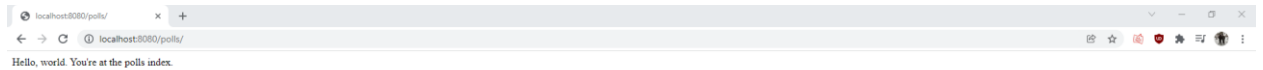
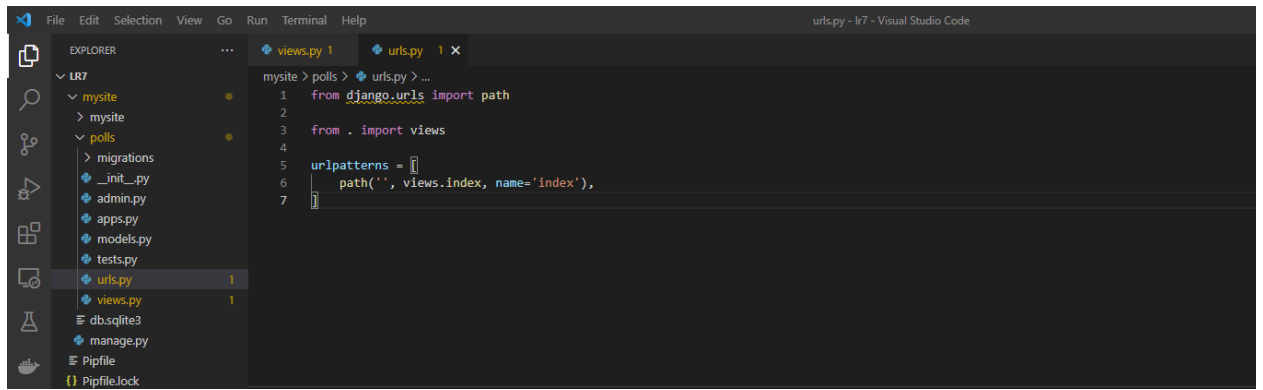
```

1 from django.http import HttpResponse
2
3
4 def index(request):
5     return HttpResponse("Hello, world. You're at the polls index.")

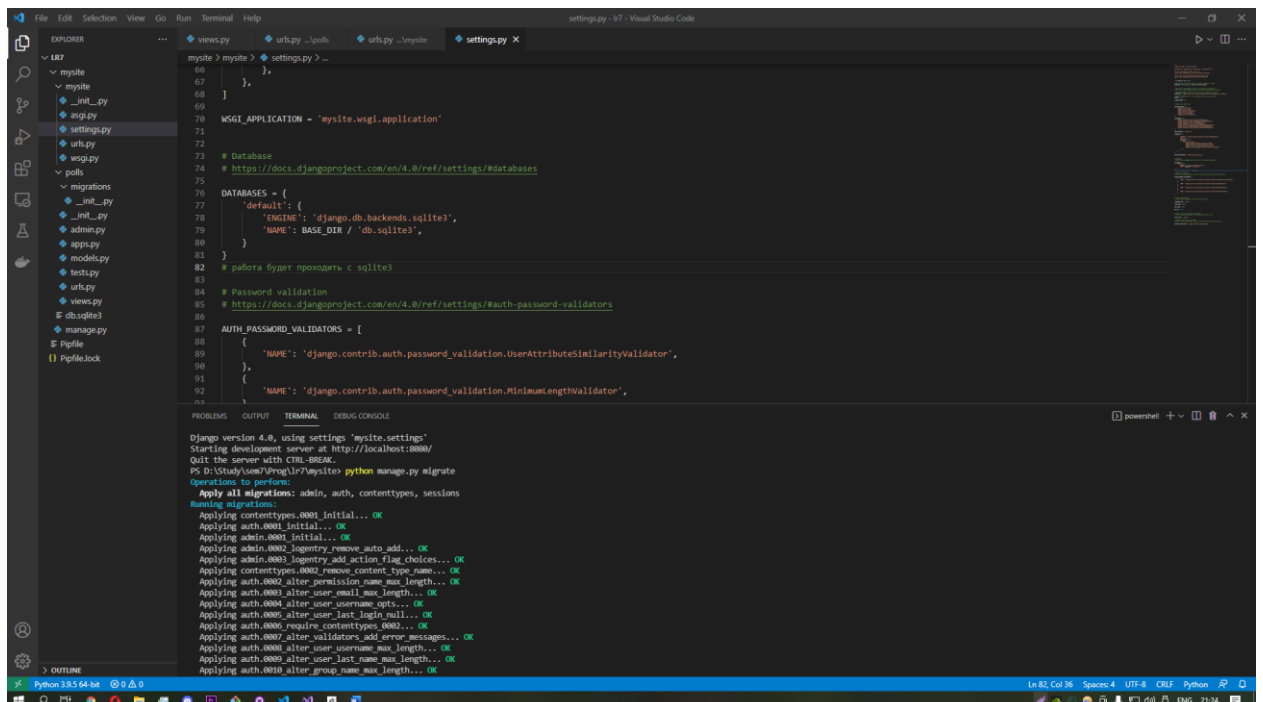
```

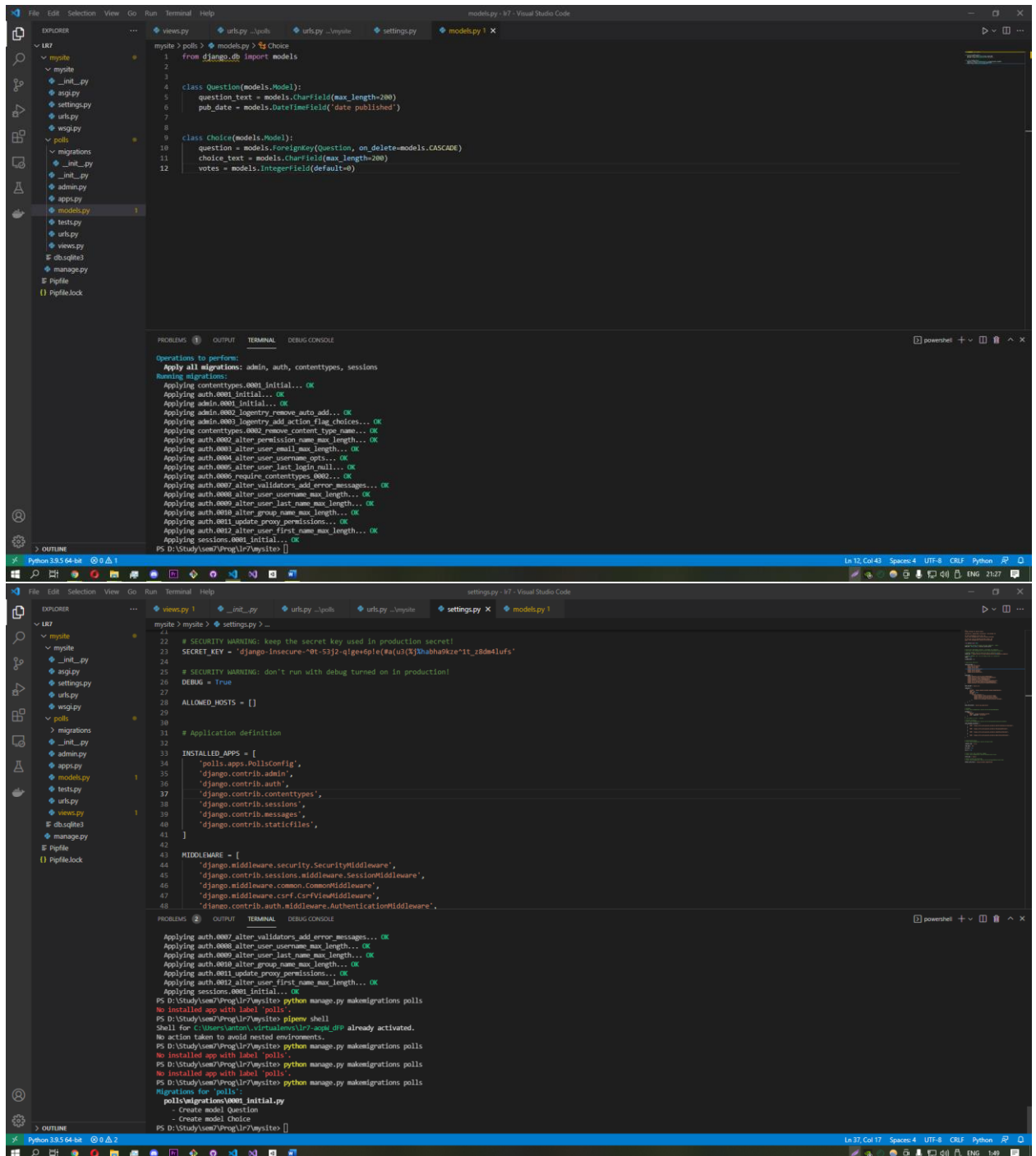
The Explorer pane shows the project structure with the following files and folders:

