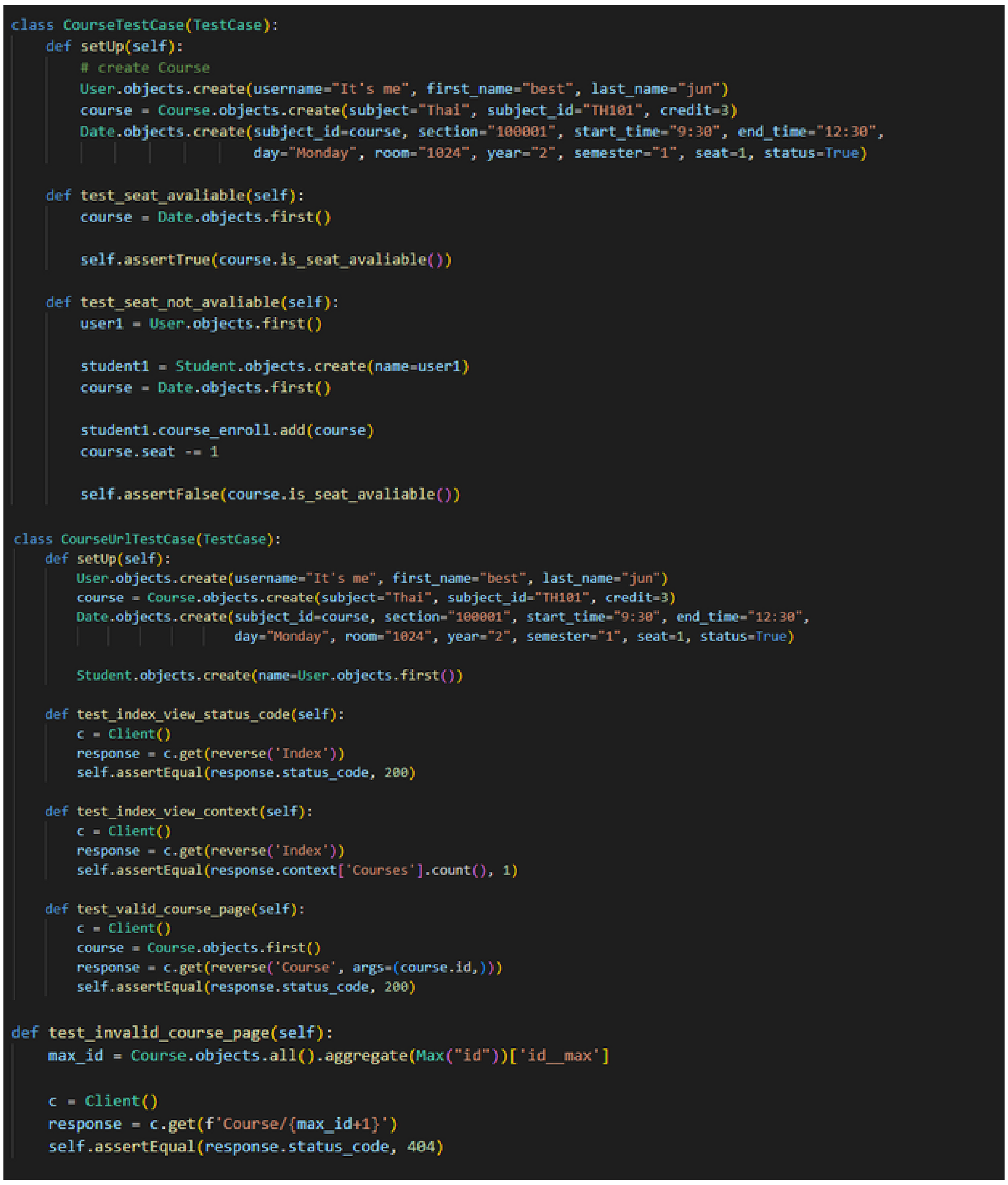
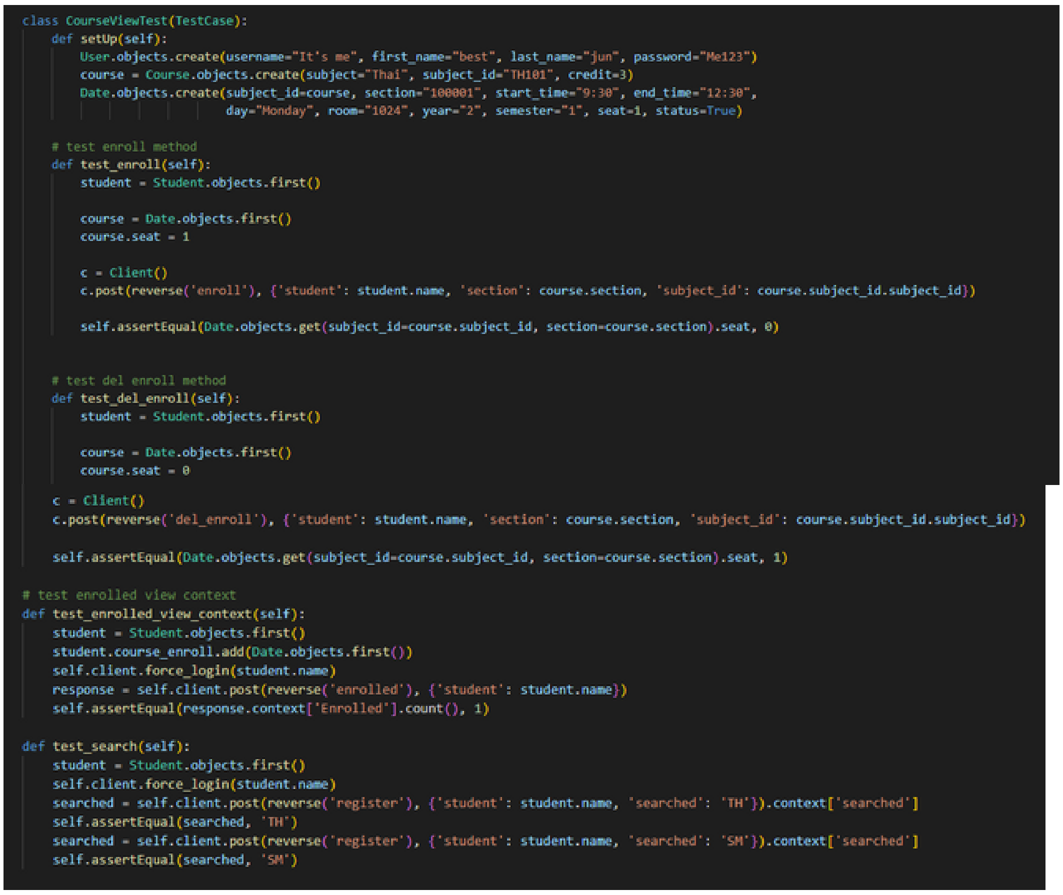
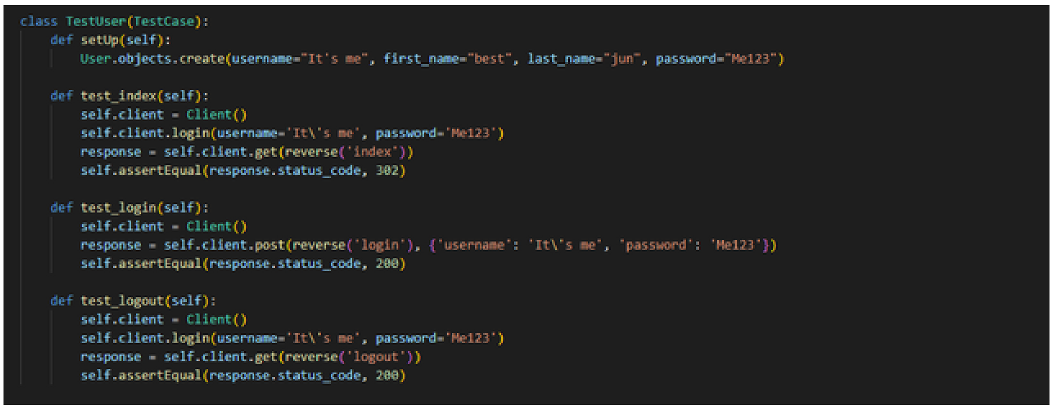


```python
class CourseTestCase(TestCase):
    def setUp(self):
        # create Course
        User.objects.create(username="It's me", first_name="best", last_name="jun")
        course = Course.objects.create(subject="Thai", subject_id="TH101", credit=3)
        Date.objects.create(subject_id=course, section="100001", start_time="9:30", end_time="12:30",
                            day="Monday", room="1024", year="2", semester="1", seat=1, status=True)

    def test_seat_avaliable(self):
        course = Date.objects.first()

        self.assertTrue(course.is_seat_avaliable())

    def test_seat_not_avaliable(self):
        user1 = User.objects.first()

        student1 = Student.objects.create(name=user1)
        course = Date.objects.first()

        student1.course_enroll.add(course)
        course.seat -= 1

        self.assertFalse(course.is_seat_avaliable())

class CourseUrlTestCase(TestCase):
    def setUp(self):
        User.objects.create(username="It's me", first_name="best", last_name="jun")
        course = Course.objects.create(subject="Thai", subject_id="TH101", credit=3)
        Date.objects.create(subject_id=course, section="100001", start_time="9:30", end_time="12:30",
                            day="Monday", room="1024", year="2", semester="1", seat=1, status=True)

        Student.objects.create(name=User.objects.first())

    def test_index_view_status_code(self):
        c = Client()
        response = c.get(reverse('Index'))
        self.assertEqual(response.status_code, 200)

    def test_index_view_context(self):
        c = Client()
        response = c.get(reverse('Index'))
        self.assertEqual(response.context['Courses'].count(), 1)

    def test_valid_course_page(self):
        c = Client()
        course = Course.objects.first()
        response = c.get(reverse('Course', args=(course.id,)))
