Program-3

Develop a Django app that displays current date and time in server.

Terminal:

```
py--version
pip--version
py -m pip install Django
django-admin startproject mysite
cd mysite
py manage.py runserver
```

Views.py/mysite

```
from django.http import HttpResponse
import datetime
def current_datetime(request):
now=datetime.datetime.now()
html="<html><body>It is now %s.</body></html>"%now
return HttpResponse(html)
```

urls.py/mysite

```
from django.urls import path
from mysite.views import current_datetime
urlpatterns=[
  path('',current_datetime),
]
```

Program-4

Develop a Django app that displays date and time four hours ahead and four hours before as an offset of current date and time in server.

Terminal:

```
py manage.py startapp mysite1
```

Views.py/mysite1

```
from django.http import HttpResponse
import datetime
def current_datetime(request):
now=datetime.datetime.now()
```

```
html=”<html><body>It is now %s.</body></html>”%now
return HttpResponse(html)
def four_hours_ahead(request):
dt=datetime.datetime.now()+datetime.timedelta(hours=4)
html=”<html><body>After 4 hour(s), it will be %s.</body></html>”%(dt,)
return HttpResponse(html)
def four_hours_before(request):
dt=datetime.datetime.now()+datetime.timedelta(hours=-4)
html=”<html><body>Before 4 hour(s), it will be %s.</body></html>”%(dt,)
return HttpResponse(html)
```

urls.py/mysite1

```
from django.urls import path
from mysite.views import current_datetime,four_hours_ahead,four_hours_before
urlpatterns=[
  path(‘’,current_datetime),
  path(‘fhrsa/’, four_hours_ahead),
  path(‘fhrsb/’, four_hours_before),
]
```

Program-5

Develop a simple Django app that displays an unordered list of fruits and ordered list of selected students for an event.

Terminal:

```
python manage.py startapp fruits_and_students
```

views.py/fruits_and_students

```
from django.shortcuts import render
def fruits_and_students(request):
print(request.build_absolute_uri())
fruits = ['Apple', 'Banana', 'Orange', 'Grapes']
students = ['Alice', 'Bob', 'Charlie', 'David']
return render(request, 'fruits_and_students/fruits_and_students.html', {'fruits': fruits, 'students': students})
```

urls.py (fruits_and_students/urls.py)

```
from django.urls import path
```

```
from .views import fruits_and_students
urlpatterns = [
 path('', fruits_and_students, name='fruits_and_students'),
 ]
```

urls.py (myproject/urls.py)

```
from django.contrib import admin
from django.urls import path, include
urlpatterns = [
path("", include("myapp.urls")),
path("admin/", admin.site.urls),
path('fruits_and_students/', include('fruits_and_students.urls')),
 ]
```

myproject/settings.py/ INSTALLED_APPS

```
fruits_and_students',
```

fruits_and_students.html(fruits_and_students/templates/fruits_and_students/fruits_and_students.html)

```
<!DOCTYPE html>
<html lang="en">
<head>
 <meta charset="UTF-8">
 <meta name="viewport" content="width=device-width, initial-scale=1.0">
 <title>Fruits and Students</title>
</head>
<body>
 <h1>Fruits</h1>
 <ul>
 {% for fruit in fruits %}
 <li>{{ fruit }}</li>
 {% endfor %}
 </ul>
 <h1>Selected Students</h1>
 <ol>
 {% for student in students %}
 <li>{{ student }}</li>
 {% endfor %}
```

```
 </ol>
</body>
</html>
```

python manage.py runserver

Program-6

Develop a layout.html with a suitable header (containing navigation menu) and footer with copyright and developer information. Inherit this layout.html and create 3 additional pages: contact us, About Us and Home page of any website.

Terminal:

python manage.py startapp website_pages

website_pages/views.py

#views.py

```
from django.shortcuts import render
def home(request):
return render(request, 'website_pages/home.html')
def about_us(request):
return render(request, 'website_pages/about_us.html')
def contact_us(request):
return render(request, 'website_pages/contact_us.html')
```

urls.py (website_pages /urls.py)

```
from django.urls import path
from website_pages import views
urlpatterns = [
path('home/', views.home, name='home'),
path('about_us/', views.about_us, name='about_us'),
path('contact_us/', views.contact_us, name='contact_us'),
]
```

#urls.py (myproject/urls.py)

```
from django.contrib import admin
from django.urls import path, include
urlpatterns = [
path("", include("myapp.urls")),
```

path("admin/", admin.site.urls),
path('fruits_and_students/', include('fruits_and_students.urls')),
path('', include('website_pages.urls')),
]

myproject/settings.py/ INSTALLED_APPS
'website_pages',

#templates/layout.html (The CSS is optional)

```
<!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>{% block title %}My Website{% endblock %}</title>
<style>
body {
font-family: Arial, sans-serif;
margin: 0;
padding: 0;
}
header {
background-color: #333;
color: #fff;
padding: 10px;
}
nav ul {
list-style-type: none;
```

```
padding: 0;
}
nav ul li {
display: inline;
margin-right: 20px;
}
nav ul li a {
text-decoration: none;
color: #fff;
}
main {
padding: 20px;
}
footer {
background-color: #333;
color: #fff;
text-align: center;
padding: 10px;
position: fixed;
bottom: 0;
width: 100%;
}
</style>
</head>
<body>
```

```
<header>
<nav>
<ul>
<li><a href="{% url 'home' %}">Home</a></li>
<li><a href="{% url 'about_us' %}">About Us</a></li>
<li><a href="{% url 'contact_us' %}">Contact Us</a></li>
</ul>
</nav>
</header>
<main>
{% block content %}
{% endblock %}
</main>
<footer>
<p>&copy; 2024 My Website. All rights reserved. </p>
<p>Developed by CIT</p>
</footer>
</body>
</html>
```

#home.html (website_pages/templates/website_pages/home.html)

```
{% extends 'layout.html' %}
{% block title %}Home{% endblock %}
{% block content %}
<h1>Welcome to Cambridge Institute of Technology</h1>
```

Empowering students with a blend of knowledge and innovation.