- LR7
 - mysite
 - mysite
 - polls
 - migrations
 - _init_.py
 - admin.py
 - apps.py
 - models.py
 - tests.py
 - urls.py
 - views.py (1)
 - db.sqlite3
 - manage.py
 - Pipfile
 - Pipfile.lock



part 2





```
mySite > polls > migrations > _init_.py
1

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
No changes detected in app 'polls'
PS D:\Study\sem7\prog\lr7\mysite> deactivate
PS D:\Study\sem7\prog\lr7\mysite> pipenv shell
Shell for C:\Users\anton\virtualenvs\lr7\aspm_dfp already activated.
No action taken to avoid nested environments.
PS D:\Study\sem7\prog\lr7\mysite> python manage.py makemigrations polls
No changes detected in app 'polls'
PS D:\Study\sem7\prog\lr7\mysite> python manage.py sqlmigrate polls 0001
BEGIN;
--
-- Create model Question
--
CREATE TABLE "polls_question" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "question_text" varchar(200) NOT NULL, "pub_date" datetime NOT NULL);
--
-- Create model Choice
--
CREATE TABLE "polls_choice" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "choice_text" varchar(200) NOT NULL, "votes" integer NOT NULL, "question_id" bigint NOT NULL REFERENCES "polls_question" ("id") DEFERRABLE INITIALLY DEFERRED);
CREATE INDEX "polls_choice_question_id_c5b4b260" ON "polls_choice" ("question_id");
COMMIT;
PS D:\Study\sem7\prog\lr7\mysite> |]
```

```
mySite > polls > admin.py
1 from django.contrib import admin
2
3 from .models import Question
4
5 admin.site.register(Question)

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE
CREATE TABLE "polls_question" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "question_text" varchar(200) NOT NULL, "pub_date" datetime NOT NULL);
--
-- Create model Choice
--
CREATE TABLE "polls_choice" ("id" integer NOT NULL PRIMARY KEY AUTOINCREMENT, "choice_text" varchar(200) NOT NULL, "votes" integer NOT NULL, "question_id" bigint NOT NULL REFERENCES "polls_question" ("id") DEFERRABLE INITIALLY DEFERRED);
CREATE INDEX "polls_choice_question_id_c5b4b260" ON "polls_choice" ("question_id");
COMMIT;
PS D:\Study\sem7\prog\lr7\mysite> python manage.py migrate
Operations to perform:
  Apply all migrations: admin, auth, contenttypes, polls, sessions
Running migrations:
  Applying polls.0001_initial... OK
PS D:\Study\sem7\prog\lr7\mysite> python manage.py shell
Python 3.9.5 (tags/v3.9.5:0a700cd, May 3 2021, 17:27:52) [MSC v.1928 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
(InteractiveConsole)
>>> from polls.models import Choice, Question
>>> Question.objects.all()
<QuerySet []>
>>> |]
```

Visual Studio Code interface showing a Django project setup.

EXPLORER:

- LR7
 - mysite
 - __init__.py
 - asgi.py
 - settings.py
 - urls.py
 - wsgi.py
 - polls
 - migrations
 - __init__.py
 - admin.py (1)
 - apps.py
 - models.py
 - tests.py
 - urls.py
 - views.py
 - db.sqlite3
 - manage.py
 - Pipfile
 - Pipfile.lock

admin.py:

```
1 from django.contrib import admin
2
3 from .models import Question
4
5 admin.site.register(Question)
```

TERMINAL:

```
Python 3.9.5 (tags/v3.9.5:0a7dcdb, May 3 2021, 17:27:52) [MSC v.1928 64 bit (AMD64)] on win32
Type "help", "copyright", "credits" or "license" for more information.
(InteractiveConsole)
>>> from polls.models import Choice, Question
>>> Question.objects.all()
<QuerySet []>
>>> from django.utils import timezone
>>> q = Question(question_text="What's new?", pub_date=timezone.now())
>>> q.save()
>>> q.id
1
>>> q.question_text
'What's new?'
>>> q.pub_date
datetime.datetime(2022, 1, 12, 18, 25, 56, 621532, tzinfo=datetime.timezone.utc)
>>> q.question_text = "What's up?"
>>> q.save()
>>> Question.objects.all()
<QuerySet [<Question: What's up?>]>
>>>
```

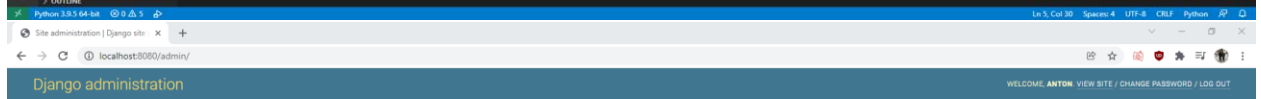
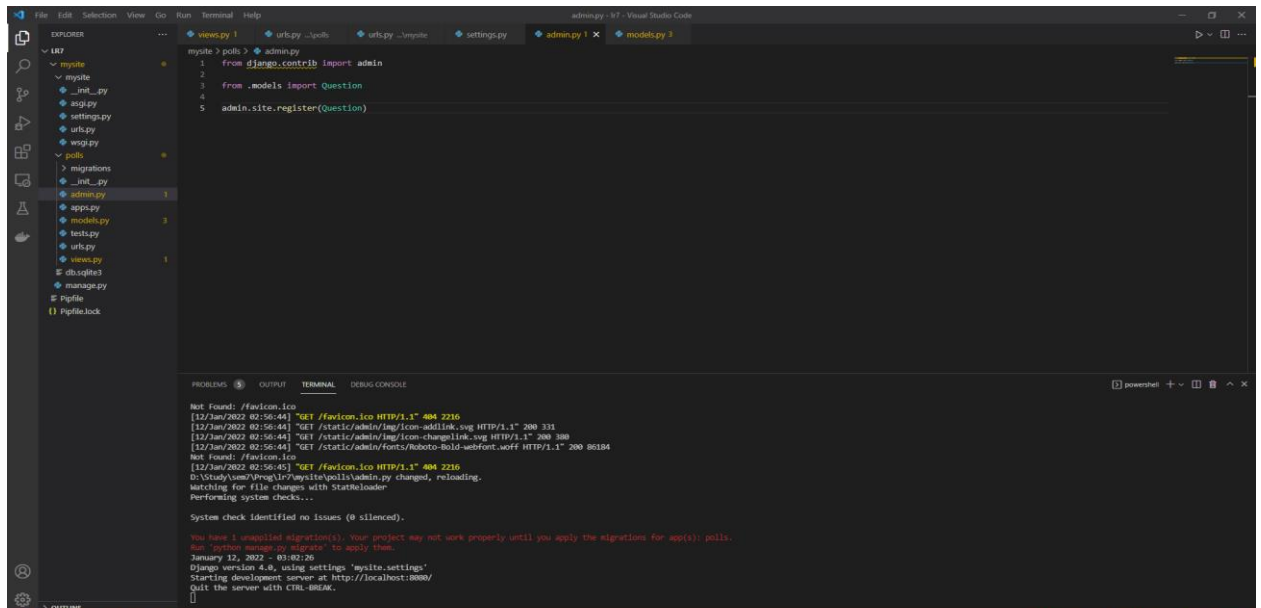
STATUS BAR: Python 3.9.5 64-bit | 0 1 | Ln 5, Col 30 | Spaces: 4 | UTF-8 | CRLF | Python

```
models.py
1 from django.db import models
2 from django.utils import timezone
3
4 class Question(models.Model):
5     question_text = models.CharField(max_length=200)
6     pub_date = models.DateTimeField('date published')
7     def __str__(self):
8         return self.question_text
9     def was_published_recently(self):
10        return self.pub_date >= timezone.now() - datetime.timedelta(days=1)
11
12 class Choice(models.Model):
13     question = models.ForeignKey(Question, on_delete=models.CASCADE)
14     choice_text = models.CharField(max_length=200)
15     votes = models.IntegerField(default=0)
16     def __str__(self):
17         return self.choice_text
```

File "C:\Users\anton\Virtualenvs\Ur7\asgi_django\lib\site-packages\django\db\backends\sqlite3\base.py", line 416, in execute
return Database.Cursor.execute(self, query, params)
django.db.utils.OperationalError: no such table: polls_question
>>> "Z"

now exiting InteractiveConsole...
PS D:\Study\sem7\prog\Ur7\mysite >

```
settings.py
61
62     'context_processors': [
63         'django.template.context_processors.debug',
64         'django.template.context_processors.request',
65         'django.contrib.auth.context_processors.auth',
66         'django.contrib.messages.context_processors.messages',
67     ],
68 },
69 ],
70
71 WSGI_APPLICATION = 'mysite.wsgi.application'
72
73
74 # Database
75 # https://docs.djangoproject.com/en/4.0/ref/settings/#databases
76
77 DATABASES = {
78     'default': {
79         'ENGINE': 'django.db.backends.sqlite3',
80         'NAME': BASE_DIR / 'db.sqlite3',
81     }
82 }
83 # Password validation
84 # https://docs.djangoproject.com/en/4.0/ref/settings/#auth-password-validators
85
86 AUTH_PASSWORD_VALIDATORS = [
87
88     new exiting InteractiveConsole...
89     PS D:\Study\sem7\prog\Ur7\mysite> python manage.py createsuperuser
90
91 You have 1 unapplied migration(s). Your project may not work properly until you apply the migrations fo
92 r migrations.
93 Run 'python manage.py migrate' to apply them.
94 Username (leave blank to use 'anton'): anton
95 Email address: tes@gmail.com
96 Password:
97 Password (again):
98 Error: Your passwords didn't match.
99 Password:
100 Password (again):
101 This password is too short. It must contain at least 8 characters.
102 This password is too common.
103 This password is entirely numeric.
104 Bypass password validation and create user anyway? [y/N]: y
105 Superuser created successfully.
106 PS D:\Study\sem7\prog\Ur7\mysite >
```



Select question to change | Django

localhost:8080/admin/polls/question/

Django administration

WELCOME, **ANTON**. [VIEW SITE](#) / [CHANGE PASSWORD](#) / [LOG OUT](#)

Home > Polls > Questions

Start typing to filter...

