

**DEPARTMENT OF INFORMATION TECHNOLOGY  
JNTU-GURAJADA VIZIANAGARAM  
COLLEGE OF ENGINEERING VIZIANAGARAM (A)  
VIZIANAGARAM**



**DJANGO FRAMEWORK LAB**

**UNIVERSITY LIBRARY MANAGEMENT SYSTEM  
DONE BY**

<b>M.Bhavana</b>	<b>(24VV5A1271)</b>
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**UNDER GUIDANCE OF  
MRS.MADHUMITA CHANDA**

**DEPARTMENT OF INFORMATION  
TECHNOLOGY**



**JNTU-GURAJADA VIZIANAGARAM  
COLLEGE OF ENGINEERING VIZIANAGARAM (A)  
VIZIANAGARAM**

**Regd. No: 24VV5A1271**

**CERTIFICATE**

**This is to certify that this is a Bonafide record of practical work done by  
MS. M.Bhavana of II<sup>nd</sup> B-Tech II<sup>nd</sup> Semester Class in Django Framework Lab  
during the year 2024-25.**

**No.of Tasks Completed and Certified: 13**

**Lecture In-Charge**

**Head of The Department**

**Date:**



**DEPARTMENT OF INFORMATION TECHNOLOGY**  
**JNTU-GURAJADA VIZIANAGARAM**  
**COLLEGE OF ENGINEERING VIZIANAGARAM (A)**  
**VIZIANAGARAM**

Website: [www.jntugvcev.edu.in](http://www.jntugvcev.edu.in)

**Subject Name: DJANGO FRAMEWORK**

**Subject Code: R232212SE01**

**Year: 2025**

**Regulation: R23**

**COURSE OUTCOMES**

NBA Subject Code	Course Outcomes	
	<b>CO1</b>	Design and build static as well as dynamic web pages and interactive web-based applications .
	<b>CO2</b>	Web development using Django framework.
	<b>CO3</b>	Analyze and create functional website in Django and deploy Django Web Application on Cloud .

**CO-PO Mapping**

Mapping of Course Outcomes (COs) with Program Outcomes (POs)

Course Outcomes		Program Outcomes (POs)														
		PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
	<b>CO1</b>	3	1	3	1	3	1	1	1	2	3	2	1	3	3	2
	<b>CO2</b>	3	2	3	1	3	1	1	1	2	2	2	2	3	3	3
	<b>CO3</b>	2	3	3	3	3	2	2	2	2	3	3	3	3	3	3

Enter correlation levels 1,2 and 3 as defined below:

**1: Slight (Low) 2: Moderate (Medium) 3: Substantial (High) If there is no correlation, put “-”**

**Signature of the Course Instructor :**

SNO	DATE	TABLE OF CONTENTS	PAGE NO	MARKS	SIGNATURE
1	13-12-2024	Understanding Django and Its Libraries	05-18		
2	20-12-2024	Introduction to Django Frame Work	19-20		
3	27-12-2024	Step to step guide to installation Django	21-24		
4	03-01-2025	Linking Views and URL Configurations	25-26		
5	24-01-2025	Exploring Django Views	27-28		
6	24-01-2025	Setting up App-level URLs	29-33		
7	31-01-2025	Working with Templates in Django	34-82		
8	17-02-2025	Data base Integration and configuration SQL LITE	83-85		
9	21-02-2025	Handling Forms in Django	86-88		
10	21-02-2025	Defining and using models	88-91		
11	07-03-2025	Migrations: Synwith the Database	92-93		
12	27-03-2025	Deploying Django Application on cloud platforms	94-95		
13	04-04-2025	Front End Wed Developer Certification	96-97		

**Date:**

**signature:**



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- |                                 |  |
|---------------------------------|--|
| 1. Name of the Laboratory       | : Django Framework Lab                   |
| 2. Name of the Student          | : M. Bhavana                             |
| 3. Roll No                      | : 24VV5A1271                             |
| 4. Class                        | : II B-Tech II Semester                  |
| 5. Academic Year                | : 2024-25                                |
| 6. Name of Experiment           | : Understanding Django and its Libraries |
| 7. Date of Experiment           | : 13-12-2024                             |
| 8. Date of Submission of Report | : 20-12-2024                             |

S. No	Ability And Activity	Weightage Of Marks	Day To Day Evaluation Score
1	Aim Objective, Tools required	3	
2	Theory, Algorithm and Observations	3	
3	Implementation	3	
4	Schematic diagrams, Architecture, workflow, Flowchart	3	
5	Tidiness of his/her working area, proper maintenance of system during and after experiment.	3	
	Total Score	15	

Date:

signature of faculty:

## Django: A web framework for python

### **Definition:**

Django is a high-level Python web framework that enables rapid development of secure and maintainable websites. Built by experienced developers, Django takes care of much of the hassle of web development, so you can focus on writing your app without needing to reinvent the wheel. It is free and open source, has a thriving and active community, great documentation, and many options for free and paid-for support.

### **Key Features of Django:**

1. Fast Development – Comes with built-in features like authentication, database management, and an admin panel.
2. Scalability – Suitable for small projects to enterprise-level applications.
3. Security – Protects against common security threats (SQL Injection, CSRF, XSS, etc.).
4. ORM (Object-Relational Mapper) – Allows database interaction using Python instead of SQL.
5. Built-in Admin Panel – Auto-generates an admin interface for managing data.
6. Reusable App-Developers can create modular and reusable components.

### **Django's MVT Architecture:**

Model (M) – Handles database interactions (e.g., User, Booking).

View (V) – Manages business logic and connects models to templates.

Template (T) – Renders HTML pages dynamically.

### Why Use Django?

- i. **Fast Development** – Reduces development time.
- ii. **Scalability** – Handles high traffic efficiently.
- iii. **Security** – Protects against common web threats.
- iv. **Extensibility** – Supports third-party apps and plugins.

### Conclusion:

Django is a powerful framework that simplifies web development by offering built-in tools for database management, authentication, security, and more. It is a great choice for building modern web applications, from small projects to enterprise-level systems.

## **PYTHON LIBRARIES:**

### **1. Python Collections - Container Datatypes:**

**Purpose:** Provides specialized container datatypes that support efficient handling of data.

**Key Types:**

- a. **List:** Ordered, mutable, allows duplicates.
- b. **Tuple:** Ordered, immutable, allows duplicates.
- c. **Set:** Unordered, no duplicates, fast membership testing.
- d. **Dictionary:** Unordered, key-value pairs, fast lookups.

**Common Use:** Data manipulation, storing and accessing collections of data in web apps (like user data or API responses).

### **2. Tkinter - GUI Applications:**

**Purpose:** Python's standard library for creating graphical user interfaces (GUIs).

**Key Features:**

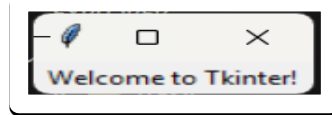
- a. Widgets: Buttons, labels, text boxes, etc.
- b. Event handling: Respond to user interactions like clicks or key presses.
- c. Simple layout management.

**Common Use:** Build desktop applications or tools for local interaction with a web app backend.

### **CODE:**

```
from tkinter import Tk, Label
# Create a window
root = Tk()
root.title("Hello Window")
# Add a label to display text
Label(root, text="Welcome to Tkinter!").pack()
# Run the application
root.mainloop()
```



Output:**3. Requests - HTTP Requests:**

**Purpose:** Simplifies HTTP requests to interact with web APIs.

**Key Features:**

- a. Send GET, POST, PUT, DELETE requests easily.
- b. Handle request parameters, headers, and cookies.
- c. Simple error handling and response handling.

**Common Use:** Interact with REST APIs, download content from the web.

**CODE:**

```
# Install tkinter (not needed for standard Python installations)
# pip install tk # This is not necessary for Tkinter, as it comes with Python by default
import tkinter as tk

from tkinter import messagebox

# Function to validate login
def validate_login():

    username = username_entry.get()
    password = password_entry.get()

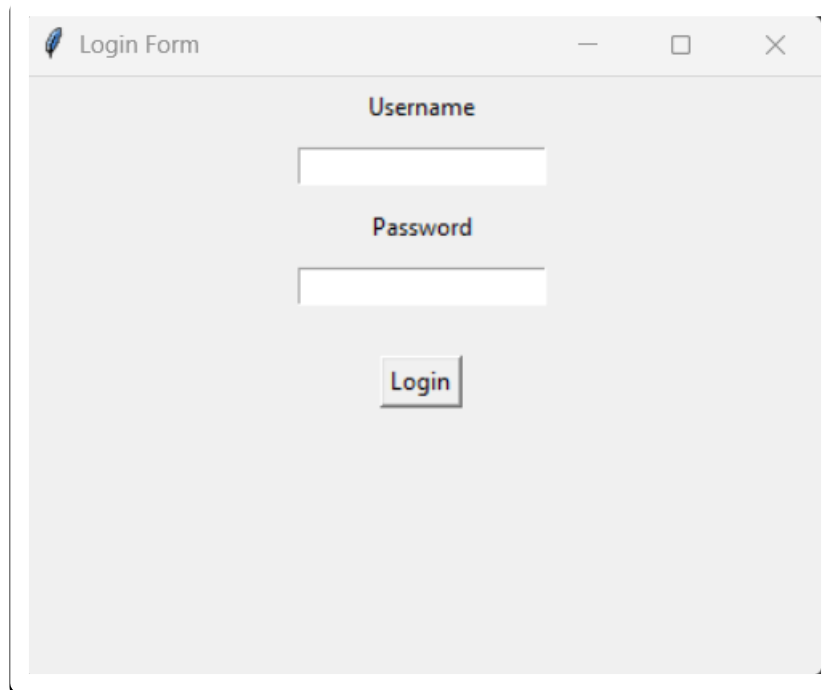
    # Example credentials
    if username == "user" and password == "password":
        messagebox.showinfo("Login Success", "Login Successful!")
    else:
        messagebox.showerror("Login Failed", "Invalid username or password")

# Create the main window
root = tk.Tk()root.title("Login Form")
root.geometry("400x300") # Adjusted to a more reasonable size
```

```
# Create username and password labels and entry widgets

username_label = tk.Label(root, text="Username")
username_label.pack(pady=5)
username_entry = tk.Entry(root)
username_entry.pack(pady=5)
password_label = tk.Label(root, text="Password")
password_label.pack(pady=5)
password_entry = tk.Entry(root, show="*") # 'show' hides the password characters
password_entry.pack(pady=5)
# Create the login button
login_button = tk.Button(root, text="Login", command=validate_login)
login_button.pack(pady=20)
# Run the Tkinter event loop
root.mainloop()
```

### **Output:**



## **4. Scrapy:**

**Purpose:** An open-source web crawling framework for large-scale web scraping.

**Key Features:**

- a. Fast, extensible, and asynchronous web scraping.
- b. Supports handling requests, data extraction, and storing results.
- c. Built-in handling for logging, retries, and sessions.

**Common Use:** Web crawling and scraping projects that require high performance.

## 5. BeautifulSoup4 - Web Scraping:

**Purpose:** Parses HTML and XML documents to extract data.

**Key Features:**

- a. Easy navigation and searching within HTML.
- b. Supports different parsers like `html.parser`, `lxml`, and `html5lib`.

