Python Full Stack

Project 02

S.No	Projects	Programming Languages	Topics Covered
2	Project - 02	HTML	1. Marquee tag 2. Un Order List tag 3. Order List tag 4. Table tag 5. Button tag
		CSS	1. Internal CSS - Tag selector
		Java Script	1. Functions Java Script can Change CSS properties
		Python	1. Set 2. Dictionary 3. Conditional Statements
		Django	1. Python Set and Dictionary Values in HTML file 2. Conditional Statements In HTML file

HTML

Project02.html

```
<!DOCTYPE html>
<html lang="en">

<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Set and Dictionary Example</title>
</head>

<body>
    <h3>Django Basics</h3>

    <marquee>Marquee Tag in HTML</marquee>

    <div>

        <h4>Fruits (Set - Unordered List):</h4>
        <ul>
            <li>Apple</li>
            <li>Banana</li>
            <li>Cherry</li>
        </ul>

        <h4>Student Data (Dictionary):</h4>
        <p><strong>Name:</strong> John Doe</p>
        <p><strong>Age:</strong> 20</p>

        <h4>Subjects (Ordered List):</h4>
        <ol>
            <li>Math</li>
            <li>Science</li>
            <li>History</li>
        </ol>

    </div>

</body>

</html>
```

Project02.html

```
<!DOCTYPE html>
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<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Set and Dictionary Example</title>
</head>

<body>
    <h3>Django Basics</h3>
    <marquee direction="left" scrollamount="10">Marquee Tag in HTML</marquee>

    <div>

        <h4>Fruits (Set - Unordered List):</h4>
        <ul type="circle">
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        </ul>

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        <p><strong>Name:</strong> John Doe</p>
        <p><strong>Age:</strong> 20</p>

        <h4>Subjects (Ordered List):</h4>
        <ol type="a">
            <li>Math</li>
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            <li>History</li>
        </ol>

    </div>

</body>

</html>
```

Project02.html

```
<!DOCTYPE html>
<html lang="en">
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<head>
    <meta charset="UTF-8">
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    <title>Set and Dictionary Example</title>
</head>

<body>
    <h3>Django Basics</h3>

    <div>

        <h4>User Table:</h4>
        <table border="1" cellpadding="10" cellspacing="5">
            <tr>
                <th>S.No</th>
                <th>Name</th>
                <th>Age</th>
                <th>18+</th>
            </tr>
            <tr>
                <td>1</td>
                <td>Alice</td>
                <td>25</td>
                <td>Yes</td>
            </tr>
            <tr>
                <td>2</td>
                <td>Bob</td>
                <td>17</td>
                <td>No</td>
            </tr>
            <tr>
                <td>3</td>
                <td>Charlie</td>
                <td>19</td>
                <td>Yes</td>
            </tr>
        </table>
    </div>

</body>

</html>
```

Project02.html

```
<!DOCTYPE html>
<html lang="en">
```

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    <div>

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            </tr>
            <tr>
                <td>2</td>
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```

```
                <td>17</td>
                <td>No</td>
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                <td>3</td>
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                <td>19</td>
                <td>Yes</td>
            </tr>
        </table>
    </div>

</body>

</html>
```

HTML + Internal CSS

Project02.html

```
<!DOCTYPE html>
<html lang="en">

<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Set and Dictionary Example</title>

    <style>
        /* General Styles */
        body {
            font-family: Arial;
            background-color: #f9f9f9;
        }

        h3 {
            color: #333;
            text-align: center;
        }


        h4 {
            color: #555;
        }
```

```
        /* Marquee Styles */
        marquee {
            background-color: #4CAF50;
            color: white;
            height: 20px;
            width: 100%;
            font-size: 20px;
        }

        /* Table styles */
        table {
            width: 100%;
        }

        th,
        td {
            border: 1px solid #d81f1f;
            text-align: center;
        }

        th {
            background-color: #4CAF50;
            color: white;
        }

        tr:nth-child(even) {
            background-color: #8a7373;
        }

        tr:hover {
            background-color: #c5b3b3;
        }
    </style>
</head>

<body>
    <h3>Django Basics</h3>
    <marquee direction="left" scrollamount="10">
        Marquee Tag in HTML - This is scrolling text!
    </marquee>
    <div>

        <h4>Fruits (Set - Unordered List):</h4>
        <ul type="circle">
            <li>Apple</li>
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        </ul>
```

```
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                <td>Charlie</td>
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        </table>
    </div>

</body>

</html>
```