Nestled in the bustling city of Bengaluru, our campus is a hub of academic excellence and

cutting-edge research.

<h2>Discover Your Potential</h2>

Undergraduate Programs: Dive into our diverse range of engineering

courses designed to fuel your passion and drive innovation.

Postgraduate Programs: Advance your expertise with our specialized

master's programs and embrace leadership in technology.

Join our vibrant community where ideas flourish and inventions come to life in our state-of-theart labs and research centers.

Benefit from our strong industry ties and placement programs that open doors to exciting career

opportunities.

{% endblock %}

#about_us.html (website_pages/templates/website_pages/about_us.html)

{% extends 'layout.html' %}

{% block title %}About Us{% endblock %}

{% block content %}

<h1>Our Legacy</h1>

Founded on the principles of quality education and societal contribution, we've been at the

forefront of technological education for over four decades.

<h1>Vision and Mission</h1>

Our vision is to be a beacon of knowledge that lights the way for aspiring minds, and our mission

is to nurture innovative thinkers who will shape the future of technology.

<h1>Campus Life</h1>

Experience a dynamic campus life enriched with cultural activities, technical clubs, and

community service initiatives that foster holistic development.

{% endblock %}

#contact_us.html (website_pages/templates/website_pages/contact_us.html)

{% extends 'layout.html' %}

{% block title %}Contact Us{% endblock %}

{% block content %}

<h1>Get in Touch</h1>

For admissions and inquiries, reach out to us at:

Email: admissions@cambridge.edu.in

Phone: +91-9731998888

<h1>Visit Our Campus</h1>

Cambridge Institute of Technology - Main Campus

KR Puram, Bengaluru - 560036

We welcome you to be a part of our thriving community that's dedicated to creating a better

tomorrow through technology and innovation.

{% endblock %}

python manage.py runserver

Program-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.

django-admin startproject course_registration

cd course_registration

py manage.py startapp registration

registration/models.py

```
from django.db import models

class Course(models.Model):
    name = models.CharField(max_length=100)
    description = models.TextField()
    def __str__(self):
        return self.name
class Student(models.Model):
    name = models.CharField(max_length=100)
    email = models.EmailField()
    courses = models.ManyToManyField(Course, related_name='students')
    def __str__(self):
        return self.name
```

registration/admin.py

```
from django.contrib import admin
```

```
from .models import Course, Student
admin.site.register(Course)
admin.site.register(Student)

py manage.py check
py manage.py makemigrations
py manage.py migrate

py manage.py shell
>>> from registration.models import Course
>>> p1=Course(name='FSD',description='to create the website')
>>> p1.save()
>>> Course.objects.all()
```

registration/views.py

```
from django.shortcuts import render
from .models import Course
def course_list(request):
    courses = Course.objects.all()
    return render(request, 'registration/course_list.html', {'courses': courses})
def register_student(request, course_id):
    course = Course.objects.get(pk=course_id)
    if request.method == 'POST':
        name = request.POST.get('name')
        email = request.POST.get('email')
```

```
        student, created = course.students.get_or_create(name=name, email=email)
        if created:
            message = f'{student.name} registered successfully for {course.name}.'
        else:
            message = f'{student.name} is already registered for {course.name}.'
        return render(request, 'registration/registration_confirmation.html', {'message': message})
    return render(request, 'registration/student_registration.html', {'course': course})
```

course_list.html

```
<!DOCTYPE html>
<html>
<head>
    <title>course List</title>
</head>
<body>
    <h1>Available courses:</h1>
    <ul>
        {% for c in courses %}
            <li>{{ c.name }}</li>
        {% endfor %}
    </ul>
</body>
</html>
```

student_registration.html

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01//EN">
<html lang="en">
<head>
    <title>Course Registration</title>
</head>
<body>
    <h1>Course Registration</h1>
    <form action="." method="POST">
        {% csrf_token %}
        <label for="name">Name: </label>
        <input type="text" name="name" value="">
        <label for="email">Email: </label>
        <input type="text" name="email" value="">
        <input type="submit" value="Submit">
    </form>
</body>
</html>
```

registration_confirmation.html

```
<!DOCTYPE html>
<html>
<head>
    <title>course List</title>
</head>
<body>
    <h1>Available courses:</h1>
```

```
    <ul>
        <li>{{ message }}</li>
    </ul>
</body>
</html>
```

registration/urls.py

```
from django.urls import path
from . import views
urlpatterns = [
    path('', views.course_list, name='course_list'),
    path('register/<int:course_id>/', views.register_student, name='register_student'),
]
```

urls.py

```
from django.contrib import admin
from django.urls import path, include
urlpatterns = [
    path('admin/', admin.site.urls),
    path('', include('registration.urls')),
]
```

```
python manage.py runserver
```