**Common Use:** Extract data from websites for analysis, e.g., for building data-driven applications.

### CODE:

```
import requests
from bs4 import BeautifulSoup
# The URL of the website to scrape
url = 'https://example.com' # Replace with the actual website URL
# Set user-agent headers to avoid getting blocked
headers = {
    'User-Agent': 'Mozilla/5.0 (Windows NT 10.0; Win64; x64) AppleWebKit/537.36
(KHTML, like Gecko) Chrome/110.0.0.0 Safari/537.36'
}
try:
    # Send a GET request
    response = requests.get(url, headers=headers, timeout=10)
    response.raise_for_status() # Raise an error for HTTP errors (e.g., 404, 500)
    # Parse the HTML content with BeautifulSoup
    # Extract and print the page title
    title = soup.title.string if soup.title else "No title found"
    print(f"Title of the page: {title}\n")
```

```
# Extract and print the page title
title = soup.title.string if soup.title else "No title found"
print(f"Title of the page: {title}\n")

# Extract and print all headings (h1, h2, h3)
headings = soup.find_all(['h1', 'h2', 'h3'])

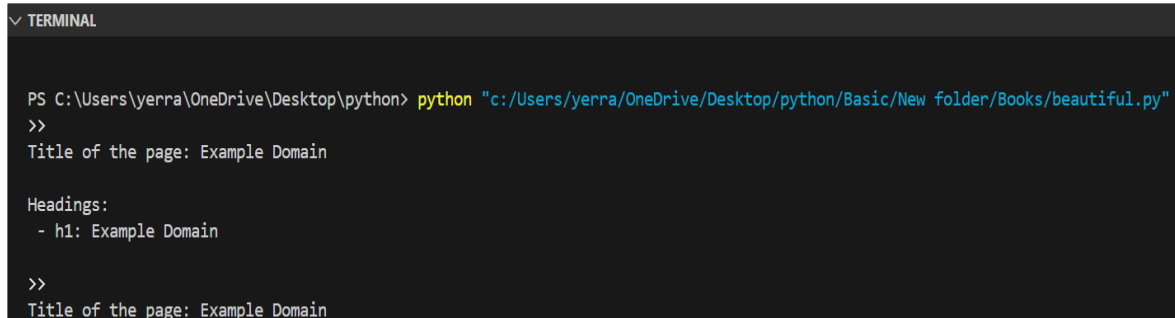
if headings:
    print("Headings:")
    for heading in headings:
        print(f" - {heading.name}: {heading.text.strip()}")
    else:
        print("No headings found.")

# Extract and print all links
links = soup.find_all('a', href=True)

if links:
    print("\nLinks:")
    for link in links:
        print(f" - {link['href']}")
    else:
        print("No links found.")

except requests.exceptions.RequestException as e:
    print(f"Error fetching the webpage: {e}")
```

### **Output:**



```
✓ TERMINAL

PS C:\Users\yerra\OneDrive\Desktop\python> python "c:/Users/yerra/OneDrive/Desktop/python/Basic/New folder/Books/beautiful.py"
>>
Title of the page: Example Domain

Headings:
 - h1: Example Domain

>>
Title of the page: Example Domain
```

## 6. Zappa:

**Purpose:** Deploy Python web applications to AWS Lambda and API Gateway.

**Key Features:**

- a. Supports frameworks like Flask and Django for serverless deployments.
- b. Manages serverless architecture and deployment configurations.

**Common Use:** Build scalable, serverless web apps without maintaining servers.

## 7. Dash:

**Purpose:** Web application framework for building interactive data visualization applications.

**Key Features:**

- a. Built on top of Flask, React, and Plotly.
- b. Integrates seamlessly with data science libraries (e.g., Pandas, Plotly).

**Common Use:** Building dashboards and data-driven web applications.

## 8. TurboGears:

**Purpose:** Full-stack web framework built on top of WSGI.

**Key Features:**

- a. Modular: Mix and match components like SQLAlchemy, Genshi, and others.
- b. Focus on rapid development and scalability.

**Common Use:** Develop scalable, enterprise-level web applications.

## 9. CherryPy:

**Purpose:** Minimalistic web framework for building web applications.

**Key Features:**

Provides a simple and fast HTTP server.

Handles routing, cookies, sessions, and file uploads.

**Common Use:** Building web applications with a lightweight framework.

**CODE:**

```

import cherrypy

class HelloWorld:

    @cherrypy.expose

    def index(self):

        return "Hello, World! This is a CherryPy web page."

if __name__ == '__main__':

    # Server Configuration (Custom Port & Logging)

    cherrypy.config.update({

        'server.socket_host': '127.0.0.1', # Bind to localhost

        'server.socket_port': 9090,      # Change port (default is 8080)

        'log.error_file': 'cherrypy_error.log', # Log errors

        'log.access_file': 'cherrypy_access.log'})

    print("Server is running on http://127.0.0.1:9090/")

    try:cherrypy.quickstart(HelloWorld())

    except Exception as e:

        print(f"Error starting CherryPy: {e}")

```

**Output:** After run the server:-

```

CherryPy is installed!
PS C:\Users\yerra\OneDrive\Desktop\python> & c:\Users\yerra\OneDrive\Desktop\python\.venv\Scripts\python.exe "c:\Users\yerra\OneDrive\Desktop\python\Basic\New folder\Books\cherry.py"
Server is running on http://127.0.0.1:9090/
[15/Mar/2025:22:12:16] ENGINE Listening for SIGTERM.
[15/Mar/2025:22:12:16] ENGINE Bus STARTING
CherryPy Checker:
The Application mounted at '' has an empty config.

[15/Mar/2025:22:12:16] ENGINE Set handler for console events.
[15/Mar/2025:22:12:16] ENGINE Started monitor thread 'Autoreloader'.
[15/Mar/2025:22:12:16] ENGINE Serving on http://127.0.0.1:9090
[15/Mar/2025:22:12:16] ENGINE Bus STARTED
127.0.0.1 - - [15/Mar/2025:22:12:44] "GET / HTTP/1.1" 200 42 "" "Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:137.0) Gecko/20100101 Firefox/137.0"
127.0.0.1 - - [15/Mar/2025:22:12:44] "GET /favicon.ico HTTP/1.1" 200 1406 "http://127.0.0.1:9090/" "Mozilla/5.0 (Windows NT 10.0; Win64; x64; rv:137.0) Gecko/20100101 Firefox/137.0"

```

## 10. Flask:

**Purpose:** Lightweight micro-framework for building web applications.

**Key Features:**

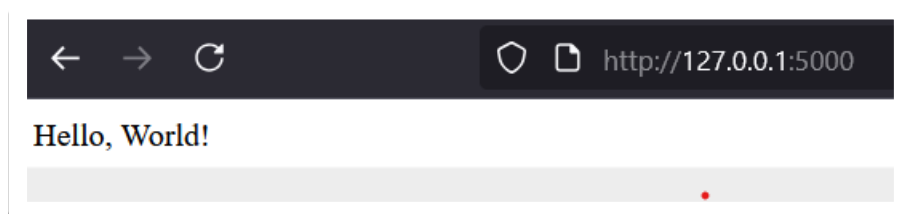
- Simple to learn and use, but highly extensible.
- Supports extensions for database integration, form handling, authentication, etc.

**Common Use:** Small to medium web applications, APIs, or microservices.

### CODE:

```
From flask import Flask
app = Flask(__name__)
@app.route('/')
def hello():
    return "Hello, World!"
if __name__ == '__main__':
    app.run(debug=True)
```

**Output:** After run the server



## 11. Web2Py:

**Purpose:** Full-stack framework for rapid web application development.

**Key Features:**

- Includes a web-based IDE for development.
- Built-in ticketing system and database integration.

**Common Use:** Enterprise web applications with minimal setup.

## 12. Bottle:

**Purpose:** Simple and lightweight WSGI micro-framework.

**Key Features:**

- a. Single-file framework, minimalistic, and fast.
- b. No dependencies, supports routing, templates, and form handling.

**Common Use:** Small web applications, APIs, and prototypes.

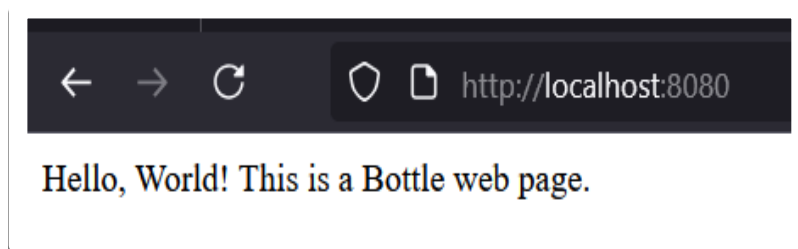
**CODE:**

```
from bottle import Bottle, run
# Create a Bottle application instance
app = Bottle()
@app.route('/')
def index():
    return "Hello, World! This is a Bottle web page."
# Run the Bottle application
if __name__ == '__main__':
    run(app, host='localhost', port=8080, debug=True)
```

**Output:**

```
C:\Users\yerra\OneDrive\Desktop\python\Basic\New folder\Books>python bottle_app.py
Bottle v0.13.2 server starting up (using WSGIRefServer())...
Listening on http://localhost:8080/
Hit Ctrl-C to quit.
```

**After run the server:**





**13. Falcon:**

**Purpose:** High-performance framework for building APIs.

**Key Features:**

- a. Focuses on speed and minimalism.
- b. Supports RESTful API development and is optimized for large-scale deployments.

**Common Use:** Building fast, high-performance APIs.

**14. CubicWeb:**

**Purpose:** Web application framework based on an entity-relation model.

**Key Features:**

- a. Uses a highly modular architecture for development.
- b. Focus on building web apps with rich data models.

**Common Use:** Semantic web applications or data-driven web apps.

**15. Quixote:**

**Purpose:** A web framework designed for simplicity and scalability.

**Key Features:**

- a. Full support for Python's object-oriented programming.
- b. Easily extensible, with minimalistic core.
- c. **Common Use:** Scalable and customizable web applications.

**16. Pyramid:**

**Purpose:** Full-stack web framework that can scale from simple to complex applications.

**Key Features:**

1. Highly flexible with support for routing, templating, authentication, and authorization.
2. Allows for small and large applications, with fine-grained control.

**Common Use:** Building large, enterprise-grade web applications and REST APIs.

**SUMMARY:**

- a) **Flask, Django, Pyramid:** Popular web frameworks, each offering flexibility and scalability.
- b) **Scrapy, BeautifulSoup4:** Specialized for web scraping and data extraction.
- c) **Requests, Zappa, Dash:** Tools for making HTTP requests, serverless apps, and interactive data visualizations.
- d) **Tkinter, Bottle, CherryPy:** Libraries for building lightweight desktop and web applications.



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1. Name of the Laboratory : Django Framework Lab
2. Name of the Student : M. Bhavana
3. Roll No : 24VV5A1271
4. Class : II B-Tech II Semester
5. Academic Year : 2024-25
6. Name of Experiment : Introduction to Django Framework in Project
7. Date of Experiment : 20-12-2024
8. Date of Submission of Report : 27-12-2024

S. No	Ability And Activity	Weightage Of Marks	Day To Day Evaluation Score
1	Aim Objective, Tools required	3	
2	Theory, Algorithm and Observations	3	
3	Implementation	3	
4	Schematic diagrams, Architecture, workflow, Flowchart	3	
5	Tidiness of his/her working area, proper maintenance of system during and after experiment.	3	
	Total Score	15	

Date:

signature of faculty:

## **UNIVERSITY LIBRARY MANAGEMENT SYSTEM**

### **Introduction:**

A **University Learning Management System (ULMS)** is a web-based platform that facilitates the administration, documentation, tracking, and delivery of educational courses and training programs in a university setting. It serves as a **centralized hub** for students, faculty, and administrators to manage academic activities, access course materials, submit assignments, conduct assessments, and engage in online learning.

### **Purpose of ULMS:**

A ULMS is designed to:

- a. Enhance the learning experience for students.
- b. Provide a structured way to manage courses and materials.
- c. Automate administrative tasks like enrollment, grading, and reporting.
- d. Offer a digital library for e-books and research materials.

### **Objectives:**

1. User management
2. Book management
3. Borrow and return
4. Search and Catalogue
5. Reports and analytics
6. System Integration

### **Technologies used:**

#### **Backend Technologies :-**

**Django (Python)** – Framework for handling business logic and Database interactions.

#### **Database Management:**

**SQLite** – Lightweight option for smaller applications.

#### **Frontend Technologies:**

- a. **CSS3** – For styling and layout design.
- b. **JavaScript** – For adding interactivity and enhancing user experience..
- c. **HTML5** – For structuring the web pages.