HTML + Internal CSS + Java Script

Project02.html

```
<!DOCTYPE html>
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    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Set and Dictionary Example</title>

    <style>
        /* General Styles */
        body {
            font-family: Arial;
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        }
    </style>
</head>

<body>
    <h3>Django Basics</h3>

    <marquee direction="left" scrollamount="10">
        Marquee Tag in HTML - This is scrolling text!
    </marquee>

    <button onclick="toggleContent()">Show Data</button>

    <div id="content" style="display: none;">
        <h4>Fruits (Set - Unordered List):</h4>
        <ul type="circle">
            <li>Apple</li>
            <li>Banana</li>
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                <td>Yes</td>
            </tr>
        </table>
    </div>

    <script>
        function toggleContent() {
            const content = document.getElementById('content');
            if (content.style.display === 'none') {
                content.style.display = 'inline';
            } else {
                content.style.display = 'none';
            }
        }
    </script>
</body>

</html>
```

PYTHON

Example 01: example01.py

```
"""
    1. set is collection of data dype. set to remove the duplicate value
    2. set is define --> {}

"""
a = {1,2,3,4,2,1,3}

print(a, "type(a) : ", type(a))
```

Example 02: example01.py

```
names = {"sara","meera","thara","meera","sara"}

print(names)

print("-------------------------------------")

if "sara" in names:
    print("yes sara is there")

else:
    print("No sara is not in your object (variable)")
```

Example 03: example01.py

```
names = {"sara","meera","thara","meera","sara"}

print(names)

print("-------------------------------------")

print("Using for loop : ")

for i in names:
    print(i)
```

Example 04: example01.py

```
names = {"sara","meera","thara","meera","sara"}

print(names)

print("-------------------------------------")

names.remove("meera")

print(names)

print("-------------------------------------")

names.discard("reena")

print(names)

print("-------------------------------------")

names.remove("reena")
```

Example 05: example01.py

```
a = {1,2,3,4,5}

b = {'a','b','c','d'}

c = a.union(b)

print(c)

print("-----------------------------------------")

d = {1,2,3,4,5}

e = {6,5,7,8,9}

f = d.intersection(e)

print(f)

print("-----------------------------------------")
d = {1,2,3,4,5}

e = {6,5,7,8,9}
g = d.symmetric_difference(e)

print(g)
```

Example 06: example01.py

```
"""
    1. Dictionary is a collection of data type
    2. Dictionary has define as --> {"key" : "value"}
"""

user = {"name":"admin", "age":"23", "married":"no"}

print(user, type(user)

print(user["name"])

print(user.get("age"))

print(user.get("gender","male"))

print(user.keys())

print(user.values())

print(user.items())
```

Example 07: example01.py

```
user = {"name":"selva", "age":"23", "married":"no"}

print("Print the user variable value : ")

for x in user:
    print(x," - ",user[x])

print('-----------------------------------------------')

print("Print the user.values value : ")

for x in user.values():
    print(x)
```

Example 08: example01.py

```
print("*********** changing values ***********")
print("")

user = {"name":"admin","age":"23","married":"no"}

print(user)
```

```
print("-------------------------------------------------------")

user.update({"phone":"9500912258"})

print(user)

print("-------------------------------------------------------")

user["name"] = "kumar"

print(user)

print("-------------------------------------------------------")

user.pop("age")

print(user)

print("-------------------------------------------------------")

user.clear()

print(user)
```