AUTHENTICATION AND AUTHORIZATION

Groups + Add

Users + Add

POLLS

Questions + Add

Select question to change

ADD QUESTION +

Action: Go 1 of 1 selected

| | |
|-------------------------------------|------------|
| <input checked="" type="checkbox"/> | QUESTION |
| <input checked="" type="checkbox"/> | What's up? |

1 question

part 3

File Edit Selection View Go Run Terminal Help

views.py - lr7 - Visual Studio Code

views.py 1 x urls.py ...polls urls.py ...mysite settings.py admin.py 1

EXPLORER

LR7

mysite

mysite

__init__.py

asgi.py

settings.py

urls.py

wsgi.py

polls

migrations

__init__.py

admin.py 1

apps.py

models.py

tests.py

urls.py

views.py 1

db.sqlite3

manage.py

Pipfile

Pipfile.lock

OUTLINE

mysite > polls > views.py > vote

1 from django.http import HttpResponse

2

3

4 def index(request):

5 | return HttpResponse("Hello, world. You're at the polls index.")

6

7 def detail(request, question_id):

8 | return HttpResponse("You're looking at question %s." % question_id)

9

10 def results(request, question_id):

11 | response = "You're looking at the results of question %s."

12 | return HttpResponse(response % question_id)

13

14 def vote(request, question_id):

15 | return HttpResponse("You're voting on question %s." % question_id)

PROBLEMS 2 OUTPUT TERMINAL DEBUG CONSOLE

powerShell + -

D:\Study\sem7\Prog\lr7\mysite\polls\views.py changed, reloading.
Watching for file changes with StatReloader
Performing system checks...

System check identified no issues (0 silenced).
January 12, 2022 - 21:31:51
Django version 4.0, using settings 'mysite.settings'
Starting development server at http://localhost:8080/
Quit the server with CTRL-BREAK.

Python 3.9.5 64-bit 0 2 Ln 15, Col 71 Spaces: 4 UTF-8 CRLF Python

Visual Studio Code interface showing a Django project setup.

EXPLORER:

- LR7
 - mysite
 - mysite
 - __init__.py
 - asgi.py
 - settings.py
 - urls.py
 - wsgi.py
 - polls
 - migrations
 - __init__.py
 - admin.py
 - apps.py
 - models.py
 - tests.py
 - urls.py
 - views.py
 - db.sqlite3
 - manage.py
 - Pipfile
 - Pipfile.lock

views.py:

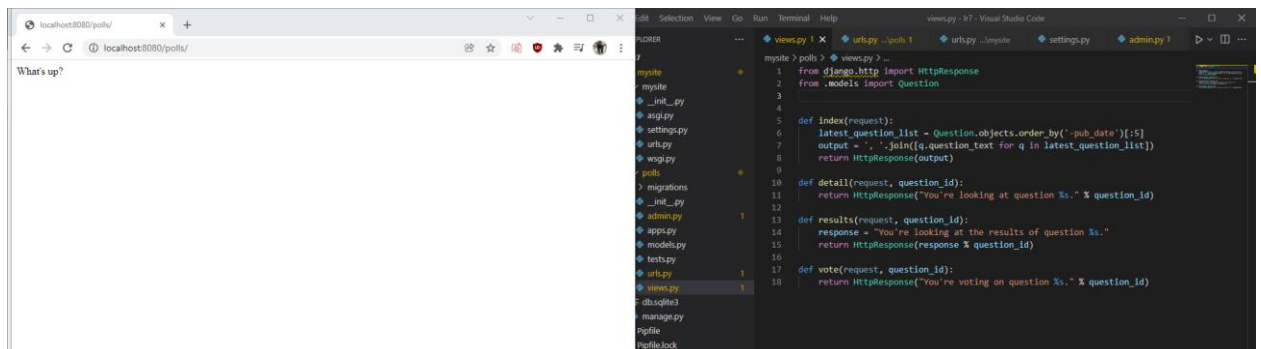
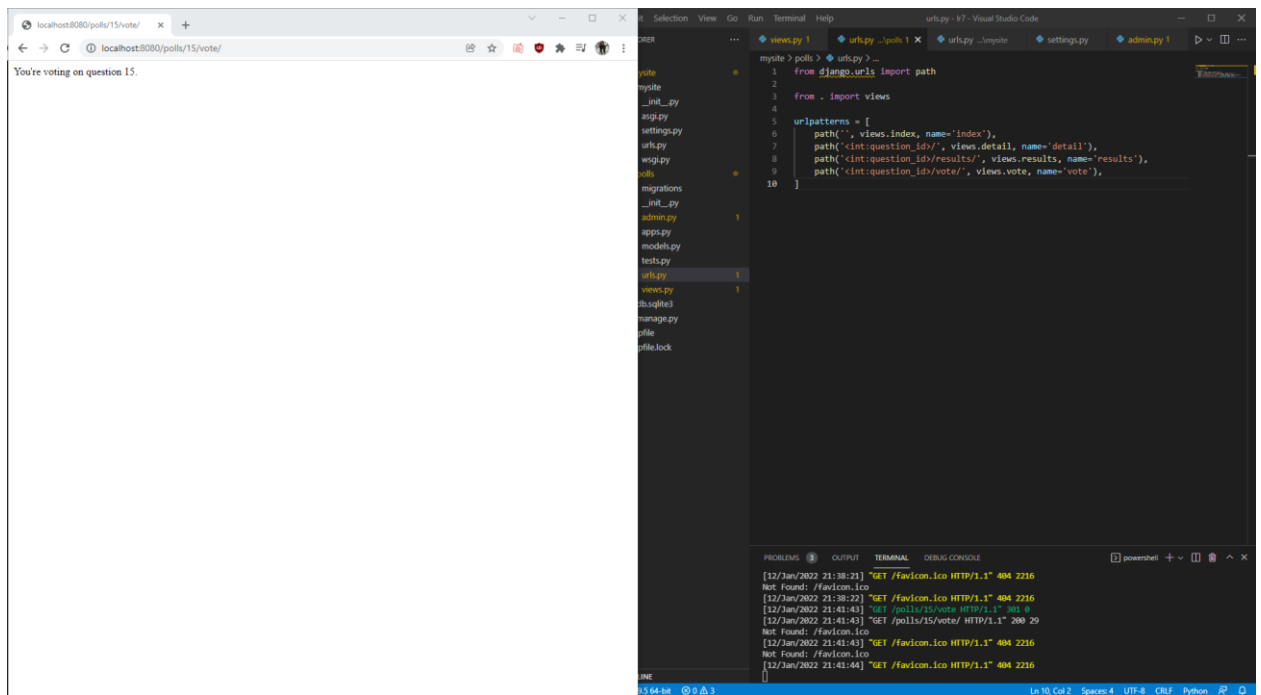
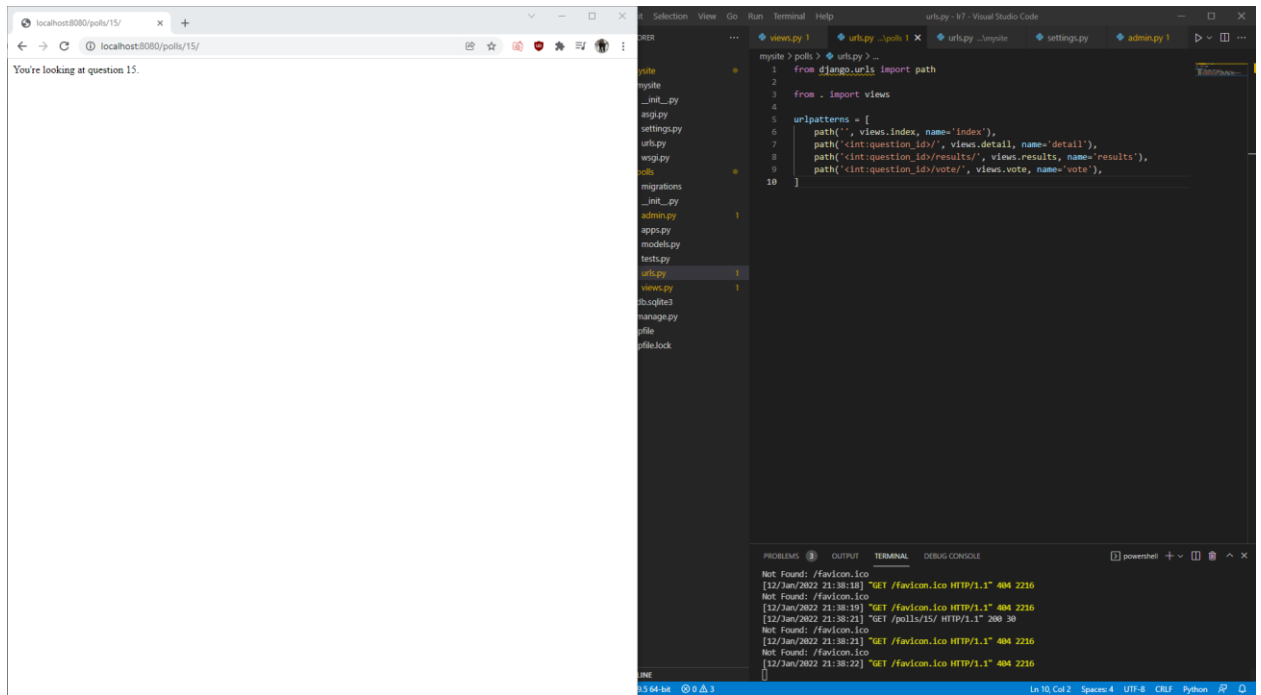
```
1 from django.urls import path
2
3 from . import views
4
5 urlpatterns = [
6     path('', views.index, name='index'),
7     path('<int:question_id>/', views.detail, name='detail'),
8     path('<int:question_id>/results/', views.results, name='results'),
9     path('<int:question_id>/vote/', views.vote, name='vote'),
10 ]
```