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1. Name of the Laboratory : Django Framework Lab
2. Name of the Student : M. Bhavana
3. Roll No : 24VV5A1271
4. Class : II B-Tech II Semester
5. Academic Year : 2024-25
6. Name of Experiment : Step-by-step Guide to installing Django
7. Date of Experiment : 20-12-2024
8. Date of Submission of Report : 27-12-2024

S. No	Ability And Activity	Weightage Of Marks	Day To Day Evaluation Score
1	Aim Objective, Tools required	3	
2	Theory, Algorithm and Observations	3	
3	Implementation	3	
4	Schematic diagrams, Architecture, workflow, Flowchart	3	
5	Tidiness of his/her working area, proper maintenance of system during and after experiment.	3	
	Total Score	15	

Date:

signature of faculty:

## DJANGO INSTALLATION:

Step-1 : Checking the installation & version of Python & PIP

```
python --version  
pip --version
```

Step-2 : Installation of Virtual Environment

```
pip install virtualenvwrapper-win
```

Step-3 : Creation of Virtual Environment

```
mkvirtualenv (name)
```

Step-4 : Installation of Django in Virtual environment

```
pip install Django
```

Step-5 : Create a folder to store all the projects

```
mkdir proj_folder_name
```

Step-6 : start new\_project

```
django-admin startproject project_name  
django-admin startapp app_name
```

Step-7 : Run the server

```
python manage.py runserver
```

## **COMMANDS:**

```
C:\Users\vccl>python --version  
Python 3.13.1
```

```
C:\Users\vccl>pip --version  
pip 25.0.1 from  
C:\Users\vccl\AppData\Local\Packages\PythonSoftwareFoundation.Python.3.13_qbz5n2kfra  
8p0\LocalCache\local-packages\Python313\site-packages\pip (python 3.13)
```

```
C:\Users\vccl>pip install virtualenvwrapper-win  
Successfully installed virtualenvwrapper-win-1.2.7
```

```
C:\Users\vccl>mkvirtualenv pythondjango
```

```
created virtual environment CPython3.13.1
```

```
(pythondjango) C:\Users\vccl>pip install django
```

```
Successfully installed asgiref-3.8.1 django-5.1.4 sqlparse-0.5.3 tzdata-2024.2
```

```
(pythondjango) C:\Users\vccl>mkdir Django_Projects
```

```
(pythondjango) C:\Users\vccl>cd Django_Projects
```

```
(pythondjango) C:\Users\vccl\Django_Projects>django-admin startproject university
```

```
(pythondjango) C:\Users\vccl\Django_Projects>django-admin startapp
```

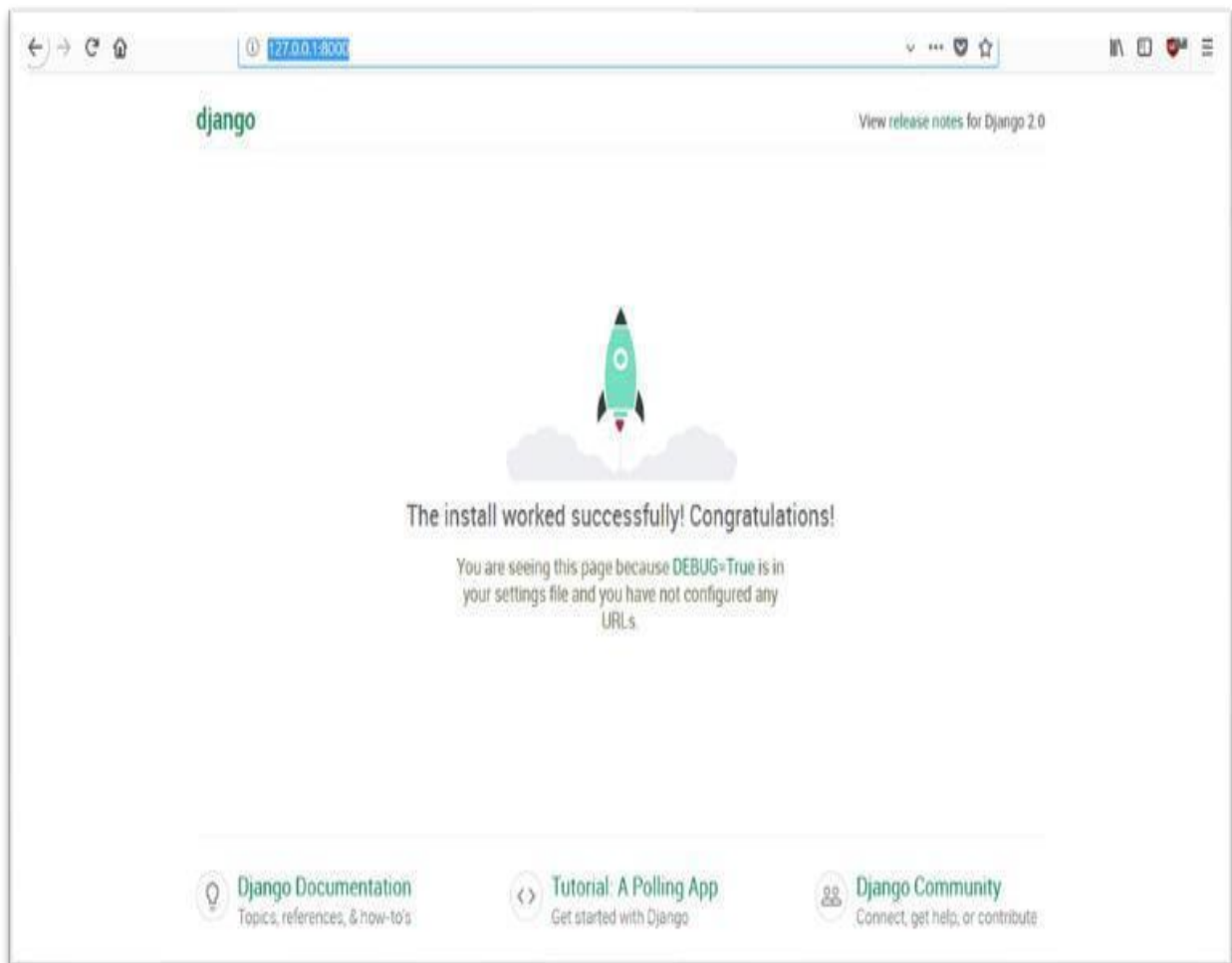
```
university_app (pythondjango) C:\Users\vccl\Django_Projects>cd university
```

```
(pythondjango) C:\Users\vccl\Django_Projects\university>python manage.py  
runserver Django version 5.1.4, using settings 'university.settings' Starting  
development server at http://127.0.0.1:8000/
```

```
Quit the server with CTRL-BREAK.
```

To Come out from the ENVS - Ctrl + C

To Come back - Cd..

**Output:**





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- |                                 |  |
|---------------------------------|--|
| 1. Name of the Laboratory       | : Django Framework Lab                 |
| 2. Name of the Student          | : M. Bhavana                           |
| 3. Roll No                      | : 24VV5A1271                           |
| 4. Class                        | : II B-Tech II Semester                |
| 5. Academic Year                | : 2024-25                              |
| 6. Name of Experiment           | : Linking views and URL configurations |
| 7. Date of Experiment           | : 27-12-2024                           |
| 8. Date of Submission of Report | : 03-01-2025                           |

S. No	Ability And Activity	Weightage Of Marks	Day To Day Evaluation Score
1	Aim Objective, Tools required	3	
2	Theory, Algorithm and Observations	3	
3	Implementation	3	
4	Schematic diagrams, Architecture, workflow, Flowchart	3	
5	Tidiness of his/her working area, proper maintenance of system during and after experiment.	3	
	Total Score	15	

Date:

signature of faculty:

## **PROJECT CREATION:**

**Command used :** django-admin startproject project\_name

## **Connecting views and urls:**

Apps.py:

```
from django.apps import  
  
AppConfig class  
  
LibraryConfig(AppConfig):  
    name = 'library'
```

## **Run Migrations:**

```
python manage.py migrate
```

## **Run the Server and Test:**

```
python manage.py runserver
```



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**JNTU-GURAJADA VIZIANAGARAM**  
**COLLEGE OF ENGINEERING VIZIANAGARAM (A)**  
**VIZIANAGARAM**

**Dr.Ch. Bindu Madhuri**

Asst. Professor & HOD

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1. Name of the Laboratory : Django Framework Lab
2. Name of the Student : M. Bhavana
3. Roll No : 24VV5A1271
4. Class : II B-Tech II Semester
5. Academic Year : 2024-25
6. Name of Experiment : setting up APP-LEVEL URLs
7. Date of Experiment : 24-01-2025
8. Date of Submission of Report : 31-01-2025

S. No	Ability And Activity	Weightage Of Marks	Day To Day Evaluation Score
1	Aim Objective, Tools required	3	
2	Theory, Algorithm and Observations	3	
3	Implementation	3	
4	Schematic diagrams, Architecture, workflow, Flowchart	3	
5	Tidiness of his/her working area, proper maintenance of system during and after experiment.	3	
	Total Score	15	

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**urls.py:**

Each Django app should have its own urls.py file to define app-specific routes.

Steps to Create urls.py in a Django App

- Inside your Django app folder (myapp1), create a file named **urls.py**.
- Define URL patterns to map URLs to views.

```
from django.urls import path
from . import views
urlpatterns = [
    path("", views.index, name="index"),
    # Book Management
    path("add_book/", views.add_book, name="add_book"),
    path("view_books/", views.view_books, name="view_books"),
    path("delete_book/<int:myid>/", views.delete_book, name="delete_book"),
    # Student Management
    path("view_students/", views.view_students, name="view_students"),
    path("delete_student/<int:myid>/", views.delete_student, name="delete_student"),
    # Book Issuing & Viewing
    path("issue_book/", views.issue_book, name="issue_book"),
    path("view_issued_book/", views.view_issued_book, name="view_issued_book"),
    path("student_issued_books/", views.student_issued_books,
name="student_issued_books"),
    # Student Profile
    path("profile/", views.profile, name="profile"),
    path("edit_profile/", views.edit_profile, name="edit_profile"),
    # Authentication & Registration
    path("student_registration/", views.student_registration,
name="student_registration"),
    path("student_login/", views.student_login, name="student_login"),
    path("admin_login/", views.admin_login, name="admin_login"),
    path("change_password/", views.change_password, name="change_password"),
    path("logout/", views.Logout, name="logout"),
]
```



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1. Name of the Laboratory : Django Framework Lab
2. Name of the Student : M. Bhavana
3. Roll No : 24VV5A1271
4. Class : II B-Tech II Semester
5. Academic Year : 2024-25
6. Name of Experiment : Exploring Django Views
7. Date of Experiment : 24-01-2025
8. Date of Submission of Report : 31-01-2025

S. No	Ability And Activity	Weightage Of Marks	Day To Day Evaluation Score
1	Aim Objective, Tools required	3	
2	Theory, Algorithm and Observations	3	
3	Implementation	3	
4	Schematic diagrams, Architecture, workflow, Flowchart	3	
5	Tidiness of his/her working area, proper maintenance of system during and after experiment.	3	
	Total Score	15	

Date:

signature of faculty:

**Views.py:**

In Django, views.py is the file where you define functions or classes that handle requests and return responses. Views act as the logic layer of a Django web application, controlling how data is processed and which HTML templates are displayed. In Django, views.py is the file where you define functions or classes that handle requests and return responses. Views act as the logic layer of a Django web application, controlling how data is processed and which HTML templates are displayed.