Example 09: example01.py

```
users = {
         "user1":{"name":"selva","age":"24"},
         "user2":{"name":"kumar","age":"25"}
        }

# Retrieve user1's name and age
user1_name = users["user1"]["name"]
user1_age = users["user1"]["age"]

user2_name = users["user2"]["name"]
user2_age = users["user2"]["age"]

# Print the values
print("Retrieve user1's name and age : ")
print("User1 Name:", user1_name)
print("User1 Age:", user1_age)

print("Retrieve user2's name and age : ")
print("User2 Name:", user2_name)
print("User2 Age:", user2_age)
```

Example 10: example01.py

```
print('If Condition : ')
print("---------------")
print("")

name = input("Enter your name   : ")

age = int(input("Enter your age    : "))

print("----------------------------------------")

if age >= 18:
    print(name,"Your age is",age,"so you are eligible for vote")
```

Example 11: example01.py

```
print('If Else Condition : \n')

name = input("Enter your name   : ")

age = int(input("Enter your age    : "))

if age >= 18:
    print(name,"Your age is",age,"so you are eligible for vote")

else:
    print(name,"your age is",age,"so you are not eligible for vote")
```

Example 12: example01.py

```
print('Elif Condition and nested If : ')
print("------------------------------\n")

m1 = int(input("Enter mark 1 :"))

m2 = int(input("Enter mark 2 :"))

m3 = int(input("Enter mark 3 :"))

total = m1 + m2 + m3

average = total / 3.0
```

```
if (m1 >= 35 and m2 >= 35 and m3 >= 35):

    print("Pass")
    print("Total", total)
    print("Average", average)

    if (average >= 90 and average <= 100):
        print("A grade")

    elif (average >= 80 and average <= 90):
        print("B grade")

    else:
        print("D grade")

else:
    print("Fail")
    print("Total", total)
    print("Average", average)
```

Example 13: example01.py

```
print('Python For Loop : ')
print("------------------")
print("")

for i in range (0,11,2):
    print(i)
```

Example 14: example01.py

```
print('Python For Loop : ')
print("------------------")
print("")

for i in range (2):

    s = int(input("Enter the number :"))

    k = int(input("Enter the number :"))

    print(s, '+', k, '=', s + k)
```