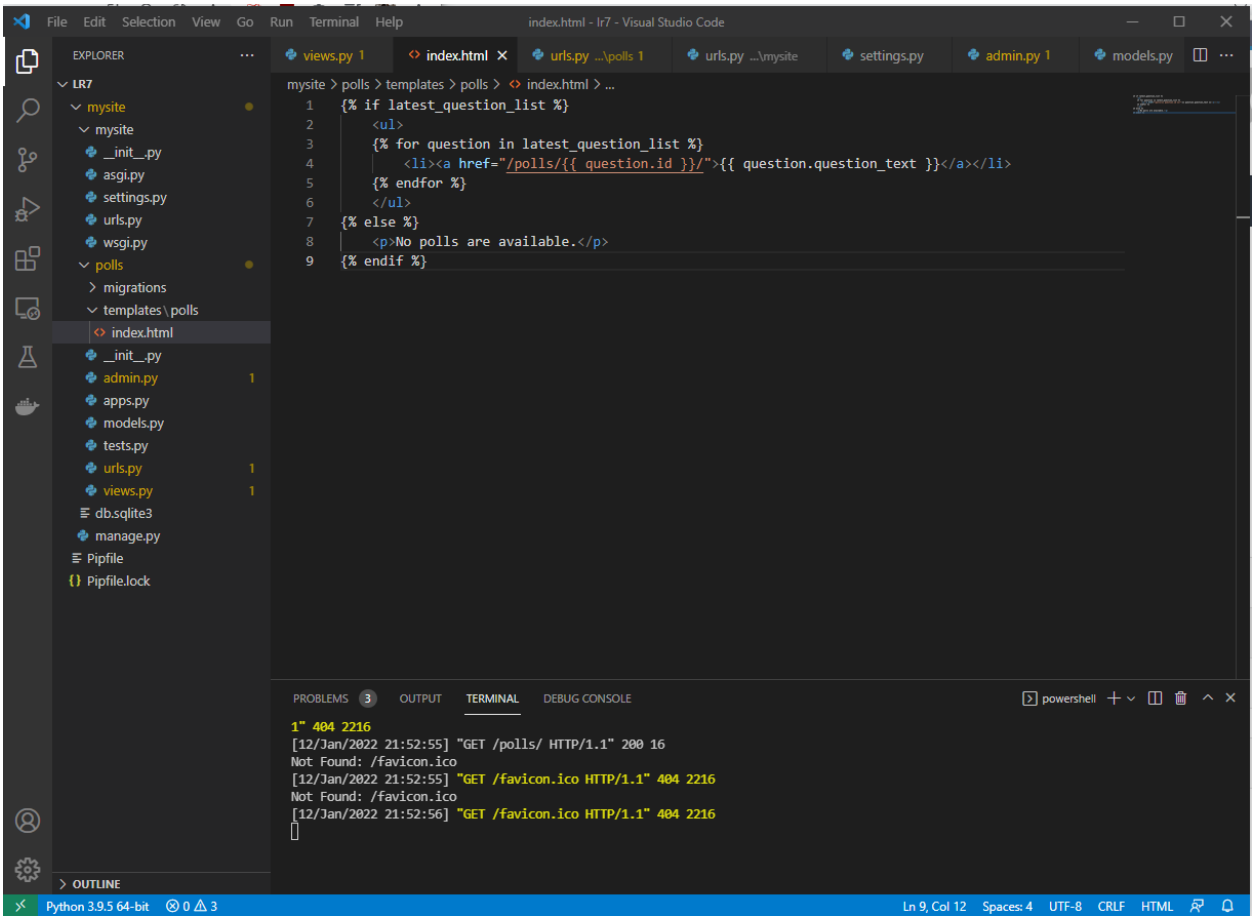
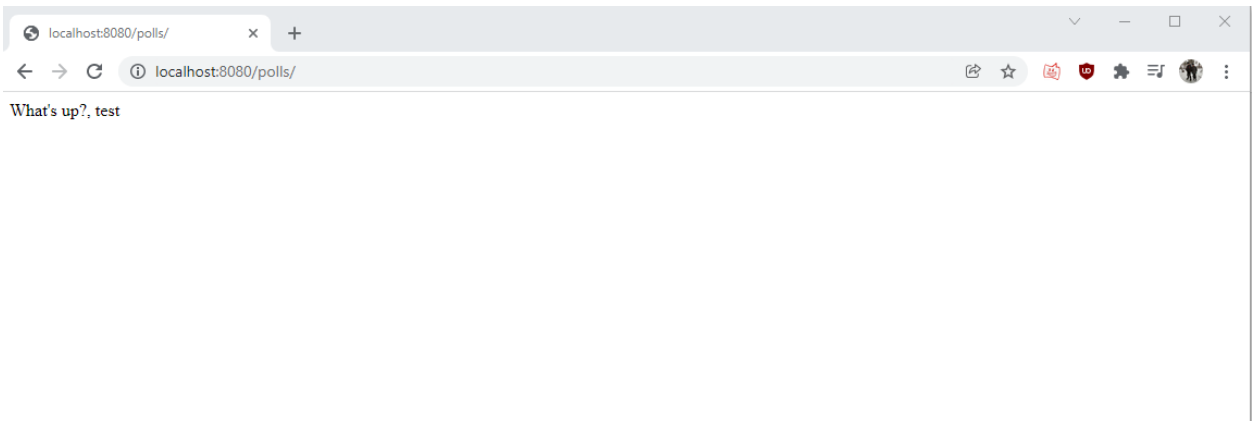
TERMINAL:

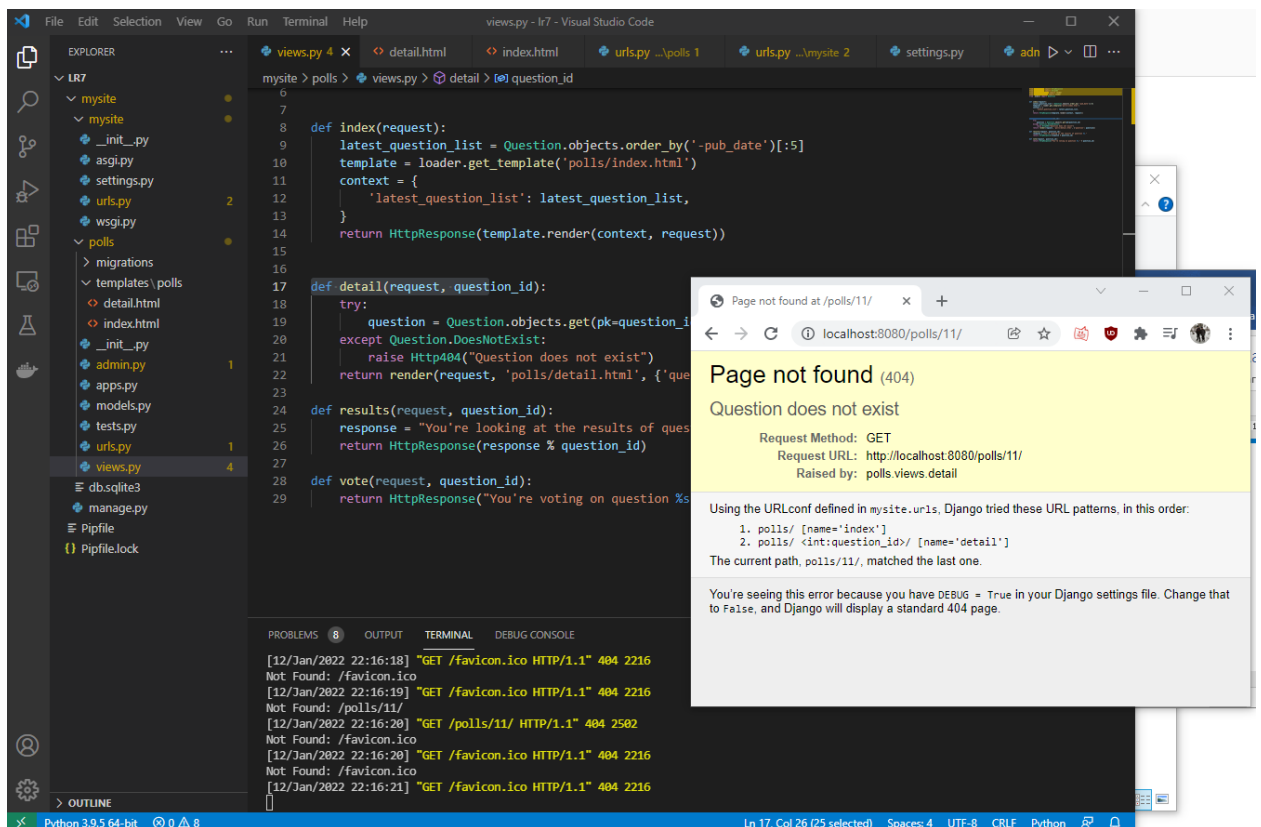
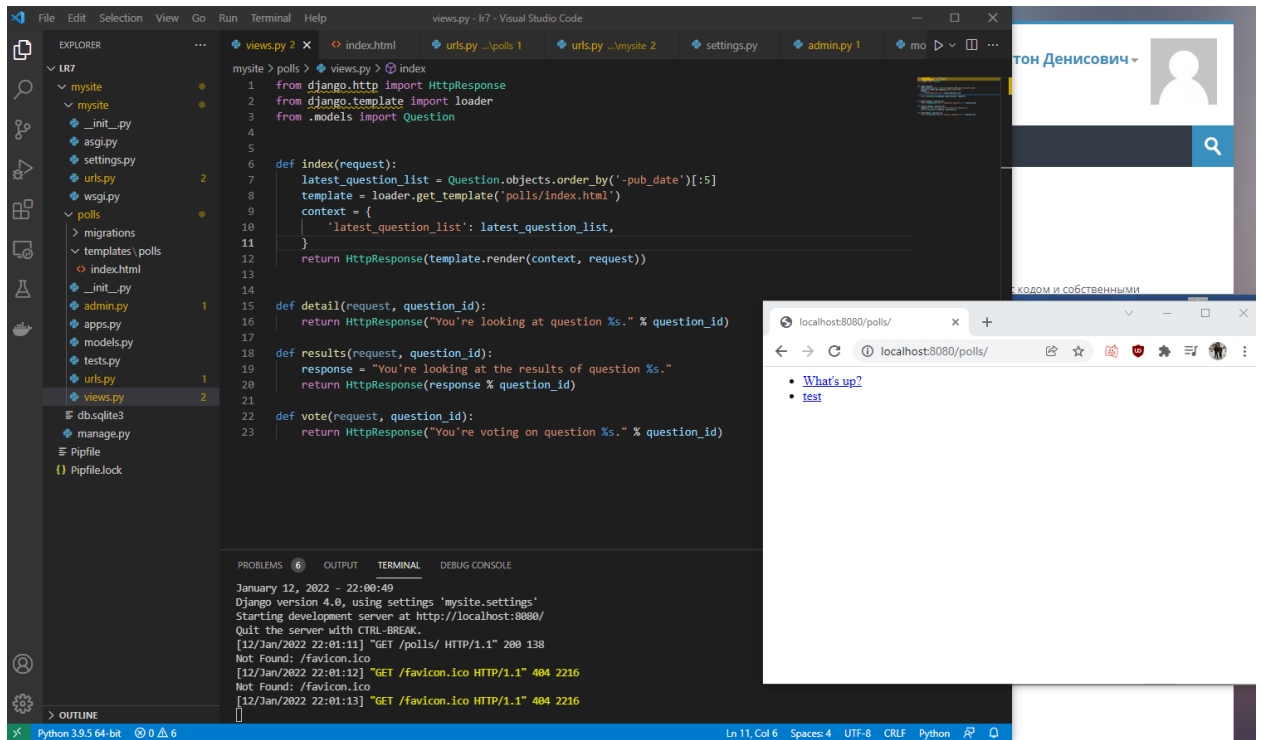
```
January 12, 2022 - 21:31:51
Django version 4.0, using settings 'mysite.settings'
Starting development server at http://localhost:8080/
Quit the server with CTRL-BREAK.
D:\Study\sem7\Prog\lr7\mysite\polls\urls.py changed, reloading.
Watching for file changes with StatReloader
Performing system checks...

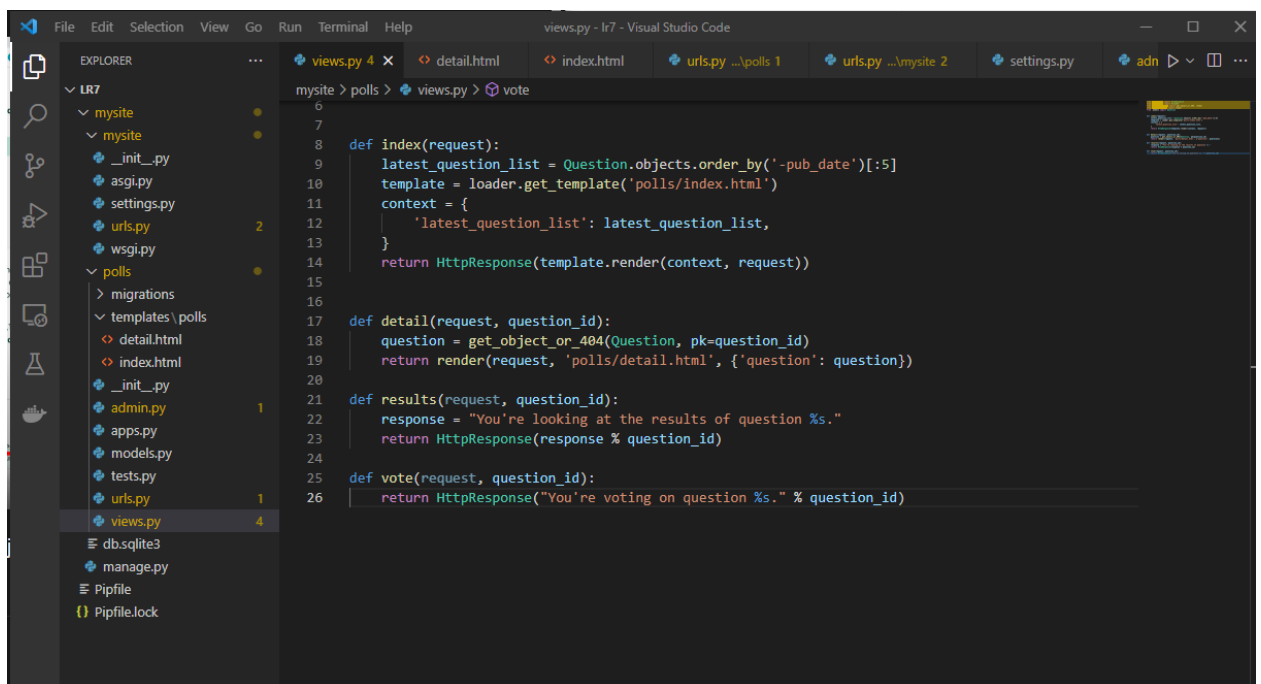
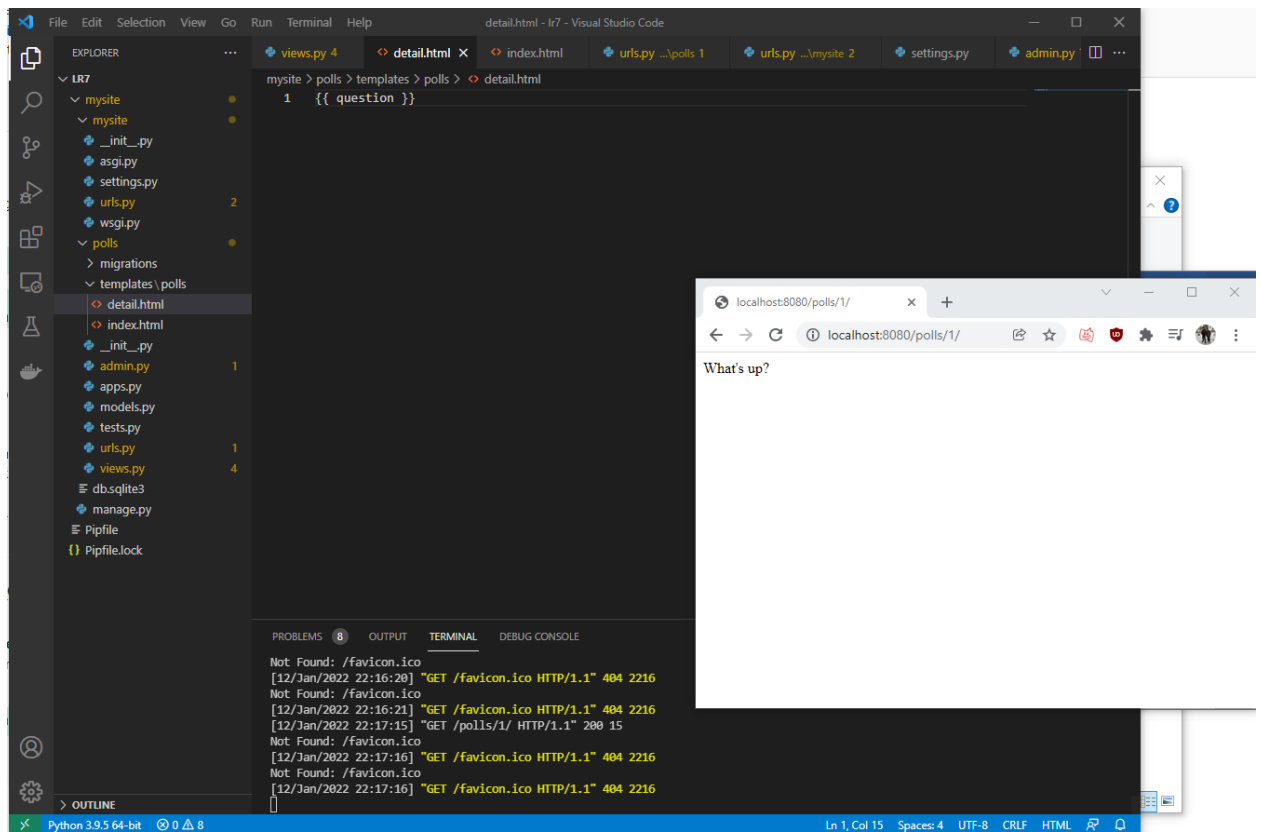
System check identified no issues (0 silenced).
```