**Code:**

```
from django.shortcuts import redirect, render, HttpResponseRedirect
from django.contrib.auth import authenticate, login, logout
from django.contrib.auth.decorators import login_required
from datetime import date
from .models import *
from .forms import IssueBookForm

def index(request):
    return render(request, "index.html")

@login_required(login_url='/admin_login')
def add_book(request):
    if request.method == "POST":
        name = request.POST.get('name')
        author = request.POST.get('author')
        isbn = request.POST.get('isbn')
        category = request.POST.get('category')
        if name and author and isbn and category:
            Book.objects.create(name=name, author=author, isbn=isbn, category=category)
            return render(request, "add_book.html", {'alert': True})
    return render(request, "add_book.html")

@login_required(login_url='/admin_login')
def view_books(request):
    books = Book.objects.all()
    @login_required(login_url='/admin_login')
    def view_students(request):
        students = Student.objects.all()
        return render(request, "view_students.html", {'students': students})
```

```
user.save()

    return render(request, "change_password.html", {'alert': True})
else:
    return render(request, "change_password.html", {'currpasswrong': True})
return render(request, "change_password.html", {'alert': True})

else:
    return render(request, "change_password.html", {'currpasswrong': True})
return render(request, "change_password.html")

def student_registration(request):
    if request.method == "POST":
        username = request.POST.get('username')
        first_name = request.POST.get('first_name')
        last_name = request.POST.get('last_name')
        email = request.POST.get('email')
        phone = request.POST.get('phone')
        branch = request.POST.get('branch')
        classroom = request.POST.get('classroom')
        roll_no = request.POST.get('roll_no')
        image = request.FILES.get('image')
        password = request.POST.get('password')
        confirm_password = request.POST.get('confirm_password')

        if password != confirm_password:
            return render(request, "student_registration.html", {'passnotmatch': True})

        user = User.objects.create_user(username=username, email=email,
password=password, first_name=first_name, last_name=last_name)

        Student.objects.create(user=user, phone=phone, branch=branch,
classroom=classroom, roll_no=roll_no, image=image)

        return render(request, "student_registration.html", {'alert': True})
```



```
return render(request, "student_registration.html")

def student_login(request):
    if request.method == "POST":
        username = request.POST.get('username')
        password = request.POST.get('password')
        user = authenticate(username=username,
password=password)
    if user:
        login(request, user)
        return redirect("/profile") if not user.is_superuser
    else HttpResponseRedirect("You are not a student!!")
    return render(request, "student_login.html", {'alert': True})
return render(request, "student_login.html")

def admin_login(request):
    if request.method == "POST":
        username = request.POST.get('username')
        password = request.POST.get('password')
        user = authenticate(username=username,
password=password)
    if user:
        login(request, user)
        return redirect("/add_book") if user.is_superuser else
HttpResponse("You are not an admin.")
    return render(request, "admin_login.html", {'alert': True})
    return render(request, "admin_login.html")

def Logout(request):
    logout(request) return redirect("/")
```



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1. Name of the Laboratory : Django Framework Lab
2. Name of the Student : M. Bhavana
3. Roll No : 24VV5A1271
4. Class : II B-Tech II Semester
5. Academic Year : 2024-25
6. Name of Experiment : working With Templates in Django
7. Date of Experiment : 31-01-2025
8. Date of Submission of Report : 17-02-2025

S. No	Ability And Activity	Weightage Of Marks	Day To Day Evaluation Score
1	Aim Objective, Tools required	3	
2	Theory, Algorithm and Observations	3	
3	Implementation	3	
4	Schematic diagrams, Architecture, workflow, Flowchart	3	
5	Tidiness of his/her working area, proper maintenance of system during and after experiment.	3	
	Total Score	15	

Date:

signature of faculty:

## **Templates:**

Templates are the third and most important part of Django's MVT Structure. A template in Django is basically written in HTML, CSS, and Javascript in a .html file.

1. Django framework efficiently handles and generates dynamic HTML web pages that are visible to the end-user. Django mainly functions with a backend so, in order to provide a frontend and provide a layout to our website, we use templates.

2. There are two methods of adding the template to our website depending on our needs.

We can use a single template directory which will be spread over the entire project.

3. For each app of our project, we can create a different template directory.

## **Index.html:**

```
{% extends 'basic.html' %}

{% load static %}

{% block title %} Library Management System {% endblock %}

{% block css %}

<style>
  /* Styling the marquee */  .marquee-container { width: 100%;overflow: hidden;
  .marquee-text { font-size: 2rem;    font-
weight: bold; color: #ff6f61; /* Change the
color of the sentence */ white-space:
nowrap;display:
inlineblock; animation: marquee-animation 15s linear
infinite;
```

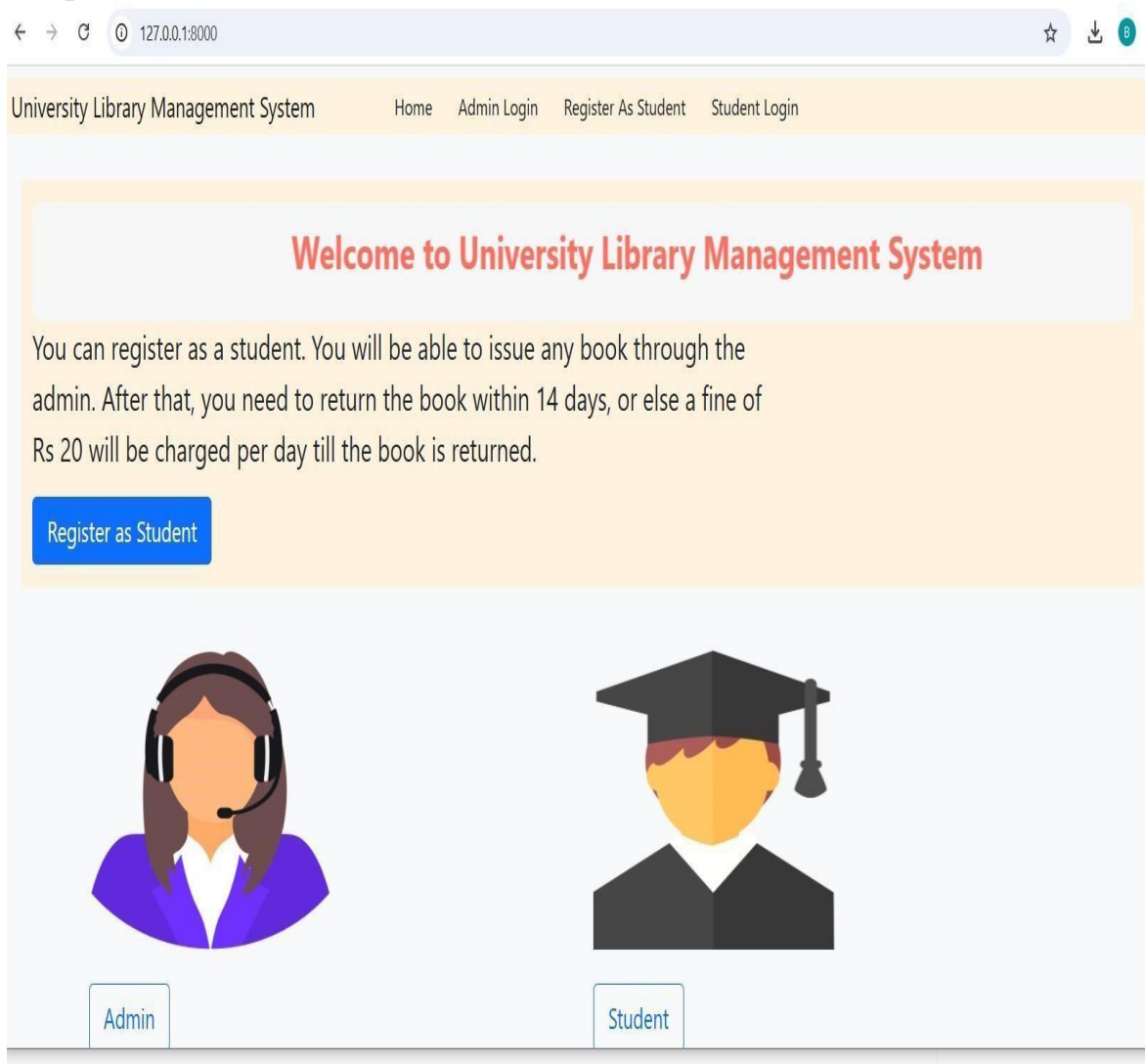
```

/*Define the scrolling animation */
@keyframes marquee-animation {
  0% { transform: translateX(100%);
}
  100% { transform: translateX(-100%);
}
}

/* Additional style to make the page layout nice */
.container-fluid {background- color: #fff3e0; /* Light background for better contrast */
}
.container {
margin-top: 20px;
}
</style>
{% endblock %}
{% block body %}
<div class="p-4 bg-light">
  <!-- Marquee Section for Welcome Message -->
  <div class="container-fluid py-3">
    <div class="marquee-container">
      <p class="marquee-text">Welcome to University Library Management
System</p>
    </div>
    <p class="col-md-8 fs-4">You can register as a student. You will be able to issue any
book through the admin. After that, you need to return the book within 14 days, or else a
fine of Rs 20 will be charged per day till the book is returned.</p>
    <a href="/student_registration/" class="btn btn-primary btn-lg">Register as Student</a>
  </div>

```

```
<div class="container">
  <div class="row">
    <div class="col-lg-6">
      <br><br>
      <a class="btn btn-outline-primary btn-lg" style="text-align:center"
href="/admin_login/">Admin</a>
    </div>
    <div class="col-lg-6">
      <br><br>
      <a class="btn btn-outline-primary btn-lg"
href="/student_login/">Student</a>
    </div>
  </div>
</div>
{% endblock %}
```

Output:Role of index.html:

This is the **homepage** of your University Library Management System. It:

1. **Shows a welcome message** that scrolls across the screen (like a marquee).
2. **Explains how the system works** (like book issuing, fines, etc.).
3. Has a **button to register as a student**.
4. Has **buttons for Admin and Student login**, each with an image.
5. Uses some **CSS styling** to make the page look nice.
6. **Extends a base template** so the layout is consistent with other pages.
7. Loads **static images** (like admin and student icons).

**Admin login.html:**

```
{% extends 'basic.html' %}

{% load static %}

{% block title %} Library Management System {% endblock %}

{% block css %}

<!-- Add custom CSS styles here -->

<style>

    /* Overall container styling with a blue background */

    .container {      max-width: 600px;      margin: 0 auto;      padding:
30px;      background-color: #007bff; /* Blue background */      color:
white; /* White text to contrast with the blue background */      border-
radius: 8px;      box-shadow: 0px 4px 6px rgba(0, 0, 0, 0.1);

    }

    /* Title styling */

    h1 { font-size: 2.5rem; color: white; /* White text for the title */ font-weight: bold;
text-align: center; margin-bottom: 20px; text-decoration: underline;

    }

    /* Note paragraph */

    p { text-align: center;      font-size: 1.1rem; color: #f8f9fa;

    /* Lighter text color for better readability */

    margin-bottom:
20px;

    }
```

```

    } /* Form fields styling */
.formcontrol {    border-
radius: 5px;    box-shadow:
none;    border: 1px solid
#ccc;    padding: 12px;
font-size: 1rem;    transition:
border-color 0.3s ease;
} padding: 12px; font-size: 1re;
transition: border-color 0.3s
ease; } .form-control:focus {
border-color: #f8f9fa; /* White
focus border for better contrast */
box-shadow: 0 0 8px rgba(248,
249, 250, 0.5); } /* Submit
button styling */ .btn-outline-
primary { width: 100%;
padding: 12px; font-size: 1.2rem;
font-weight: bold; border-radius:
5px; border-color: #f8f9fa; /*
Lighter border for the button */
color: #f8f9fa; /* Light text color
*/ background-color:
transparent; /* Transparent
button */ transition: background-
color 0.3s, color 0.3s; }

```



```
.btn-outline-primary:hover{background-color:
#f8f9fa; /* White background on hover */
color: #007bff; /* Blue text on hover */
}
/* Alert message styling */
.alert {font-size:
1rem;padding: 10px;
marginbottom: 20px;
background-color:
#f8d7da; border-color:
#f5c6cb; color: #721c24; border-radius:
5px;
}
/* Spacing improvements */
.mt-4 { margintop: 30px;
}
.mb-4 { marginbottom:
30px;
}
</style>
{% endblock %}
{% block body %}
```

```

<div class="container">
    <br>
    <h1><u>Admin Login</u></h1><br>
    <p><b>Note:</b> Only the admin can login from here. No student will be allowed
to login.</p>
    <form method="POST">
        {% csrf_token %}
        {% if alert %}
        <div class="alert alert-danger" role="alert">
            Invalid Username or Password.
        </div>
        {% endif %}
        <div class="row mt-4">
            <div class="form-group col-md-12">
                <label><i style="font-weight: bold;">Username</i></label>
                <input type="text" class="form-control mt-2" name="username" placeholder="Enter
Username" required>
            </div>
            </div>
            <div class="row mt-4">
                <div class="form-group col-md-12">
                    <label><i style="font-weight: bold;">Password</i></label>
                    <input type="password" class="form-control mt-2" name="password"
placeholder="Enter Password" required>
                </div>
            </div>
        </div>
    </form>
</div>

```

```
</div>

    <button type="submit" class="btn btn-outline-primary
mt4">Login</button>

</form>
</div>
{% endblock %}
{% block js %}
<script>
    {% if alert %}    alert("Invalid
Username or Password.") document.location = "/admin_login"
    {% endif %}
</script> {%endblock%}
```

## Output:

The screenshot shows a web browser at the address 127.0.0.1:8000/admin\_login/. The page has a navigation bar with links: Home, Admin Login, Register As Student, and Student Login. The main content area features a blue box with the title Admin Login. Below the title is a note: "Note: Only the admin can login from here. No student will be allowed to login." There are two input fields: "Username" with the value "bhavana" and "Password" with masked characters. A blue "Login" button is at the bottom of the form.

