7. Develop a Django app that performs student registration to a course. It should also display list of students registered for any selected course. Create students and course as models with enrolment as ManyToMany field.

To create environment 🡪 python -m venv myenv

Activate the environment 🡪 .\myenv\Scripts\activate

#Instal Django 🡪 if u created environment newly

**Create a new Django project**:

django-admin startproject student\_registration

cd student\_registration

**Create a new Django app**

python manage.py startapp registration

**Add the new app to your project's settings**:

In student\_registration/settings.py, add 'registration' to the INSTALLED\_APPS

INSTALLED\_APPS = [

...

'registration',

]

**Create the models** in registration/models.py:

from django.db import models

class Student(models.Model):

first\_name = models.CharField(max\_length=50)

last\_name = models.CharField(max\_length=50)

email = models.EmailField(unique=True)

def \_\_str\_\_(self):

return f'{self.first\_name} {self.last\_name}'

class Course(models.Model):

name = models.CharField(max\_length=100)

description = models.TextField()

def \_\_str\_\_(self):

return self.name

class Enrollment(models.Model):

student = models.ForeignKey(Student, on\_delete=models.CASCADE)

course = models.ForeignKey(Course, on\_delete=models.CASCADE)

enrolled\_at = models.DateTimeField(auto\_now\_add=True)

class Meta:

unique\_together = ('student', 'course')

def \_\_str\_\_(self):

return f'{self.student} enrolled in {self.course}'

**Run migrations** to create the database schema:

python manage.py makemigrations

python manage.py migrate

**admin interface** registration/admin.py

from django.contrib import admin

from .models import Student, Course, Enrollment

admin.site.register(Student)

admin.site.register(Course)

admin.site.register(Enrollment)

**Create views for registration and displaying enrolled students** in registration/views.py:

from django.shortcuts import render, redirect, get\_object\_or\_404

from .models import Student, Course, Enrollment

from django.http import HttpResponse

def course\_list(request):

courses = Course.objects.all()

return render(request, 'registration/course\_list.html', {'courses': courses})

def enroll\_student(request, course\_id):

course = get\_object\_or\_404(Course, id=course\_id)

students = Student.objects.all()

if request.method == 'POST':

student\_id = request.POST.get('student')

student = get\_object\_or\_404(Student, id=student\_id)

Enrollment.objects.create(student=student, course=course)

return redirect('course\_list')

return render(request, 'registration/enroll\_student.html', {'course': course, 'students': students})

def enrolled\_students(request, course\_id):

course = get\_object\_or\_404(Course, id=course\_id)

enrollments = Enrollment.objects.filter(course=course)

return render(request, 'registration/enrolled\_students.html', {'course': course, 'enrollments': enrollments})

**Create URLs for these views** in registration/urls.py:

from django.urls import path

from . import views

urlpatterns = [

path('', views.course\_list, name='course\_list'),

path('course/<int:course\_id>/enroll/', views.enroll\_student, name='enroll\_student'),

path('course/<int:course\_id>/students/', views.enrolled\_students, name='enrolled\_students'),

]

**Project folder student\_registration/urls.py**

from django.contrib import admin

from django.urls import include, path

urlpatterns = [

path('admin/', admin.site.urls),

path('registration/', include('registration.urls')),

]

**Create templates** for each view:

* **registration/templates/registration/course\_list.html**

<!DOCTYPE html>

<html>

<head>

<title>Courses</title>

</head>

<body>

<h1>Courses</h1>

<ul>

{% for course in courses %}

<li>

{{ course.name }} - <a href="{% url 'enroll\_student' course.id %}">Enroll</a> -

<a href="{% url 'enrolled\_students' course.id %}">View Students</a>

</li>

{% endfor %}

</ul>

</body>

</html>

**registration/templates/registration/enroll\_student.html**

<!DOCTYPE html>

<html>

<head>

<title>Enroll Student</title>

</head>

<body>

<h1>Enroll Student in {{ course.name }}</h1>

<form method="post">

{% csrf\_token %}

<select name="student">

{% for student in students %}

<option value="{{ student.id }}">{{ student.first\_name }} {{ student.last\_name }}</option>

{% endfor %}

</select>

<button type="submit">Enroll</button>

</form>

</body>

</html>

**registration/templates/registration/enrolled\_students.html:**

<!DOCTYPE html>

<html>

<head>

<title>Enrolled Students</title>

</head>

<body>

<h1>Students Enrolled in {{ course.name }}</h1>

<ul>

{% for enrollment in enrollments %}

<li>{{ enrollment.student.first\_name }} {{ enrollment.student.last\_name }}</li>

{% endfor %}

</ul>

</body>

</html>

**To create superuser**

Python manage.py createsuperuser

**To run**

Python manage.py runserver

**Ouput link 🡪** <http://127.0.0.1:8000/admin/> add student name, course, enrolment

**Test app 🡪** <http://127.0.0.1:8000/registration/>