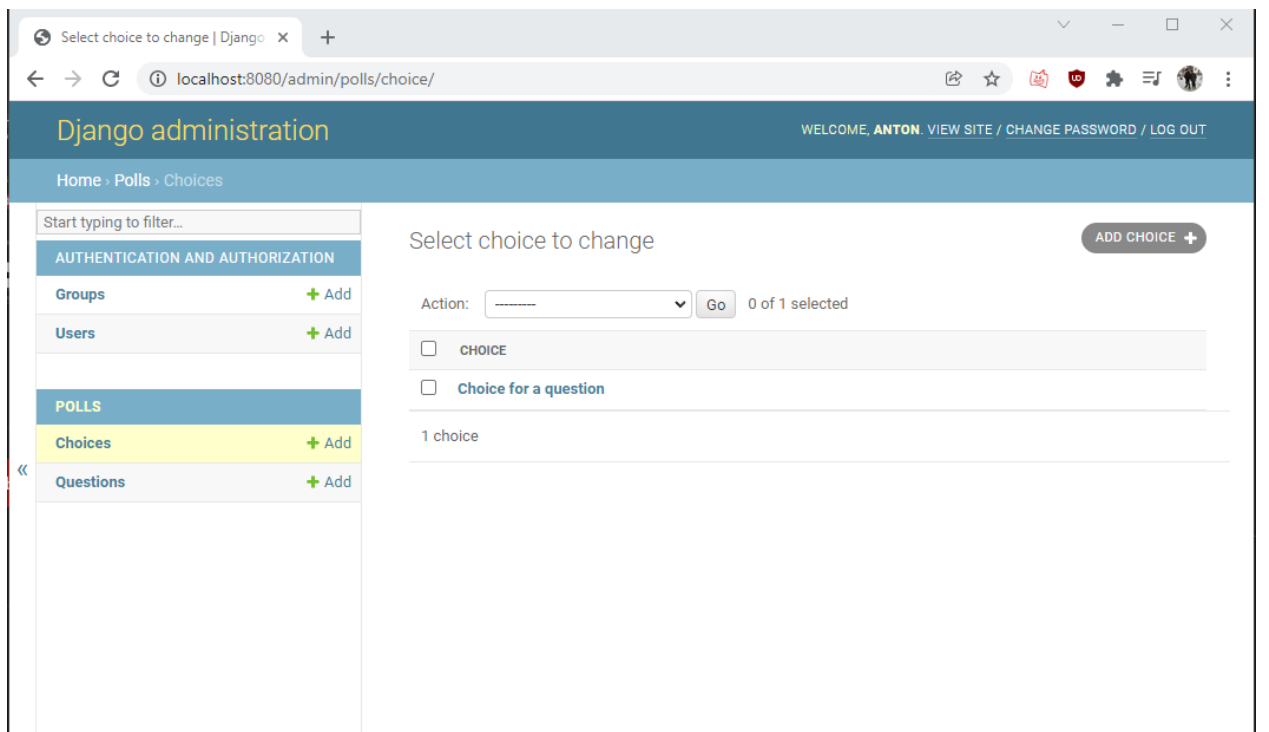
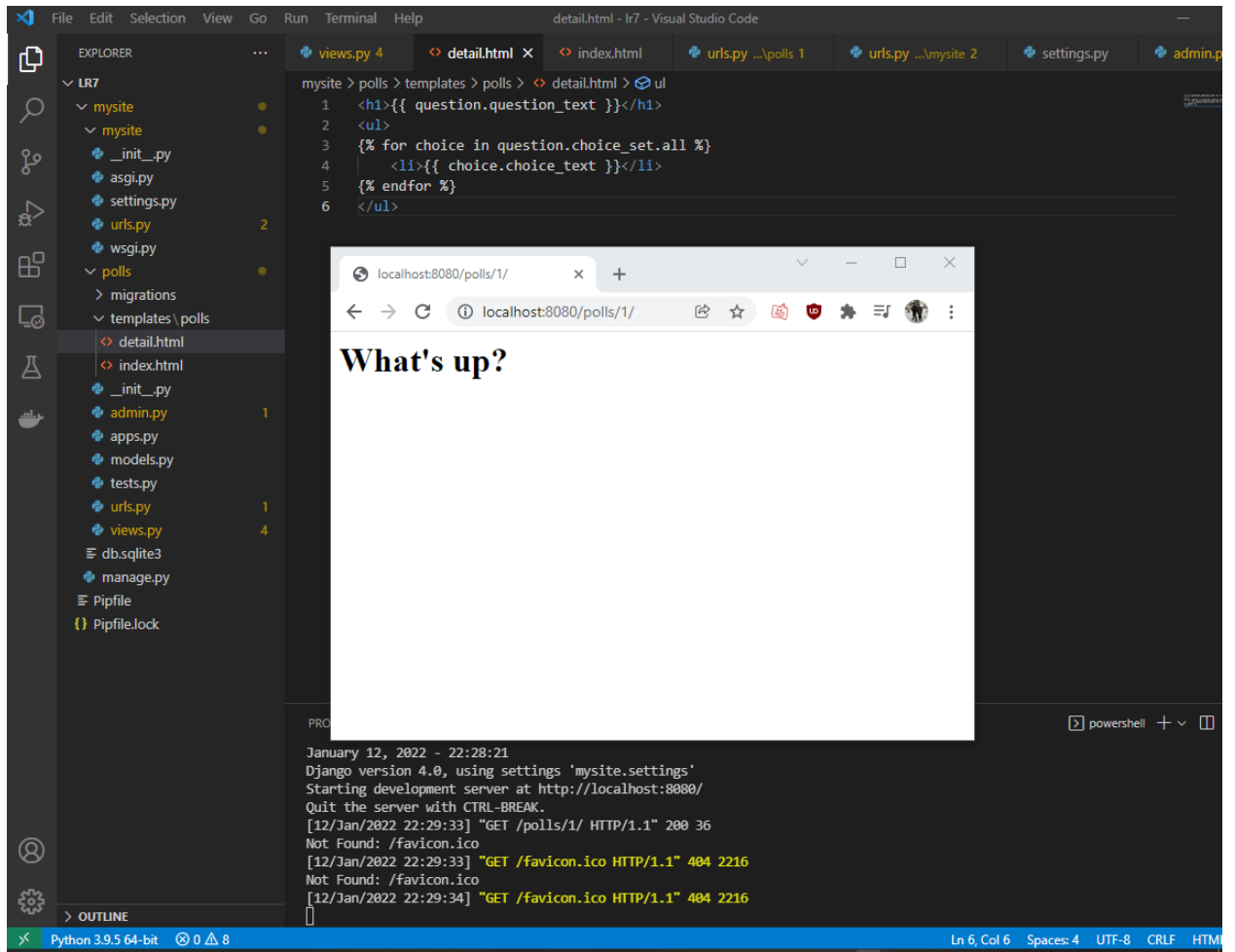
STATUS BAR: Python 3.9.5 64-bit | 0 0 3 | Ln 5, Col 16 | Spaces: 4 | UTF-8 | CRLF | Python