        self.assertEqual(response.status_code, 200)

def test_invalid_course_page(self):
    max_id = Course.objects.all().aggregate(Max("id"))['id__max']

    c = Client()
    response = c.get(f'Course/{max_id+1}')
    self.assertEqual(response.status_code, 404)
```



```python
class CourseViewTest(TestCase):
    def setUp(self):
        User.objects.create(username="It's me", first_name="best", last_name="jun", password="Me123")
        course = Course.objects.create(subject="Thai", subject_id="TH101", credit=3)
        Date.objects.create(subject_id=course, section="100001", start_time="9:30", end_time="12:30",
                            day="Monday", room="1024", year="2", semester="1", seat=1, status=True)

    # test enroll method
    def test_enroll(self):
        student = Student.objects.first()

        course = Date.objects.first()
        course.seat = 1

        c = Client()
        c.post(reverse('enroll'), {'student': student.name, 'section': course.section, 'subject_id': course.subject_id.subject_id})

        self.assertEqual(Date.objects.get(subject_id=course.subject_id, section=course.section).seat, 0)


    # test del enroll method
    def test_del_enroll(self):
        student = Student.objects.first()

        course = Date.objects.first()
        course.seat = 0
    c = Client()
    c.post(reverse('del_enroll'), {'student': student.name, 'section': course.section, 'subject_id': course.subject_id.subject_id})

    self.assertEqual(Date.objects.get(subject_id=course.subject_id, section=course.section).seat, 1)

# test enrolled view context
def test_enrolled_view_context(self):
    student = Student.objects.first()
    student.course_enroll.add(Date.objects.first())
    self.client.force_login(student.name)
    response = self.client.post(reverse('enrolled'), {'student': student.name})
    self.assertEqual(response.context['Enrolled'].count(), 1)

def test_search(self):
    student = Student.objects.first()
    self.client.force_login(student.name)