## Role of admin\_login.html:

This page is the **login screen for the admin** of your Library Management System.

1. **Extends a base layout** (basic.html) for a consistent look.
2. **Shows a form** where the admin can enter their **username** and **password**.
3. Has a **note** telling users that **only admins are allowed** to log in here.
4. **Handles login errors** by showing a red warning if login fails.

**Add\_book.html:**

```

{% extends 'admin_navbar.html' %}
{% load static %}
{% block title %} Library Management System {% endblock %}
{% block css %}
{% endblock %}
{% block body %}
<div class="container">
  <form method="POST"> {% csrf_token %}
  <div class="row mt-4">
    <div class="form-group col-md-12">
      <label><i style="font-weight: bold;">Book Name</i></label>
      <input type="text" class="form-control mt-2" name="name"
placeholder="Enter name of the Book" required>
    </div>
  </div>
  <div class="row mt-4">
    <div class="form-group col-md-12">
      <label><i style="font-weight: bold;">Author Name</i></label>
      <input type="text" class="form-control mt-2" name="author"
placeholder="Enter name of the Author" required>
    </div>
  </div>
  <div class="row mt-4">
    <div class="form-group col-md-12">
      <label><i style="font-weight: bold;">ISBN Number</i></label>
      <input type="number" class="form-control mt-2" name="isbn"
placeholder="Enter ISBN number of the book" required>
    </div>
  </div>
  <div class="row mt-4">
    <div class="form-group col-md-12">
      <label><i style="font-weight: bold;">Category</i></label>

```

```
<input type="text" class="form-control mt-2" name="category"
placeholder="Enter Category of the book" required>
</div>
</div>
<button type="submit" class="btn btn-outline-primary
mt4">AddBook</button>
</div>
</form>
{% endblock %}
{% block js %}
<script>
    {% if alert %}    alert("Book is added successfully.")
document.location = "/view_books"

    {% endif %}
</script>
{% endblock %}
```

## Output:

← → ↻ 127.0.0.1:8000/add\_book/ ☆ B

### Add New Book

**Book Name**

**Author Name**

**ISBN Number**

**Category**

**Add Book**

### Role of add\_book.html:

This page is used by the **admin** to **add a new book** to the library database.

**Extends** admin\_navbar.html so the admin sees the normal navigation layout.

1. Displays a **form** for the admin to enter:
2. Uses Django's csrf\_token to keep the form secure.
3. Has a **Submit button** labeled "Add Book".
4. If the book is successfully added, it shows a **popup message** and redirects the admin to the **View Books** page.

**View books.html:**

```

{% extends 'admin_navbar.html' %}

{% load static %}

{% block title %} Library Management System {% endblock %}

{% block css %}

{% endblock %}

{% block body %}

<div class="container mt-4">
  <h1 class="text-center"><u>All Books List</u></h1>

  <table class="table table-hover" id="example">
    <thead>

      <tr>

        <th>Sr.No</th>
        <th>Book Name</th>

        <th>Author</th>

        <th>ISBN Number</th>

        <th>Category</th>

        <th>Delete</th>

      </tr>
    </thead>

    <tbody>

      {% for book in books %}

      <tr>

        <td>{{forloop.counter}}.</td>

        <td>{{book.name}}</td>

```



```
<td>{{book.author}}</td>
<td>{{book.isbn}}</td>
    <td>{{book.category}}</td>
    <td><a href="/delete_book/{{book.id}}/" class="btn btn-danger"
onclick="return confirm('Are you sure you want to delete this
book?')">Delete</a></td>
</tr>
{% endfor %}
</tbody>
</table>
</div>
{% endblock
%}
```

## Output:

University Library Management System   View All Students   Books ▾   Issue Book ▾   Logout   Welcome Admin: bhavana

### All Books List

Copy   Excel   CSV   PDF   Search:

Sr.No	Book Name	Author	ISBN Number	Category	Delete
1.	The C Programming Language	Brian Kernighan and Dennis Ritchie	6757458342134	Education	<a href="#">Delete</a>
2.	Pride and Prejudice	Jane Austen	9342312345643	Humor	<a href="#">Delete</a>
3.	To Kill a Mockingbird	Harper Lee	4657382745343	Novel	<a href="#">Delete</a>
4.	Engineering Mathematics	Robert Davison	5609872343216	Education	<a href="#">Delete</a>
5.	Python Programming Language	Guido van Rossum	9781906966140	Education	<a href="#">Delete</a>
6.	Database Management System	Raghu Ramakrishnan	8769087651231	Education	<a href="#">Delete</a>

Showing 1 to 6 of 6 entries   Previous   1   Next

### Role of view books.html:

This page shows the list of all books currently in the library — visible to the admin.

1. Extends admin\_navbar.html to keep the admin layout consistent.
2. Displays a table with the following info for each book:
  - a. Serial Number (Sr.No)
  - b. Book Name
  - c. Author
  - d. ISBN Number
  - e. Category
3. Adds a Delete button for each book that:
  - a. Sends the admin to /delete\_book/<book.id>/
  - b. Asks for confirmation before deleting
4. Uses Django's {% for book in books %} loop to dynamically list all books passed from the backend.

**Issue\_book.html:**

```

{% extends 'admin_navbar.html' %}

{% load static %}

{% block title %} Issue Book {% endblock %}

{% block css %}

{% endblock %}

{% block body %}
<div class="container mt-4">

    <form method="POST"> {% csrf_token %}
        {% for i in form %}

            <div class="form-group"> <br>

                <label class="control-label col-xs-4">{{ i.label_tag }}</label>

                <div class="col-xs-8 mt-2">

                    {{ i }} </div> </div>

                {% endfor %}

            <button type="submit" class="btn btn-outline-primary
mt4">IssueBook</button>

        </div> </form>

    {% endblock %}

{% block js %}

<script>

    {% if alert %} alert("Book Successfully
Issued.") document.location =
"/issue_book" {% endif %} </script>

{% endblock %}

```

## Output:

The screenshot displays a web browser window with the address bar showing '127.0.0.1:8000/issue\_book/'. The page title is 'University Library Management System'. The navigation bar includes links for 'View All Students', 'Books', 'Issue Book', and 'Logout', along with a welcome message 'Welcome Admin: bhavana'. The main content area features a form titled 'Book (Name and ISBN):' with a text input field labeled 'Book Name [ISBN]'. Below this is a section titled 'Student Details:' with a text input field labeled 'Name [Branch] [Class] [Roll No]'. At the bottom of the form is a button labeled 'Issue Book'.

## Role of issue\_book.html:

This page lets the **admin issue a book to a student**.

1. **Extends** the admin\_navbar.html so the layout matches other admin pages.
2. Displays a **form**, most likely with:
  - a. A dropdown to select a **student**
  - b. A dropdown to select a **book**
  - c. Possibly a date field (if included in the form)

**View issued\_book.html:**

```

{% extends 'student_navbar.html' %}

{% load static %}

{% block title %} All Students List {% endblock %}
{% block css %}

{% endblock %}

{% block body %}

<div class="container mt-4">

    <h1 class="text-center"><u>All Issued Books</u></h1>

    <table class="table table-hover" id="example">

        <thead>
            <tr class="text-center">

                <th>Sr.No</th>

                <th>Student ID</th>

                <th>Student Name</th>

                <th>Book Name</th>

                <th>Author</th>

                <th>Issued Date</th>

                <th>Expiry Date</th>

                <th>Fine</th>

            </tr>

        </thead>

        <tbody>

            {% for i in li1 %}

```

```
<tr class="text-center">
<td>{{forloop.counter}}.</td>

    <td>{{i.0}}</td>
    <td>{{i.1}}</td>

    <td>{{i.2}}</td>
    <td>{{i.3}}</td>
{% endfor %}

    {% for i in li2 %}
    <td>{{i.0}}</td>
    <td>{{i.1}}</td>
    <td>₹ {{i.2}}</td>

    </tr>

    {% endfor %}

</tbody>
</table>

</div>
{% endblock %}
```

Output:

University Library Management System

View All Students

Books

Issue Book

Logout

Welcome Admin: bhavana

All Issued Books

Copy

Excel

CSV

PDF

Search:

Sr.No	Student	Student ID	Book Name	ISBN	Issued Date	Expiry Date	Fine	Delete
1.	abc	6	The C Programming Language	6757458342134	Aug. 13, 2021	Aug. 27, 2021	₹ 6435	Delete
2.	xyz	7	To Kill a Mockingbird	4657382745343	Aug. 13, 2021	Aug. 27, 2021	₹ 6315	Delete
3.	shiny	9	Engineering Mathematics	1	Aug. 13, 2021	Aug. 27, 2021	₹ 0	Delete

Showing 1 to 3 of 3 entries

Previous

1

Next

Role of view issued\_book.html:

This page allows **students** to **view the list of books** they've been issued — along with return deadlines and any fines.

1. **Extends** student\_navbar.html so the layout matches other student pages.
2. Displays a **table** showing:
  - a. Serial Number
  - b. Student ID
  - c. Student Name
  - d. Book Name
  - e. Author
  - f. Issued Date
  - g. Expiry Date
  - h. Fine (if any)

**View\_students.html:**

```

{% extends 'admin_navbar.html' %}

{% load static %}
{% block title %} All Students List {% endblock %}

{% block css %}

{% endblock %}

{% block body %}

<div class="container mt-4">
  <h1 class="text-center"><u>Students List</u></h1>

  <table class="table table-hover" id="example">

    <thead>

      <tr class="text-center">

        <th>Sr.No</th>

        <th>Name</th>

        <th>ID</th>

        <th>Email</th>

        <th>Mobile Number</th>

        <th>Branch</th>

        <th>Class</th>

        <th>Roll Number</th>

        <th>Delete</th>

      </tr>

    </thead>

    <tbody>

      {% for student in students %}

```



```

<tr class="text-center">
  <td>{{forloop.counter}}.</td>
  <td>{{student.user.get_full_name}}</td>
    <td>{{student.user.id}}</td>
    <td>{{student.user.email}}</td>
    <td>{{student.phone}}</td>
    <td>{{student.branch}}</td>
    <td>{{student.classroom}}</td>
    <td>{{student.roll_no}}</td>
    <td><a href="/delete_student/{{student.id}}/" class="btn btn-danger"
onclick="return confirm('Are you sure you want to delete this student?')">Delete</a></td>
  </tr>

  {% endfor %}
</tbody>
</table>
</div>
{% endblock %}

```

Output:

University Library Management System

View All Students

Books

Issue Book

Logout

Welcome Admin: bhavana

Students List

Copy

Excel

CSV

PDF

Search:

Sr.No	Name	ID	Email	Mobile Number	Branch	Class	Roll Number	Delete
1.	priyanka majji	10	priyanka5@gmail.com	9999999999	Information Technology	Btech 2ndyear	71	Delete
2.	shiny sushmitha	12	shiny20@gmail.com	9492840083	Information Technology	B.tech 2ndyear	20	Delete
3.	sai kumar	13	sai13@gmail.com	6309125612	Computer Science Engineering	B.tech 1styear	52	Delete
4.	Tarun kumar	14	Tarun32@gmail.com	97067832451	Electrical and Electronics Engineering	B.tech 3rdyear	90	Delete
5.	Nihaal Chandhaka	15	nihaal09@gmail.com	7045123423	Civil Enginerring	B.tech 4thyear	121	Delete

Showing 1 to 5 of 5 entries

Previous

1

Next

**Role of view\_students.html:**

This page shows the **admin** a full list of **registered students** in a table format, with an option to **delete** any student.