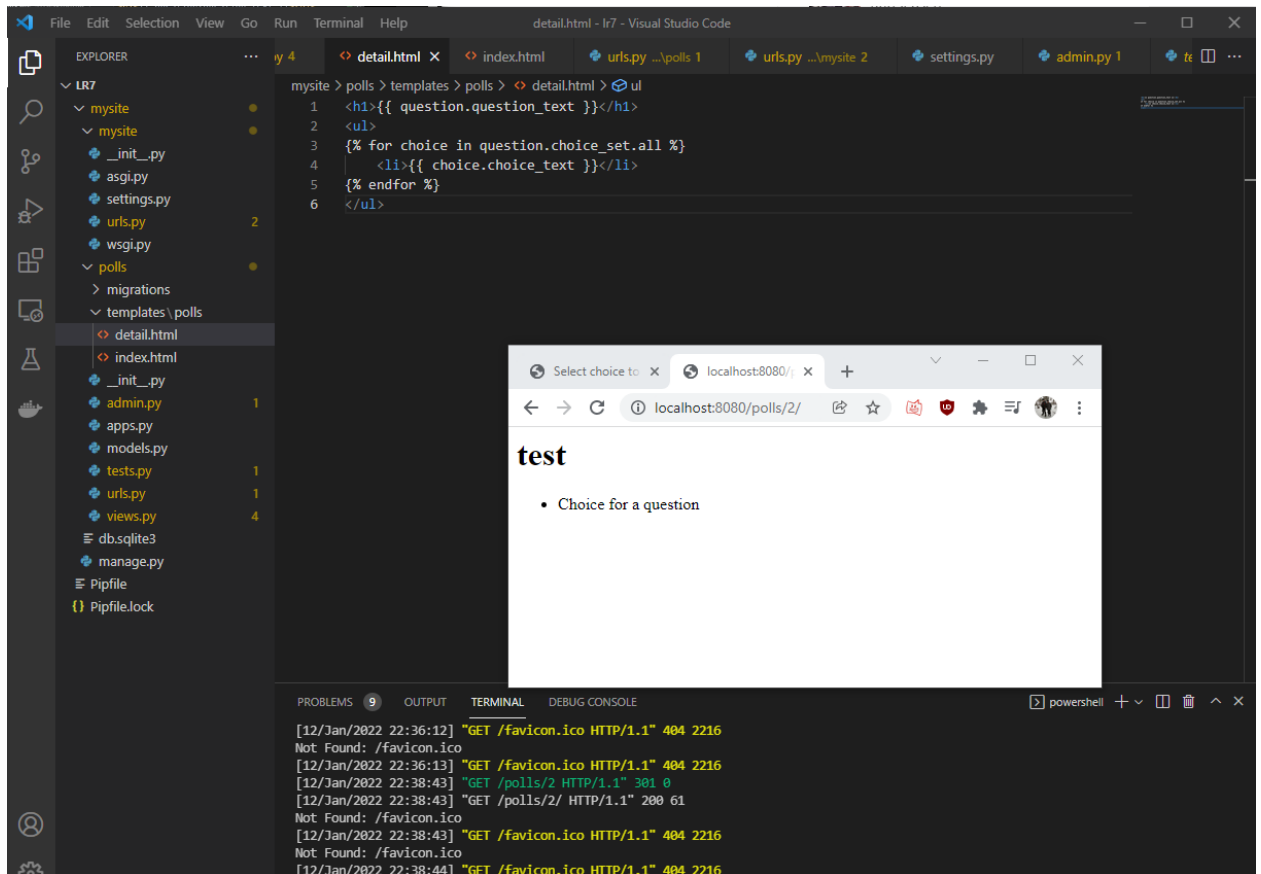




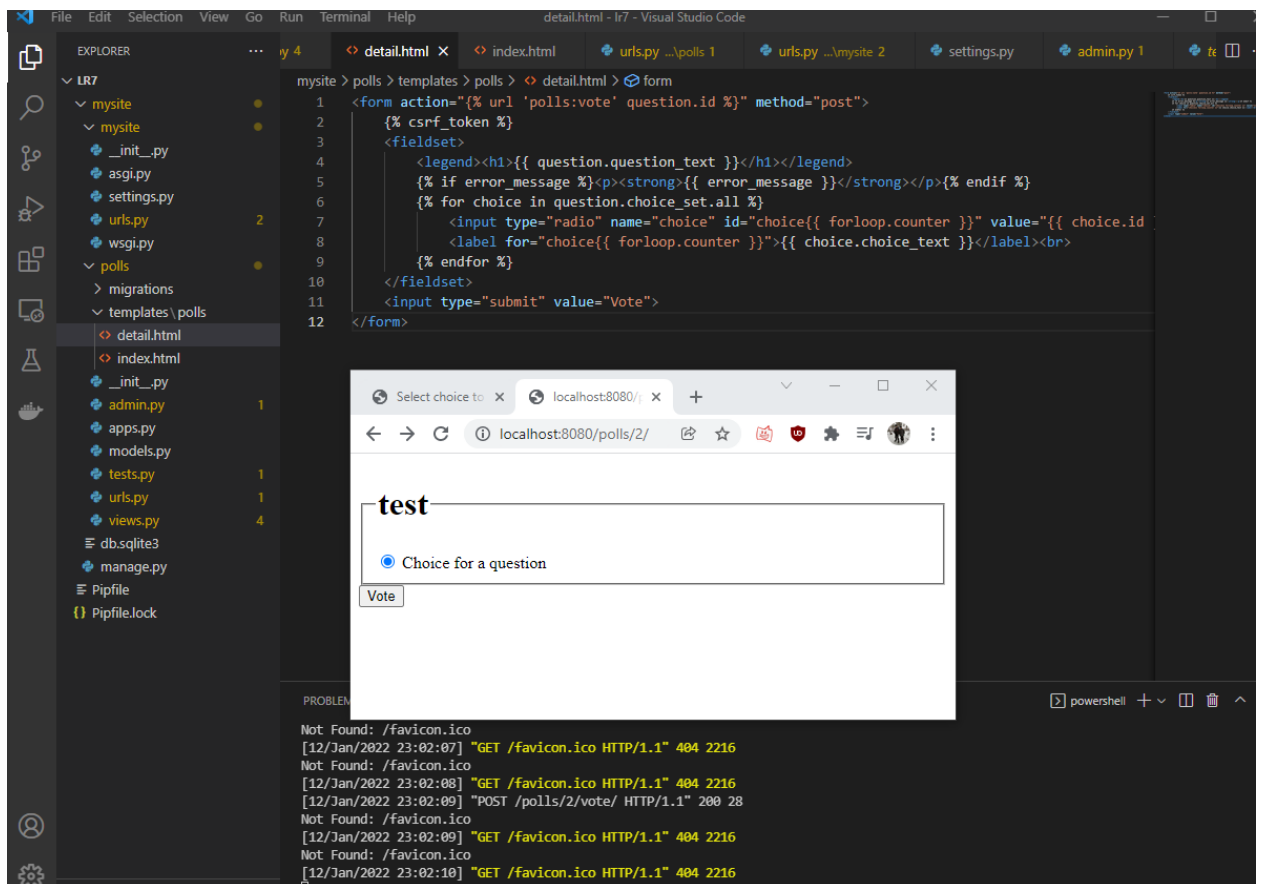


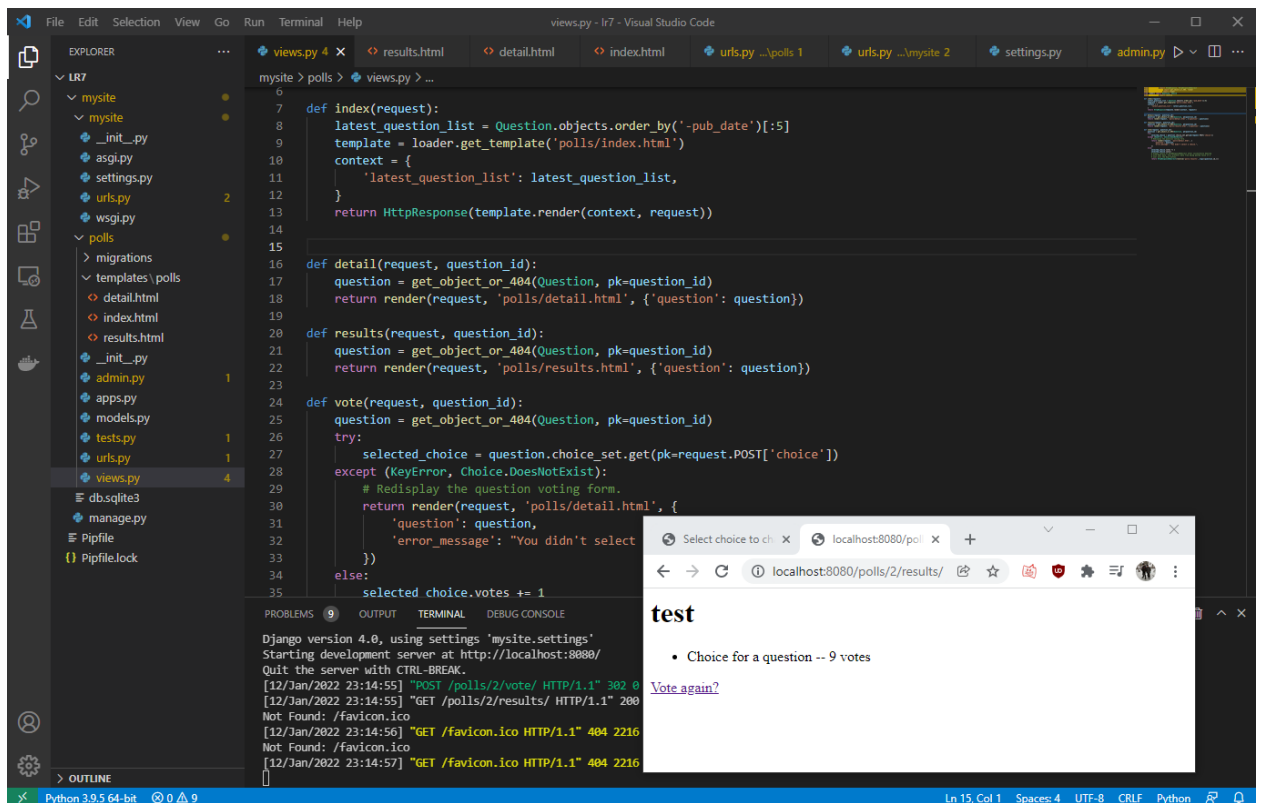
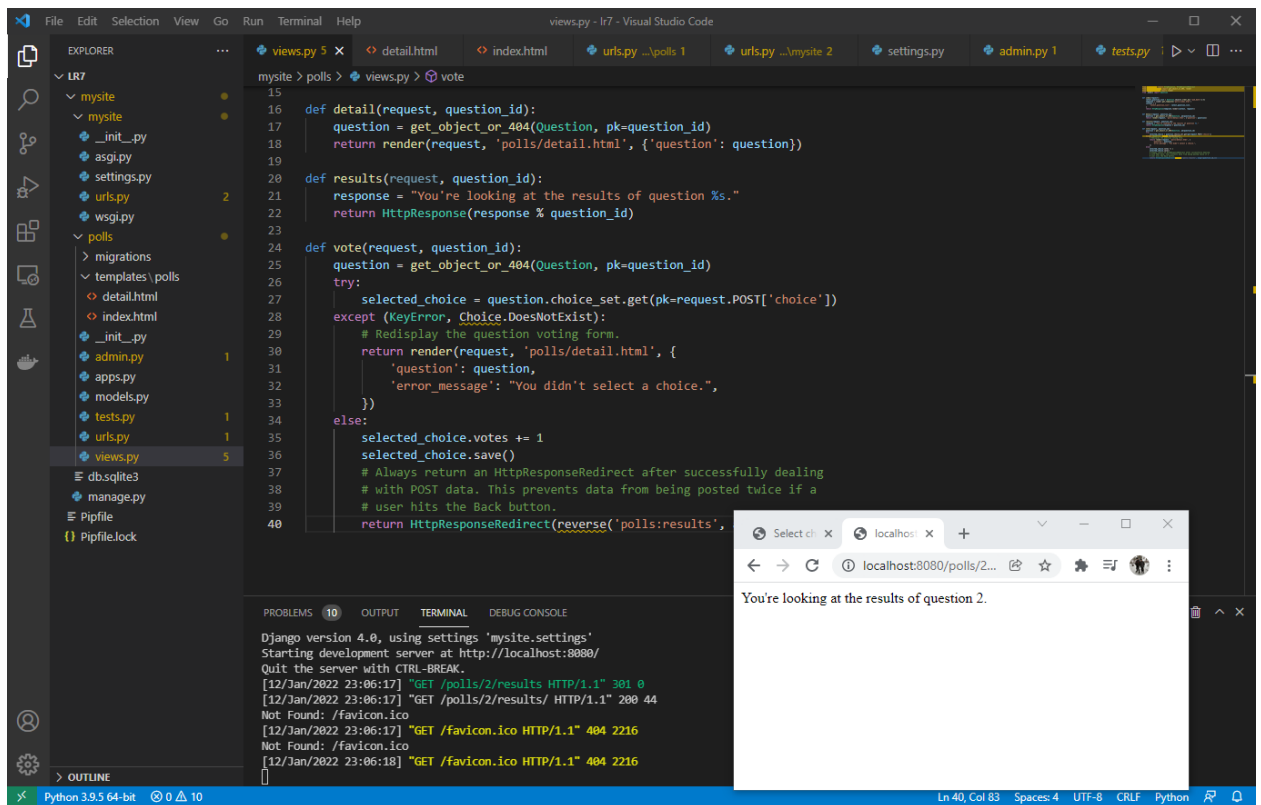