    searched = self.client.post(reverse('register'), {'student': student.name, 'searched': 'TH'}).context['searched']
    self.assertEqual(searched, 'TH')
    searched = self.client.post(reverse('register'), {'student': student.name, 'searched': 'SM'}).context['searched']
    self.assertEqual(searched, 'SM')
```



```python
class TestUser(TestCase):
    def setUp(self):
        User.objects.create(username="It's me", first_name="best", last_name="jun", password="Me123")

    def test_index(self):
        self.client = Client()
        self.client.login(username='It\'s me', password='Me123')
        response = self.client.get(reverse('index'))
        self.assertEqual(response.status_code, 302)

    def test_login(self):
        self.client = Client()
        response = self.client.post(reverse('login'), {'username': 'It\'s me', 'password': 'Me123'})
        self.assertEqual(response.status_code, 200)

    def test_logout(self):
        self.client = Client()
        self.client.login(username='It\'s me', password='Me123')
        response = self.client.get(reverse('logout'))
        self.assertEqual(response.status_code, 200)
```

อธิบาย test

- setUp เช็คการสร้าง query
- test seat avaliable เช็คว่ามีที่เรียนว่างหรือไม่
- test seat unavaliable เช็คว่าที่เรียนเต็มหรือไม่
- test index view status code เช็คว่าหน้า index ทำงานตามปกติไหมถูก redirect ถูกหรือไม่
- test index view context เช็คว่าจำนวน data course ใน query มีจำนวนถูกหรือไม่
- test valid course page เช็คว่ามีหน้า web page ของ course มีหรือไม่
- test invalid course page เช็คว่า course ถ้าไม่มี web page จะ response 404
- test enroll เช็คว่าสามารถลงเรียนในวิชานั้นได้หรือไม่
- test del enroll เช็คว่าสามารถถอนวิชาเรียนได้หรือไม่
- test enroll view context จะส่งจำนวนคอร์สเรียนที่ลงเรียนกลับมา
- test search เช็คว่าสามารถค้นหาคอร์สเรียนได้หรือไม่
- text index เช็คว่าหน้า index ของ user ถูกหรือไม่
- test login เช็คว่าสามารถ login ได้หรือไม่
- test logout เช็คว่าสามารถ logout ได้หรือไม่