DJANGO

Django Project Setup

Open Command Prompt from Project02 Folder and run the following command

python --version

pip --version

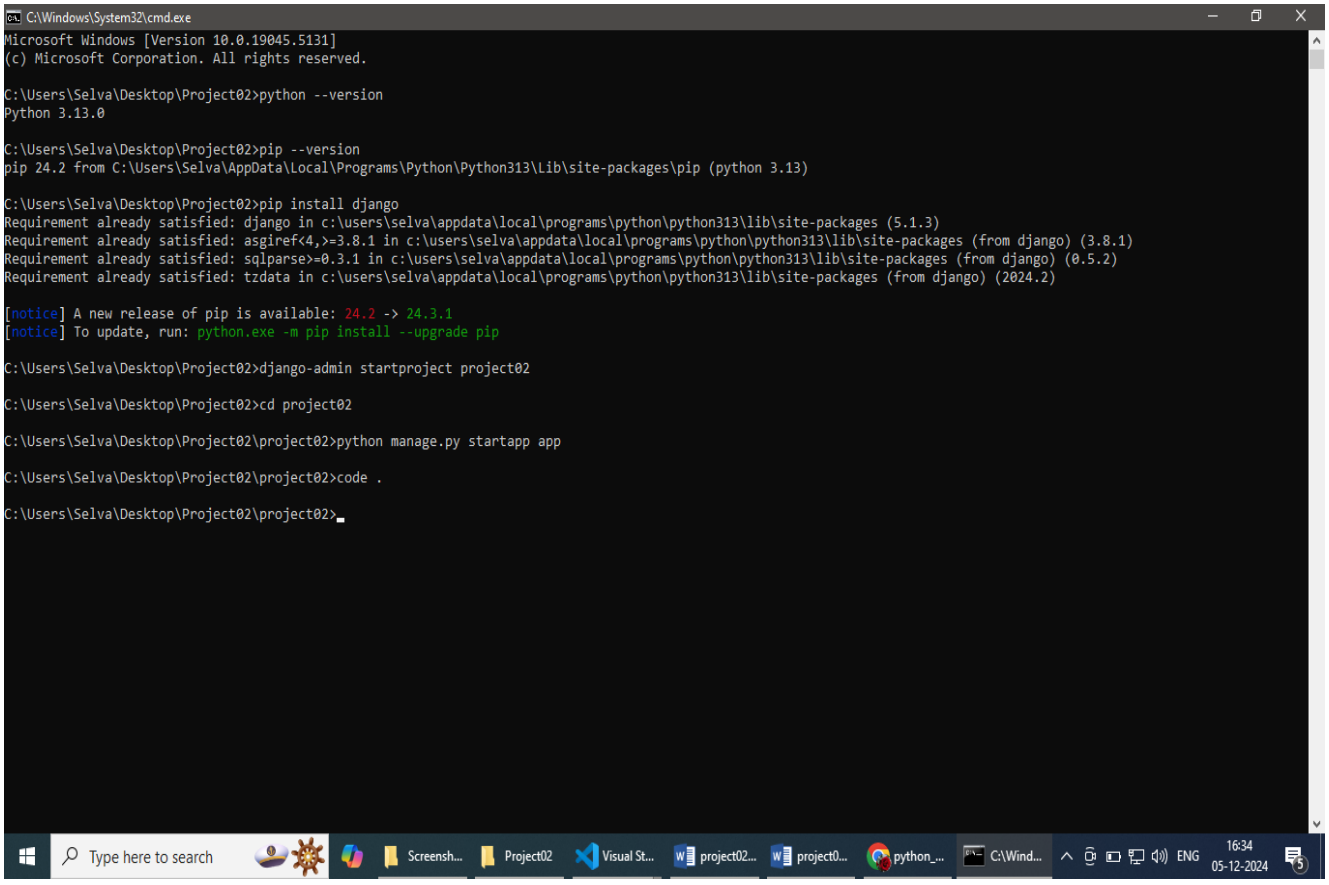
pip install django

django-admin startproject project01

cd project02

python manage.py startapp app

code .



Now the VS Code editor opened. Then Following the steps

Step 01 - Project02 / project02/ project02/ settings.py

App registration

settings.py :

```
# Application definition

INSTALLED_APPS = [
    'django.contrib.admin',
    'django.contrib.auth',
    'django.contrib.contenttypes',
    'django.contrib.sessions',
    'django.contrib.messages',
    'django.contrib.staticfiles',
    'app'
]
```

Step 02 - Project02 / project02/ app / templates

Add all html files in templates folder

File 01:

Project02 / project02 / app / templates / index.html

index.html

```
<!DOCTYPE html>
<html lang="en">

<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Set and Dictionary Example</title>
    <style>
        /* General Styles */
        body {
            font-family: Arial;
            background-color: #f9f9f9;
        }

        h3 {
            color: #333;
            text-align: center;
        }
```

```
        h4 {
            color: #555;
        }

        /* Marquee Styles */
        marquee {
            background-color: #4CAF50;
            color: white;
            height: 20px;
            width: 100%;
            font-size: 20px;
        }

        /* Table styles */
        table {
            width: 100%;
        }

        th,
        td {
            border: 1px solid #d81f1f;
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        th {
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        tr:nth-child(even) {
            background-color: #8a7373;
        }

        tr:hover {
            background-color: #c5b3b3;
        }
    </style>
</head>

<body>
    <h3>Django Basics</h3>

    <button onclick="toggleContent()">Show Data</button>

    <div id="content" style="display: none;">
        <h4>Fruits (Set - Unordered List):</h4>
        <ul type="circle">
            <li>Apple</li>
```

```
        <li>Banana</li>
        <li>Cherry</li>
    </ul>

    <h4>Student Data (Dictionary):</h4>
    <p><strong>Name:</strong> John Doe</p>
    <p><strong>Age:</strong> 20</p>

    <h4>Subjects (Ordered List):</h4>
    <ol type="a">
        <li>Math</li>
        <li>Science</li>
        <li>History</li>
    </ol>

    <h4>User Table:</h4>
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        <tr>
            <td>1</td>
            <td>Alice</td>
            <td>25</td>
            <td>Yes</td>
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            <td>2</td>
            <td>Bob</td>
            <td>17</td>
            <td>No</td>
        </tr>
        <tr>
            <td>3</td>
            <td>Charlie</td>
            <td>19</td>
            <td>Yes</td>
        </tr>
    </table>
</div>

<script>
    function toggleContent() {
        const content = document.getElementById('content');
        if (content.style.display === 'none') {
```

```
                content.style.display = 'inline';
            } else {
                content.style.display = 'none';
            }
        }
    </script>
</body>
</html>
```

Step 03 - Project02 / project02/ app / views.py

```
from django.shortcuts import render

# Create your views here.
def index(request):
    return render(request, 'index.html')
```

Step 04 - Project02 / project02/ project02/ urls.py

```
from django.contrib import admin
from django.urls import path

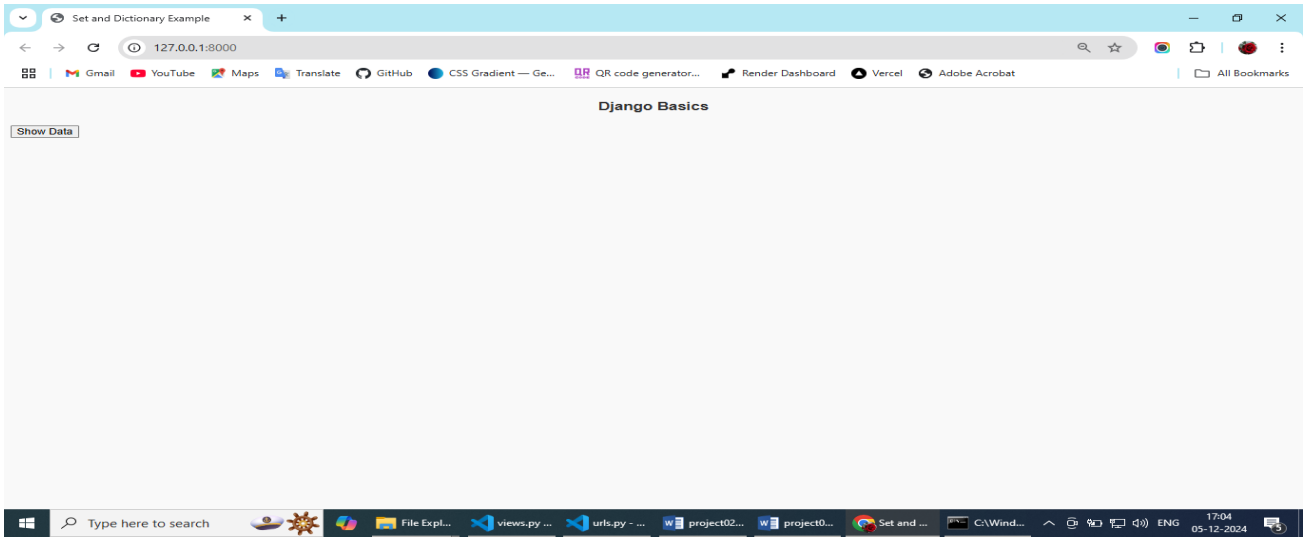
from app import views

urlpatterns = [
    path('admin/', admin.site.urls),
    path('',views.index)
]
```