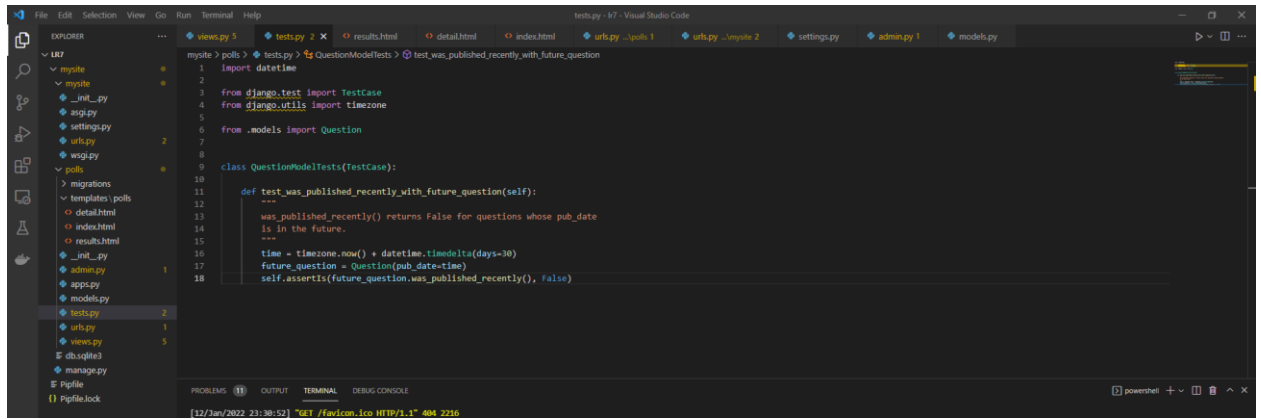
Part 4





Part 5

```
(InteractiveConsole)
>>> import datetime
>>> from django.utils import timezone
>>> from polls.models import Question
>>> future_question = Question(pub_date=timezone.now() + datetime.timedelta(days=30))
>>> future_question.was_published_recently()
Traceback (most recent call last):
  File "<console>", line 1, in <module>
  File "D:\Study\sem7\Prog\lr7\mysite\polls\models.py", line 10, in was_published_recently
    return self.pub_date >= timezone.now() - datetime.timedelta(days=1)
NameError: name 'datetime' is not defined
>>> []
```



Visual Studio Code interface showing a Django project named 'LR7' and a test file 'tests.py'.

EXPLORER:

- LR7
 - mysite
 - mysite
 - __init__.py
 - asgi.py
 - settings.py
 - urls.py (2)
 - wsgi.py
 - polls
 - migrations
 - templates\polls
 - detail.html
 - index.html
 - results.html
 - __init__.py
 - admin.py (1)
 - apps.py
 - models.py
 - tests.py (2)
 - urls.py (1)
 - views.py (5)
 - db.sqlite3
 - manage.py
 - Pipfile
 - Pipfile.lock

TESTS.py:

```
mysite > polls > tests.py > QuestionModelTests
1 import datetime
2 from django.test import TestCase
3 from django.utils import timezone
4 from .models import Question
5
6
7 class QuestionModelTests(TestCase):
8
9     def test_was_published_recently_with_future_question(self):
10         """
11         was_published_recently() returns False for questions whose pub
12         is in the future.
13         """
14         time = timezone.now() + datetime.timedelta(days=30)
15         future_question = Question(pub_date=time)
16         self.assertIs(future_question.was_published_recently(), False)
```

TERMINAL:

```
now exiting InteractiveConsole...
PS D:\Study\sem7\Prog\lr7\mysite> python manage.py test polls
Found 1 test(s).
Creating test database for alias 'default'...
System check identified no issues (0 silenced).
E
=====
ERROR: test_was_published_recently_with_future_question (polls.tests.QuestionModelT
was_published_recently() returns False for questions whose pub_date
=====
Traceback (most recent call last):
  File "D:\Study\sem7\Prog\lr7\mysite\polls\tests.py", line 16, in test_was_publish
    self.assertIs(future_question.was_published_recently(), False)
  File "D:\Study\sem7\Prog\lr7\mysite\polls\models.py", line 10, in was_published_r
    return self.pub_date >= timezone.now() - datetime.timedelta(days=1)
NameError: name 'datetime' is not defined
=====
Ran 1 test in 0.002s

FAILED (errors=1)
Destroying test database for alias 'default'...
PS D:\Study\sem7\Prog\lr7\mysite>
```



```
mysite > polls > views.py > vote
38
39
40 class ResultsView(generic.DetailView):
41     model = Question
42     template_name = 'polls/results.html'
43
44 class DetailView(generic.DetailView):
45     ...
46     def get_queryset(self):
47         """
48         Excludes any questions that aren't published yet.
49         """
50         return Question.objects.filter(pub_date__lte=timezone.now())
51
52 def vote(request, question_id):
53     question = get_object_or_404(Question, pk=question_id)
54     try:
55         selected_choice = question.choice_set.get(pk=request.POST['choice'])
56     except (KeyError, Choice.DoesNotExist):
57         # Redisplay the question voting form.
58         return render(request, 'polls/detail.html', {
59             'question': question,
60             'error_message': "You didn't select a choice.",
61         })
62     else:
63         selected_choice.votes += 1
64         selected_choice.save()
65         # Always return an HttpResponseRedirect after successfully dealing
66         # with POST data. This prevents data from being posted twice if a
67         # user hits the Back button.
68         return HttpResponseRedirect(reverse('polls:results', args=(question.id,)))
```

PROBLEMS 16 OUTPUT TERMINAL DEBUG CONSOLE

Not Found: /polls/1/DetailView
[12/Jan/2022 23:55:53] "GET /polls/1/DetailView HTTP/1.1" 404 2868
Not Found: /favicon.ico
[12/Jan/2022 23:55:53] "GET /favicon.ico HTTP/1.1" 404 2216
Not Found: /favicon.ico
[12/Jan/2022 23:55:54] "GET /favicon.ico HTTP/1.1" 404 2216

Python 3.9.5 64-bit 0 16 Ln 57

part 6

```
mysite > static > polls > # style.css > body
1 li a {
2     color: #rgb(255, 255, 255);
3 }
4 body {
5     background: white url("images/img1.jpg") no-repeat;
6 }
```

localhost:8080/polls/

What's up?
test

PROBLEMS 16 OUTPUT TERMINAL DEBUG CONSOLE

[13/Jan/2022 00:49:10] "GET /polls/ HTTP/1.1" 200 213
Not Found: /favicon.ico
[13/Jan/2022 00:49:10] "GET /favicon.ico HTTP/1.1" 404 2216
[13/Jan/2022 00:49:10] "GET /static/polls/style.css HTTP/1.1" 200 109
Not Found: /favicon.ico
[13/Jan/2022 00:49:11] "GET /favicon.ico HTTP/1.1" 404 2216

Python 3.9.5 64-bit 0 15 Ln 6, Col 2 Spaces: 4 UTF-8 CRLF CSS