For each student, the table displays:

- Serial Number (Sr.No)
- Full Name (student.user.get\_full\_name)
- User ID
- Email
- Phone number
- Branch (e.g., CSE, ECE)
- Class (e.g., 3rd year, 2nd year)
- Roll Number

**Student\_registration.html:**

```

{% extends 'basic.html' %}

{% load static %}

{% block title %} Library Management System {% endblock %}

{% block css %}

{% endblock %}

{% block body %}

<div class="container">

    <form method="POST" enctype="multipart/form-data"> {% csrf_token %}

        <br>

        <h1 class="text-center"><u>Student Registration</u></h1>

        <div class="row mt-4">

            <div class="form-group col-md-12">

                <label><i style="font-weight: bold;">Username</i></label>

                <input type="text" class="form-control mt-2" name="username"
placeholder="Enter Username" required>

            </div>

        </div>

        <div class="row mt-4">

            <div class="form-group col-md-6">

                <label><i style="font-weight: bold;">First Name</i></label>

                <input type="text" class="form-control mt-2" name="first_name"
placeholder="Enter First Name" required>

            </div>

```

```
<div class="form-group col-md-6">
    <label><i style="font-weight: bold;">Last Name</i></label>
    <input type="text" class="form-control mt-2" name="last_name"
placeholder="Enter Last Name" required>
</div>

</div><div class="row mt-4">
    <div class="form-group col-md-6">
        <label><i style="font-weight: bold;">Email</i></label>
        <input type="email" class="form-control mt-2" name="email"
placeholder="Enter Email" required>
    </div>
    <div class="form-group col-md-6">
        <label><i style="font-weight: bold;">Mobile Number</i></label>
        <input type="number" class="form-control mt-2" name="phone"
placeholder="Enter Mobile Number" required>
    </div>
</div>

<div class="row mt-4">
    <div class="form-group col-md-6">
        <label><i style="font-weight: bold;">Branch Name</i></label>
        <input type="text" class="form-control mt-2" name="branch"
placeholder="Enter Branch Name" required>
    </div>
    <div class="form-group col-md-6">
```

```

<label><i style="font-weight: bold;">Class Name</i></label>

    <input type="text" class="form-control mt-2" name="classroom" placeholder="Enter
Class Name" required>

</div>

</div>

<div class="row mt-4">

    <div class="form-group col-md-6">

        <label><i style="font-weight: bold;">Roll Number</i></label>

        <input type="text" class="form-control mt-2" name="roll_no" placeholder="Enter Roll
Number" required>

    </div>

    <div class="form-group col-md-6">

        <label><i style="font-weight: bold;">Student Image</i></label>

        <input type="file" class="form-control mt-2" name="image" required>

    </div>

</div><div class="row mt-4">

    <div class="form-group col-md-6">

        <label><i style="font-weight: bold;">Password</i></label>

        <input type="password" class="form-control mt-2" name="password"
placeholder="Enter Password" required>

    </div>

    <div class="form-group col-md-6">

        <label><i style="font-weight: bold;">Confirm Password</i></label>

        <input type="password" class="form-control mt-2"

```

```
name="confirm_password" placeholder="Confirm Password" required>
    </div>
</div>
<button type="submit" class="btn btn-outline-primary mt-4">Register As
Student</button>
</div>
</form>
{% endblock %}
{% block js %}
<script>
    {% if alert %}
        alert("Registration Successfull.")
        document.location = "/student_login"
    {% endif %}
</script>
{% endblock %}
```

Output:

The screenshot displays the 'Student Registration' page of a 'University Library Management System'. The browser address bar shows '127.0.0.1:8000/student\_registration/'. The navigation bar includes links for 'Home', 'Admin Login', 'Register As Student', and 'Student Login'. The main heading is 'Student Registration'. The form contains the following fields:

- Username:** A text input field containing 'bhavana'.
- First Name:** A text input field with placeholder text 'Enter First Name'.
- Last Name:** A text input field with placeholder text 'Enter Last Name'.
- Email:** A text input field with placeholder text 'Enter Email'.
- Mobile Number:** A text input field with placeholder text 'Enter Mobile Number'.
- Branch Name:** A text input field with placeholder text 'Enter Branch Name'.
- Class Name:** A text input field with placeholder text 'Enter Class Name'.
- Roll Number:** A text input field with placeholder text 'Enter Roll Number'.
- Student Image:** A file upload area with a 'Choose file' button and the text 'No file chosen'.
- Password:** A password input field with masked characters '\*\*\*\*\*'.
- Confirm Password:** A text input field with placeholder text 'Confirm Password'.

At the bottom left of the form is a button labeled 'Register As Student'.

Role of Student Registration.html:

This is the "Student Registration" page for a University Library Management System. It allows students to create new accounts. The form collects essential student information like first and last name, email, and mobile number. It also captures academic details such as branch name, class name, and roll number. Users can upload a student image. A username and password are required for account creation. The password needs to be confirmed for accuracy. A "Register As Student" button submits the form data. Navigation links include "Home," "Admin Login," and "Student Login." The page facilitates student enrollment into the library system.

**Student login.html:**

```
{% extends 'basic.html' %}

{% load static %}

{% block title %} Library Management System {% endblock %}

{% block css %}

<!-- Add custom CSS styles here -->

<style>

    /* Overall container styling */
    .container { max-width: 600px; margin: 0 auto; padding: 40px;
background: linear-gradient(to right, #007bff, #00c6ff); /* Gradient
background*/ color: white;border-radius: 12px; /* Rounded corners for a
modern look */ boxshadow: 0px 8px 16px rgba(0, 0, 0, 0.2); /* Soft shadow for
depth */

    }

    /* Title styling */  h1 {    font-size: 2.8rem;    color: #ffffff;    font-weight:
bold;    text-align: center; marginbottom: 25px; textdecoration: underline;  }

    /* Form field labels */ label { font-size:
1rem; font-weight: bold; color: #f8f9fa;

/* Light color for contrast */

    }

    /* Form fields styling */ .form-control{ border-radius: 8px; /* Rounded corners */
border: 1px solid #ffffff; /* White border to contrast with background */ padding:
15px; font-size: 1.1remtransition:
all 0.3s ease; /* Smooth transition for focus */

    }
```



```

.form-control:focus { border-color: #00c6ff;
/* Light blue border when focused */ box-shadow: 0 0 8px
rgba(0, 198, 255, 0.6); /* Glow effect */ outline: none;
/* Remove default outline */ } /* Submit button styling */ .btn-
outline-primary { width:100%; padding: 15px; font-size:
1.2rem; fontweight: bold; borderradius: 8px; border-color:
#ffffff; color: #ffffff;background-color: transparent; transition:
all 0.3s ease;

}

.btn-outline-primary:hover { background-color: #ffffff; /* White background on hover */
color: #007bff; /* Blue text on hover */ transform: translateY(-3px); /* Subtle lift effect on hover */
}

/* Alert message styling */

.alert { font-size:1.1rem;
padding: 12px;
marginbottom: 20px;
backgroundcolor: #f8d7da;
bordercolor: #f5c6cb;
color: #721c24; border-
radius: 8px; text-align:
center; }

/* Additional spacing and responsiveness */

.mt{ margintop:
30px; }

```

```

.mb-4 { marginbottom: 30px;
} /* Responsive Design */

@media (max-width: 767px) {
.container {
padding: 20px;
}
h1 {font-size: 2rem; /* Slightly smaller
titlemobile */
}
.form-control {font-size: 1rem; /*
Adjust input font size */
} .btn-outline-primary { font-size: 1rem; /*
Adjust button font size */
} }
</style>
{% endblock %}
{% block body %}
<div class="container">
<br>
<h1><u>Student Login</u></h1>
<form method="POST">
{% csrf_token %}
{% if alert %} <div class="alert alert-danger" role="alert">
Invalid Username or Password.
</div>
{% endif %}

```

```

<div class="row mt-4">
    <div class="form-group col-md-12">
        <label><i style="font-weight: bold;">Username</i></label>
        <input type="text" class="form-control mt-2" name="username" placeholder="Enter
Username" required>
    </div>
</div>

<div class="row mt-4">
    <div class="form-group col-md-12">
        <label><i style="font-weight: bold;">Password</i></label>
        <input type="password" class="form-control mt-2" name="password"
placeholder="Enter Password" required>
    </div>
</div>

    <button type="submit" class="btn btn-outline-primary mt-4">Login</button>
</form>
</div>
{% endblock %}
{% block js %}
<script>
    {% if alert %}    alert("Invalid Username or
Password.")    document.location =
"/student_login"
    {% endif %}
</script>
{% endblock %}

```

## Output:

The screenshot shows a web browser window with the address bar displaying "127.0.0.1:8000/student\_login/". The page title is "University Library Management System". The navigation bar includes links for "Home", "Admin Login", "Register As Student", and "Student Login". The main content area features a blue card titled "Student Login" with the following fields and buttons:

- Username**: A text input field containing the value "shiny sushmitha".
- Password**: A password input field with masked characters "\*\*\*\*\*".
- Login**: A blue button with the text "Login".

### Role of Student Login.html:

This page lets students **log in** to your Library Management System using their:

- This is a student login page.
- Students enter their username and password.
- They click "Login" to access their account.
- It's part of a university library system.
- The page is simple and focused on authentication.

**Profile.html:**

```

{% extends 'student_navbar.html' %}
{% block title %} Profile {% endblock %}
{% block css %} <style>
.profile{ padding: 3%; margin-top: 3%; margin-bottom: 3%; borderradius:
0.5rem; background:
#fff;
} .profile-img{ text-align: center;
}
.profile-img
.file
{position:
relative;overflow:
hidden;
margin-top:
20%; width:
70%; border:
none;
border-
radius: 0; font-size: 15px;
background: #212529b8;
}
</style>
{% endblock %}
{% block body %}
<div class="container profile">
<div class="row">
<div class="col-md-4">

<div class="profile-img">

</div>
</div>
<div class="col-md-8">
<div class="profile-tab">
<div class="tab-pane">
<div class="row">