Step 05 – Open Terminal in VS Code Editor and Run the command

python manage.py runserver

Output :



Step 06 - Project02 / project02/ app / views.py

```
from django.shortcuts import render

# Create your views here.
def index(request):
    # Set example
    fruits = {"apple", "banana", "cherry", "date"}

    # Dictionary example
    student_data = {
        "name": "John Doe",
        "age": 21,
        "subjects": ["Math", "Science", "History"],
    }

    view_user=[
        {"name":"selva","age":23},
        {"name":"sri","age":17},
        {"name":"selva","age":27},
        {"name":"selva","age":12},
    ]

    context = {
        "fruits": fruits,
        "student": student_data,
        "users": view_user
    }
    return render(request, 'index.html', context)
```

Step 07 - Project02 / project02/ app / templates / index.html

Update the index.html file

index.html

```
<!DOCTYPE html>
<html lang="en">

<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Set and Dictionary Example</title>
```

```
<style>
    /* General Styles */

    body {
        font-family: Arial;
        background-color: #f9f9f9;
    }

    h3 {
        color: #333;
        text-align: center;
    }

    h4 {
        color: #555;
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    /* Marquee Styles */
    marquee {
        background-color: #4CAF50;
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    /* Table styles */
    table {
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    th, td {
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        text-align: center;
    }
    th {
        background-color: #4CAF50;
        color: white;
    }

    tr:nth-child(even) {
        background-color: #8a7373;
    }

    tr:hover {
        background-color: #c5b3b3;
    }
</style>
```

```
</head>
<body>
    <h3>Django Basics</h3>
    <button onclick="toggleContent()">Show Data</button>
    <div id="content" style="display: none;">
        <!-- Display Set Example with Unordered List -->
        <h4>Fruits (Set - Unordered List):</h4>
        <ul type="circle">
            {% for fruit in fruits %}
                <li>{{ fruit }}</li>
            {% endfor %}
        </ul>

        <!-- Display Dictionary Example -->
        <h4>Student Data (Dictionary):</h4>
        <p><strong>Name:</strong> {{ student.name }}</p>
        <p><strong>Age:</strong> {{ student.age }}</p>

        <!-- Subjects as an Ordered List -->
        <h4>Subjects (Ordered List):</h4>
        <ol type="a">
            {% for subject in student.subjects %}
                <li>{{ subject }}</li>
            {% endfor %}
        </ol>

        <!-- User Table -->
        <h4>User Table:</h4>
        <table border="1" cellpadding="10" cellspacing="5">
            <tr>
                <th>S.No</th>
                <th>Name</th>
                <th>Age</th>
                <th>18+</th>
            </tr>