```

```

        <div class="col-md-6">
            <label>ID:</label>
        </div>
        <div class="col-md-6">
            <p>{{user.id}}</p>
        </div>
    </div>
    <div class="row">
        <div class="col-md-6">
            <label>Username:</label>
        </div>
        <div class="col-md-6">
            <p>{{user}}</p>
        </div>
    </div>
    <div class="row">
        <div class="col-md-6">
            <label>Full Name:</label>
        </div>
        <div class="col-md-6">
            <p>{{user.get_full_name}}</p>
        </div>
    </div>
    <div class="row">
        <div class="col-md-6">
            <label>Email:</label>
        </div>
        <div class="col-md-6">
            <p>{{user.email}}</p>
        </div>
    </div>
    <div class="row">
        <div class="col-md-6">
            <label>Phone Number:</label>
        </div>
        <div class="col-md-6">
            <label>Phone Number:</label>
        </div>
        <div class="col-md-6">
            <p>{{user.student.phone}}</p>
        </div>
    </div>

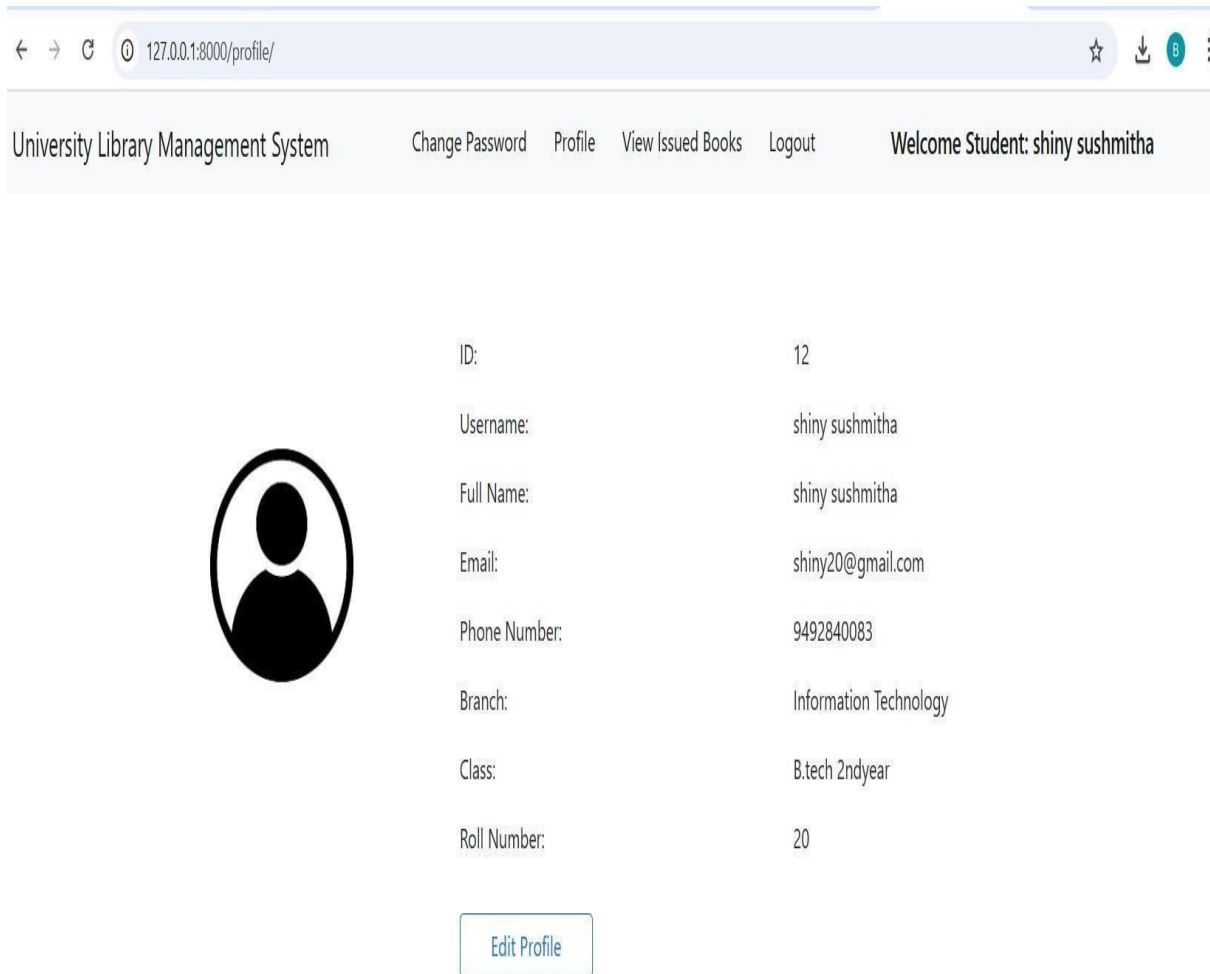
```

```

</div>
<div class="row">
<div class="col-md-6">
  <label>Branch:</label> </div>
  <div class="col-md-6">
    <p>{{user.student.branch}}</p>
  </div>
</div>
<div class="row">

<label>Class:</label>
</div>
<div class="col-md-6">
  <p>{{user.student.classroom}}</p>
</div>
</div>
<div class="col-md-6">
<label>Roll Number:</label>
</div>
<div class="col-md-6">
  <p>{{user.student.roll_no}}</p>
</div>
</div>
</div>
<a href="/edit_profile/" style="width: 9rem;" class="btn btn-outline-primary
mt3">Edit Profile</a>
</div>
</div>
</div>
</div>
{% endblock %}

```

**Output:**


ID:	12
Username:	shiny sushmitha
Full Name:	shiny sushmitha
Email:	shiny20@gmail.com
Phone Number:	9492840083
Branch:	Information Technology
Class:	B.tech 2ndyear
Roll Number:	20

[Edit Profile](#)

**Role of Profile.html:**

Edit profile button provided for updates. This is a student profile page. It displays the student's personal information like ID, name, email, and contact details. It also shows academic details like branch, class, and roll number. The student can edit their profile using the "Edit Profile" button. A profile picture is shown as a placeholder. The page is part of a University Library Management System. Navigation links include "Change Password" and "View Issued Books." The header shows the student's name, "shiny sushmitha." It provides a summary of the student's information. The page facilitates student profile management.



**Edit\_profile.html:**

```

{% extends 'student_navbar.html' %}
{% block title %} Edit Profile {% endblock %}
{% block css %}

{% endblock %}
{% block body %}
<div class="container">
    <form method="POST"> {% csrf_token %}
    <div class="row mt-4">
        <div class="form-group col-md-6">
            <label><i style="font-weight: bold;">Email</i></label>
            <input type="email" class="form-control mt-2" name="email"
value="{{user.email}}">
        </div>
        <div class="form-group col-md-6">
            <label><i style="font-weight: bold;">Mobile Number</i></label>
            <input type="number" class="form-control mt-2" name="phone"
value="{{user.student.phone}}">
        </div>
    </div>
    <div class="row mt-4">
        <div class="form-group col-md-6">
            <label><i style="font-weight: bold;">Branch Name</i></label>
            <input type="text" class="form-control mt-2" name="branch"
value="{{user.student.branch}}">
        </div>
        <div class="form-group col-md-6">

```

```

<label><i style="font-weight: bold;">Class Name</i></label>
<input type="text" class="form-control mt-2" name="classroom"
value="{{user.student.classroom}}">
</div>
</div>
<div class="row mt-4">

    <div class="form-group col-md-6">
        <label><i style="font-weight: bold;">Roll Number</i></label>
        <input type="text" class="form-control mt-2" name="roll_no"
value="{{user.student.roll_no}}">
    </div>
</div>
<button type="submit" class="btn btn-outline-primary mt-5">Update
Profile</button>
</form>
</div>
{% endblock %}
{% block js %} <script>
{% if alert %}    alert("Profile Updated Successfully.")
    document.location = "/profile"
    {% endif %}
</script>
{% endblock %}

```

## Output:

← → ↻ 127.0.0.1:8000/edit\_profile/ ☆ B

University Library Management System    Change Password   Profile   View Issued Books   Logout    Welcome Student: shiny sushmitha

**Email**                      **Mobile Number**

shiny20@gmail.com                      9492840083

**Branch Name**                      **Class Name**

Information Technology                      B.tech 2ndyear

**Roll Number**

20

Update Profile

## Role of editprofile.html:

1. Students can change their contact and academic details.
2. They click "Update Profile" to save changes.
3. It's part of a library management system.
4. This is a student profile edit page.

**Student issued books.html:**

```

{% extends 'student_navbar.html' %}
{% load static %}
{% block title %} All Students List {% endblock %}
{% block css %}
<style>
    /* General container styling */
    .container {      maxwidth:
1000px;
margin-top: 60px;
    }
    /* Table header styling */ .table thead {   backgroundcolor: #007bff;   color: white;

    }
    .table th, .table td {
padding: 15px;      text-align:
center;
    }
    /* Hover effect on table rows */ .tablehover tbody tr:hover {      background-color:
#f1f1f1;
    }
    /* Table styling */ .table {      border-
collapse: collapse;      width: 100%;
margin-top: 20px;      boxshadow: 0 4px
8px rgba(0, 0, 0, 0.1);
    }
    /* Title styling */  h1 {
fontweight: bold; color: #333;text-decoration: underline; }

/* Responsive design for smaller screens */

    @media (max-width: 768px) {
        .table th, .table td { padding: 10px;
        }
        h1 {
            font-size: 1.5rem;
        }
    }
</style>
{% endblock %}
{% block body %}

```

```

<div class="container mt-4">
  <h1 class="text-center"><u>All Issued Books</u></h1>
  <table class="table table-hover" id="example">
    <thead>
      <tr class="text-center">
        <th>Sr.No</th>
        <th>Student ID</th>
        <th>Student Name</th>
        <th>Book Name</th>
        <th>Author</th>
        <th>Issued Date</th>
        <th>Expiry Date</th>
        <th>Fine</th>
      </tr>
    </thead>
    <tbody>
      {% if li1 %}

      <tr class="text-center">
        <td>{{ forloop.counter }}.</td>
        <td>{{ i.0 }}</td>
        <td>{{ i.1 }}</td>
        <td>{{ i.2 }}</td>
        <td>{{ i.3 }}</td>
        {% if li2 %}
        <td>{{ li2.0 }}</td>
        <td>{{ li2.1 }}</td>
        <td>₹ {{ li2.2 }}</td>
        {% else %}
        <td colspan="3">No Data Available</td>
        {% endif %}
      </tr>
      {% endfor %}
      {% else %}
      <tr>
        <td colspan="8" class="text-center">No records found.</td>
      </tr>
      {% endif %}
    </tbody>
  </table>
</div>
{% endblock %}

```

Output:

Copy Excel CSV PDF Search:

Sr.No	Student ID	Student Name	Book Name	Author	Issued Date	Expiry Date	Fine
1.	12	shiny sushmitha	The C Programming Language	Brian Kernighan and Dennis Ritchie	(datetime.date(2025, 3, 25), datetime.date(2025, 4, 8), 0)		₹

Showing 1 to 1 of 1 entries Previous 1 Next

**Role of student issued books.html:**

Lists books issued to a student. It shows book details and issue/expiry dates.

Students can search and export the list. Pagination helps navigate through the data.

It's part of a library management system.

**Change\_password.html:**

```
{% extends 'student_navbar.html' %}
{% load static %}
{% block title %} Change Password {% endblock %}
{% block css %}
<style>
  /* Form container with red background */
  .container {
    max-width: 600px; background-color: #f44336; /* Red
background */padding: 30px;   border-radius: 10px;
box-shadow: 0 8px 20px rgba(0, 0, 0, 0.1);   color:
white;
  }
  /* Label styling */ .form-group label { fontweight: bold; color: white;font-size: 1.1rem;
  }
  /* Input field styling */ .formcontrol { padding: 12px; fontsize: 1rem; border-radius: 8px;
border: 1px solid #ccc;background-color: #fff; color: #333;transition: bordercolor 0.3s ease;
  }
  /* Input focus effect */

.formcontrol:focus {border-color:
#007bff; box-shadow: 0 0 8px rgba(38,
143, 255, 0.3);  }

  /* Button styling */ .btnoutline-primary
{
font-size: 1.1rem;   font-weight: bold;   padding: 12px 20px;   border-radius:
8px;   transition: all 0.3s ease;
}
<div class="form-group col-md-6">
  <label><i style="font-weight: bold;">Current Password</i></label>
  <input type="password" class="form-control mt-2"
name="current_password" placeholder="Current Password">
</div>
</div>
<div class="row mt-4">
  <div class="form-group col-md-12">
    <label><i style="font-weight: bold;">New Password</i></label>
```

```

<input type="password" class="form-control mt-2" name="new_password"
placeholder="Enter the new password">
</div>
</div>
<div class="row mt-4">

  <div class="form-group col-md-12">
    <label><i style="font-weight: bold;">Confirm Password</i></label>
    <input type="password" class="form-control mt-2"
name="confirm_password" placeholder="Confirm the new password">
  </div>
</div>
<input type="submit" class="btn btn-outline-primary mt-4" value="Update Password">

</form>
{% endblock %}
{%block js %}<script>

function checkPassword() {
  if (document.change_password.new_password.value !=
document.change_password.confirm_password.value) {
    alert("New Password and Confirm Password fields do not match each
other.");
  }

  /* Button hover effect */ .btn-outlineprimary:hover
{
  background-color:
#007bff;    color: white;

bordercolor:
#007bff;
}
/* Add space between form fields */

.form-group {  marginbottom: 20px;

}
/* Additional margin for the submit button */

.btn { margin-top: 20px;
}

```



```

/* Responsive design adjustments */
@media (max-width: 768px) {
    .container { padding: 20px;margin-top: 30px;
    }
}
</style>
{% endblock %}
{% block body %}

<form class="container mt-3" method="POST" name="change_password"
onsubmit="return checkPassword()">    {% csrf_token %}

    <div class="row mt-4">
        <div class="form-group col-md-6">
            <label><i style="font-weight: bold;">Username</i></label>
            <input type="text" class="form-control mt-2" name="username"
value="{{request.user}}" readonly>
        </div>

document.change_password.confirm_password.focus();
return false;
    }
    return true;
    }
{% if alert %}
    alert("Password Updated Successfully."); document.location = "/logout"; {%
endif %}
{% if currpaswrong %}

alert("Current Password is wrong..");    document.location = "/change_password";

{% endif %}
</script>
{% endblock %}

```

## Output:

← → ↻ 127.0.0.1:8000/change\_password/ 🔍 ☆ B

University Library Management System    Change Password   Profile   View Issued Books   Logout    Welcome Student: shiny sushmitha

**Username**  
shiny sushmitha

**Current Password**  
\*\*\*\*\*

**New Password**  
Enter the new password

**Confirm Password**  
Confirm the new password

Update Password

### **Role of change password.html:**

This page lets students change their password. They enter their current and new passwords. Clicking "Update Password" saves the changes. It's part of a library management system.



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- |                                 |  |
|---------------------------------|--|
| 1. Name of the Laboratory       | : Django Framework Lab                   |
| 2. Name of the Student          | : M. Bhavana                             |
| 3. Roll No                      | : 24VV5A1271                             |
| 4. Class                        | : II B-Tech II Semester                  |
| 5. Academic Year                | : 2024-25                                |
| 6. Name of Experiment           | : Database Integration and Configuration |
| 7. Date of Experiment           | : 17-02-2025                             |
| 8. Date of Submission of Report | : 21-02-2025                             |

S. No	Ability And Activity	Weightage Of Marks	Day To Day Evaluation Score
1	Aim Objective, Tools required	3	
2	Theory, Algorithm and Observations	3	
3	Implementation	3	
4	Schematic diagrams, Architecture, workflow, Flowchart	3	
5	Tidiness of his/her working area, proper maintenance of system during and after experiment.	3	
	Total Score	15	

Date:

signature of faculty:

## **Database:**

A database is an organized collection of data that is stored and managed in a way that makes it easy to retrieve, update, and manage information. Databases are used to store data in a structured format, allowing efficient access, management, and modification.

### **Step 1: Check if SQLite3 is Already Installed**

sqlite3 --version

### **On Windows:**

1. Download the SQLite3 command-line tool from the official website:  
SQLite Downloads
2. Download the "**Precompiled Binaries for Windows**" (usually a ZIP file).
3. Extract the ZIP file and place sqlite3.exe in a folder (e.g., C:\sqlite).
4. Add the folder to your system's **PATH** environment variable:
  - i. Search for "Environment Variables" in the Start menu.
  - ii. Click on "Environment Variables."
  - iii. In "System variables," select "Path" and click "Edit."
  - iv. Add the folder path (e.g., C:\sqlite) and click OK.

On macOS: sqlite3 --version

### **Step 4: Using SQLite3 with Django**

Since Django uses SQLite3 as the default database, you don't need to install any additional drivers. Just make sure your settings.py file has the following configuration:

```
DATABASES = {  
    'default': {  
        'ENGINE': 'django.db.backends.sqlite3',  
        'NAME': BASE_DIR / 'db.sqlite3',  
    }  
}
```

## Step 5: Run Migrations to Create the Database

- i. After setting up, run:
- ii. `python manage.py migrate`

### 1. Step 1: Open the Django DB Shell

2. Make sure your virtual environment is activated, then use the following command:
3. `python manage.py db shell`

### 4. Step 2: Common SQLite Commands

5. Once you're inside the SQLite shell, you can use the following commands:
6. List All Tables:
7. `.tables`

### 8. Step3: View Table Schema:

9. `.schema table_name;`

### 10. Step4: Show All Data in a Table:

11. `SELECT * FROM table_name;`
12. Exit the SQLite Shell:
13. `.exit`



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| 3. Roll No                      | : 24VV5A1271               |
| 4. Class                        | : II B-Tech II Semester    |
| 5. Academic Year                | : 2024-25                  |
| 6. Name of Experiment           | : Handling Forms in Django |
| 7. Date of Experiment           | : 17-02-2025               |
| 8. Date of Submission of Report | : 21-02-2025               |

S. No	Ability And Activity	Weightage Of Marks	Day To Day Evaluation Score
1	Aim Objective, Tools required	3	
2	Theory, Algorithm and Observations	3	
3	Implementation	3	
4	Schematic diagrams, Architecture, workflow, Flowchart	3	
5	Tidiness of his/her working area, proper maintenance of system during and after experiment.	3	
	Total Score	15	

Date:

signature of faculty:

## What is forms.py in Django:

In Django, forms.py is used to handle user input efficiently and securely. It allows developers to create and manage forms without manually writing HTML and validation logic.

### Why Use forms.py:

- i. Simplifies form creation
- ii. Handles input validation automatically
- iii. Integrates with Django models
- iv. Prevents security risks like SQL Injection & CSRF attacks

### Types of Forms in Django:

1. Django Forms (forms.Form) – Used for manually creating forms
2. **Model Forms (forms.ModelForm)** – Used to create forms directly from a Django model

### Forms.py:

```
from django import forms

from django.contrib.auth.models import User

from . import models

class IssueBookForm(forms.Form):

    isbn2 = forms.ModelChoiceField(queryset=models.Book.objects.all(),
    empty_label="Book Name [ISBN]", to_field_name="isbn", label="Book (Name and ISBN)")

    name2 = forms.ModelChoiceField(queryset=models.Student.objects.all(),
    empty_label="Name [Branch] [Class] [Roll No]", to_field_name="user", label="Student Details")

    isbn2.widget.attrs.update({'class': 'form-control'})

    name2.widget.attrs.update({'class': 'form-control'})
```



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| 3. Roll No                      | : 24VV5A1271                |
| 4. Class                        | : II B-Tech II Semester     |
| 5. Academic Year                | : 2024-25                   |
| 6. Name of Experiment           | : Defining and using Models |
| 7. Date of Experiment           | : 21-02-2025                |
| 8. Date of Submission of Report | : 07-03-2025                |

S. No	Ability And Activity	Weightage Of Marks	Day To Day Evaluation Score
1	Aim Objective, Tools required	3	
2	Theory, Algorithm and Observations	3	
3	Implementation	3	
4	Schematic diagrams, Architecture, workflow, Flowchart	3	
5	Tidiness of his/her working area, proper maintenance of system during and after experiment.	3	
	Total Score	15	

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**What is models.py in Django:**

In Django, models.py is where you define the database structure using Python code. Django models act as a bridge between the database and the application, allowing you to create, read, update, and delete records easily.

Why Use Django Models:

No need to write raw SQL queries, Automatically creates tables in the database and

How to Apply Models:

Create the Model in models.py:

1. Write your models inside the models.py file.

**Models.py:**

```
from django.db import models

from django.contrib.auth.models import User

from datetime import timedelta, date

# Function to set expiry date 14 days from the issue date
def expiry():

    return date.today() + timedelta(days=14)

# Book model to store book details
class Book(models.Model):

    name = models.CharField(max_length=200)

    author = models.CharField(max_length=200)

    isbn = models.CharField(max_length=13, unique=True) # ISBN as a string (with or without dashes)

    category = models.CharField(max_length=50)

    def __str__(self):
```

```

return f'{self.name} [{self.isbn}]'

# Student model to store student details

class Student(models.Model):

    user = models.OneToOneField(User, on_delete=models.CASCADE)

    classroom = models.CharField(max_length=10)

    branch = models.CharField(max_length=10)

    roll_no = models.CharField(max_length=10, blank=True) # You can make roll_no
optional

    phone = models.CharField(max_length=10, blank=True) # Optionally make phone
field blank

    image = models.ImageField(upload_to='students/', blank=True) # Set upload path
for student images

    def __str__(self):

        return f'{self.user} [{self.branch}] [{self.classroom}] [{self.roll_no}]'

# IssuedBook model to store issued book details with foreign keys for student and book

class IssuedBook(models.Model):

    student = models.ForeignKey(Student, on_delete=models.CASCADE) # ForeignKey
to Student model

    book = models.ForeignKey(Book, on_delete=models.CASCADE) # ForeignKey to
Book model

    issued_date = models.DateField(auto_now_add=True) # Set the issue date
automatically when created

    expiry_date = models.DateField(default=expiry) # Set the expiry date to 14 days from
issue date

    def __str__(self):

        return f'{self.book.name} issued to {self.student.user.username} until
{self.expiry_date}'

```



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| 3. Roll No                      | : 24VV5A1271                         |
| 4. Class                        | : II B-Tech II Semester              |
| 5. Academic Year                | : 2024-25                            |
| 6. Name of Experiment           | : Migrations: sync with the Database |
| 7. Date of Experiment           | : 07-03-2025                         |
| 8. Date of Submission of Report | : 27-03-2025                         |

S. No	Ability And Activity	Weightage Of Marks	Day To Day Evaluation Score
1	Aim Objective, Tools required	3	
2	Theory, Algorithm and Observations	3	
3	Implementation	3	
4	Schematic diagrams, Architecture, workflow, Flowchart	3	
5	Tidiness of his/her working area, proper maintenance of system during and after experiment.	3	
	Total Score	15	

Date:

signature of faculty:

## **Migrations: Sync with the Database:**

### **Run Migrations to Create Database Tables:**

After defining your models, run the following commands to apply them to the database:

- `python manage.py makemigrations`
- `python manage.py migrate`



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| 3. Roll No                      | : 24VV5A1271                                       |
| 4. Class                        | : II B-Tech II Semester                            |
| 5. Academic Year                | : 2024-25  |
| 6. Name of Experiment           | : Deploying Django Applications on Cloud Platforms |
| 7. Date of Experiment           | : 27-03-2025                                       |
| 8. Date of Submission of Report | : 04-04-2025                                       |

S. No	Ability And Activity	Weightage Of Marks	Day To Day Evaluation Score
1	Aim Objective, Tools required	3	
2	Theory, Algorithm and Observations	3	
3	Implementation	3	
4	Schematic diagrams, Architecture, workflow, Flowchart	3	
5	Tidiness of his/her working area, proper maintenance of system during and after experiment.	3	
	Total Score	15	

Date:

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## Deploying Django Web Application on Cloud:

### What is Deployment?

Deployment is the process of making a Django web application live on the internet so users can access it. This involves hosting your app on a cloud server like AWS, Google Cloud, Digital Ocean, Heroku, or PythonAnywhere.

### Features:

Scalability – Handle more users without performance issues. Security – Protect user data with SSL and secure databases. Global Accessibility – Users can access your app from anywhere.

Continuous Deployment – Easily update your app with new features.

Here's a step-by-step guide to Register on GitHub, Create a Django website with login and registration pages, and Configure Django to handle static files.

### Step 1: Register on GitHub

1. Go to [GitHub](https://github.com) and click Sign up.
2. Enter your Username, Email, and Password.
3. Complete the verification and click Create Account.
4. Verify your email by clicking the link in your inbox.

### Step 2: Push to GitHub

Initialize Git in your project:

1.git init

2.Connect to GitHub:

#### git remote add origin

<https://github.com/bhavana071/Bhavana>

3.Add and commit changes: gitgit add .

#### git commit -m "Initial Commit: Login and Registration App"

4.Push to GitHub:

#### git branch -M main

git push -u origin main

You have successfully built a Django website with login, registration, and static file management.

Your code is now available on GitHub.

**GITHUB LINK:**

<https://github.com/bhavana071/Bhavana>



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1. Name of the Laboratory : Django Framework Lab
2. Name of the Student : M. Bhavana
3. Roll No : 24VV5A1271
4. Class : II B-Tech II Semester
5. Academic Year : 2024-25
6. Name of Experiment : Front End Web Developer Certification
7. Date of Experiment : 04-04-2025
8. Date of Submission of Report : 04-04-2025

S. No	Ability And Activity	Weightage Of Marks	Day To Day Evaluation Score
1	Aim Objective, Tools required	3	
2	Theory, Algorithm and Observations	3	
3	Implementation	3	
4	Schematic diagrams, Architecture, workflow, Flowchart	3	
5	Tidiness of his/her working area, proper maintenance of system during and after experiment.	3	
	Total Score	15	

Date:

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Certification:

## CERTIFICATE OF ACHIEVEMENT



The certificate is awarded to

**BHAVANA MAJJI**

for successfully completing

**Front End Web Developer Certification**

on March 3, 2025



Issued on: Monday, March 3, 2025  
To verify, scan the QR code at <https://verify.onwingspan.com>



*Congratulations! You make us proud!*

Thirumala Arohi  
Executive Vice President and Global Head  
Education, Training & Assessment (ETA)  
Infosys Limited