            {% for user in users %}
            <tr>
                <td>{{ forloop.counter }}</td>
                <td>{{ user.name }}</td>
                <td>{{ user.age }}</td>
                <td>
                    {% if user.age >= 18 %}
                    Yes
                    {% else %}
                    No
                    {% endif %}
                </td>
            </tr>
```

```
            {% endfor %}
        </table>
    </div>

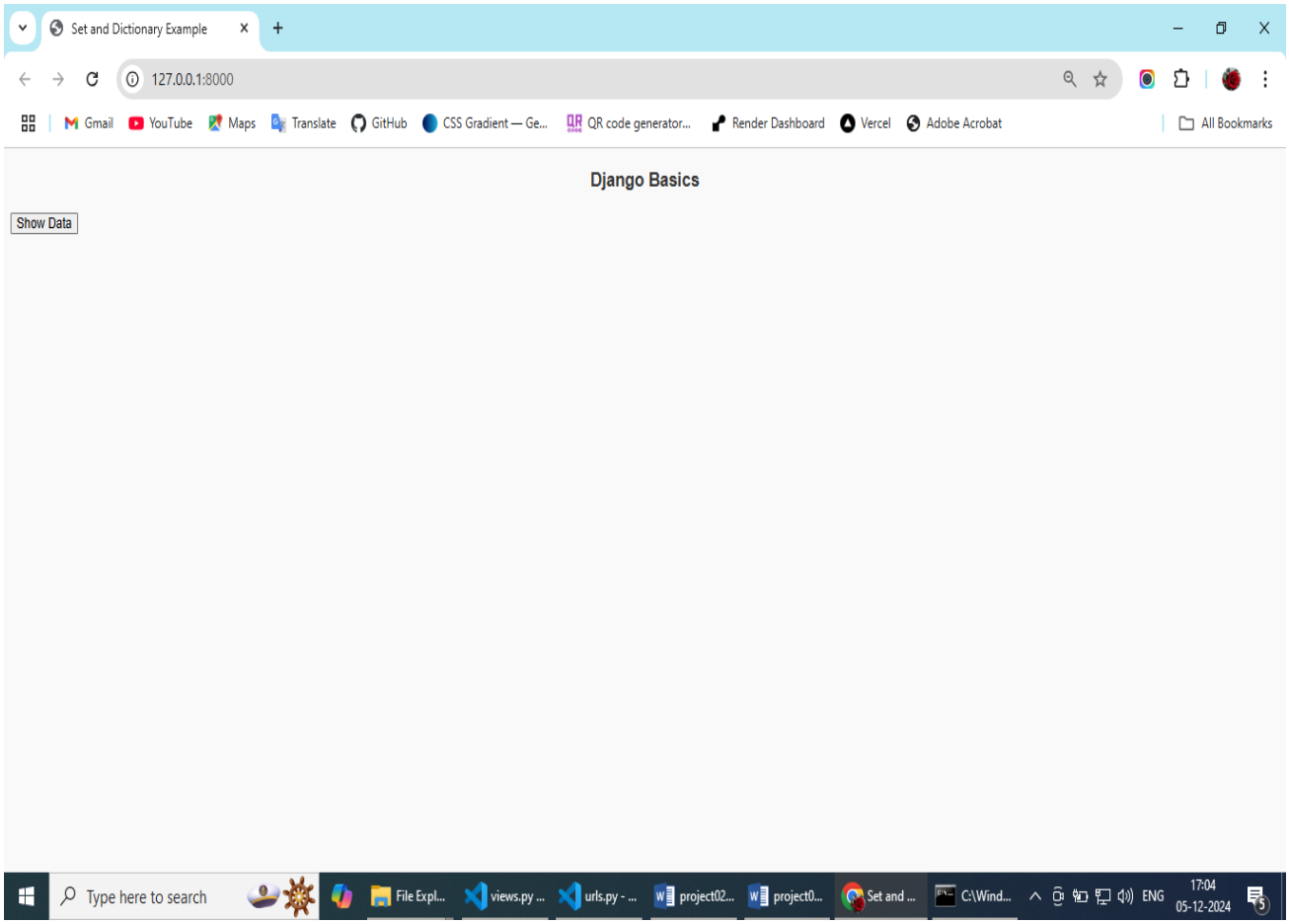
    <script>
        function toggleContent() {
            const content = document.getElementById('content');
            if (content.style.display === 'none') {
                content.style.display = 'block';
            } else {
                content.style.display = 'none';
            }
        }
    </script>
</body>

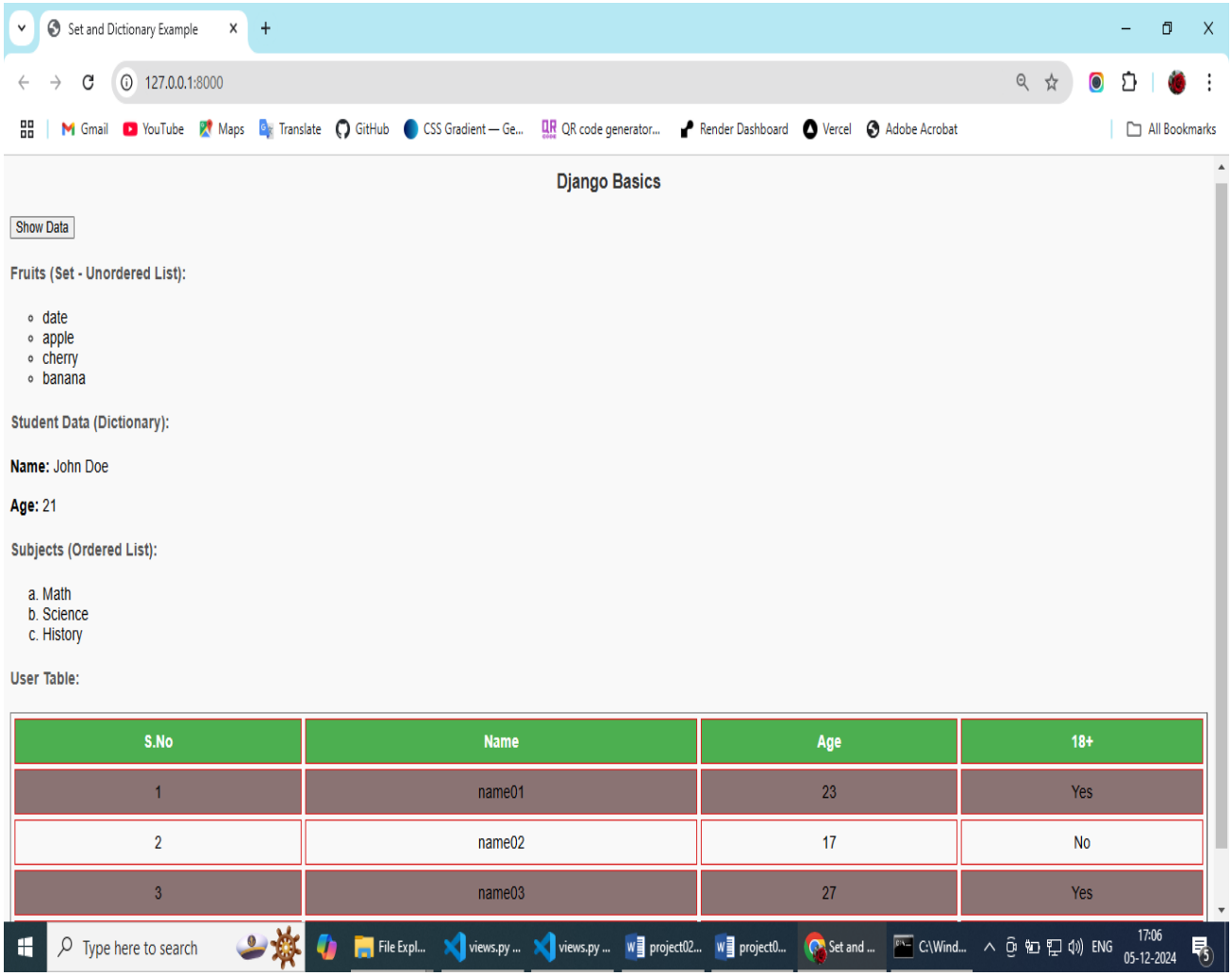
</html>
```

Step 08 – Open Terminal in VS Code Editor and Run the command

python manage.py runserver

Output :




Set and Dictionary Example
127.0.0.1:8000
Gmail
YouTube
Maps
Translate
GitHub
CSS Gradient — Ge...
QR code generator...
Render Dashboard
Vercel
Adobe Acrobat
All Bookmarks
Django Basics
Show Data
Fruits (Set - Unordered List):
date
apple
cherry
banana
Student Data (Dictionary):
Name: John Doe
Age: 21
Subjects (Ordered List):
a. Math
b. Science
c. History
User Table:
S.No
Name
Age
18+
1
name01
23
Yes
2
name02
17
No
3
name03
27
Yes
Type here to search
ENG
17:06
05-12-2024