Web App Code for ipynb file to flask framework view

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Project Name	Project - Visualizing and Predicting Heart Diseases with an Interactive Dashboard

Web App Code for ipynb file to flask framework view Visualizing and Predicting Heart Diseases with an Interactive Dashboard:

Heart_prediction_app.py

```python
# -*- coding: utf-8 -*-

import numpy as np

import pickle

from flask import Flask, request, render_template

# Load ML model

model = pickle.load(open('models.pkl', 'rb'))

# Create application

app = Flask(__name__)

# Bind home function to URL

@app.route('/')

def home():

    return render_template('Heart_Disease_Classifier.html')

# Bind predict function to URL

@app.route('/predict', methods =['POST'])

def predict():

    # Put all form entries values in a list

    features = [float(i) for i in request.form.values()]

    # Convert features to array

    array_features = [np.array(features)]

    # Predict features

    prediction = model.predict(array_features)

    output = prediction

    # Check the output values and retrive the result with html tag based on the value
```

```python
    if output == 1:

        return render_template('Heart_Disease_Classifier.html',

                    result = 'The patient is not likely to have heart disease!')

    else:

        return render_template('Heart_Disease_Classifier.html',

                    result = 'The patient is likely to have heart disease!')

if __name__ == '__main__':

#Run the application
```

Heart_Disease_Classifier.html

```html
<html>

<head>

<!-- Bootstrap CSS -->

<link                                            rel="stylesheet"
href="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/css/bootstrap.min.css"
integrity="sha384-
JcKb8q3iqJ61gNV9KGb8thSsNjpSL0n8PARn9HuZOnIxN0hoP+VmmDGMN5t9UJ0Z"
crossorigin="anonymous">

<script       src="https://code.jquery.com/jquery-3.5.1.slim.min.js"       integrity="sha384-
DfXdz2htPH0lsSSs5nCTpuj/zy4C+OGpamoFVy38MVBnE+IbbVYUew+OrCXaRkfj"
crossorigin="anonymous"></script>

<script            src="https://cdn.jsdelivr.net/npm/popper.js@1.16.1/dist/umd/popper.min.js"
integrity="sha384-
9/reFTGAW83EW2RDu2S0VKaIzap3H66lZH81PoYlFhbGU+6BZp6G7niu735Sk7lN"
crossorigin="anonymous"></script>

<script            src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/js/bootstrap.min.js"
integrity="sha384-
B4gt1jrGC7Jh4AgTPSdUtOBvfO8shuf57BaghqFfPlYxofvL8/KUEfYiJOMMV+rV"
crossorigin="anonymous"></script>

<title>Heart Disease Test</title>

</head>

<body>

<!-- Java Script -->

<script       src="https://code.jquery.com/jquery-3.5.1.slim.min.js"       integrity="sha384-
DfXdz2htPH0lsSSs5nCTpuj/zy4C+OGpamoFVy38MVBnE+IbbVYUew+OrCXaRkfj"
crossorigin="anonymous"></script>
```

```
<script          src="https://cdn.jsdelivr.net/npm/popper.js@1.16.1/dist/umd/popper.min.js"
integrity="sha384-
9/reFTGAW83EW2RDu2S0VKaIzap3H66lZH81PoYlFhbGU+6BZp6G7niu735Sk7lN"
crossorigin="anonymous"></script>

<script          src="https://stackpath.bootstrapcdn.com/bootstrap/4.5.2/js/bootstrap.min.js"
integrity="sha384-
B4gt1jrGC7Jh4AgTPSdUtOBvfO8shuf57BaghqFfPlYxofvL8/KUEfYiJOMMV+rV"
crossorigin="anonymous"></script>




<!-- Navbar-->
<nav class="navbar navbar-dark" style="background-color: rgb(13, 102, 87);">
<span class="navbar-brand mb-0 h1">Heart Disease Test</span>
</nav>
<div class="container">
<br>
<!--Form-->
<form action = "{{url_for('predict')}}" method ="POST" >
<fieldset>
<legend style="color: rgb(41, 15, 134);"><b>Heart Disease Test Form</b></legend><br>
<div class="card card-body" style="background-color: rgb(194 245 236 / 56%);">
<div class="form-group  row">
<div class="col-sm-3">
<label for="age">Age</label>
<input type="number" class="form-control" id="age" name="age" required>
</div>
<div class="col-sm-3">
<label for="sex">Sex</label>
<select class="form-control" id="sex"  name="sex" required>
<option disabled selected value> -- Select an Option -- </option>
<option value = "0">Female</option>
<option value = "1">Male</option>
</select>
</div>
```

```html
</div>
<br>
<div class="form-group  row">
<div class="col-sm">
<label for="cp">Chest Pain Type</label>
<select class="form-control" id="cp" name = "cp" required>
<option disabled selected value> -- Select an Option -- </option>
<option value = "1">Typical Angina</option>
<option value = "2">Atypical Angina</option>
<option value = "3">Non-anginal Pain</option>
<option value = "4">Asymptomatic</option>
</select>
</div>
<div class="col-sm">
<label for="trestbps">Resting Blood Pressure in mm Hg</label>
<input type="number" class="form-control" id="trestbps" name="trestbps"  required>
</div>
<div class="col-sm">
<label for="chol">Serum Cholestoral in mg/dl</label>
<input type="number" class="form-control" id="chol" name="chol" required>
</div>
<div class="col-sm">
<label for="fbs">Fasting Blood Sugar > 120 mg/dl</label>
<select class="form-control" id="fbs" name="fbs" required>
<option disabled selected value> -- Select an Option -- </option>
<option value = "0">False</option>
<option value = "1">True</option>
</select>
</div>
</div>

<br>
```

```html
<div class="form-group row">
<div class="col-sm">
<label for="restecg">Resting ECG Results </label>
<select class="form-control" id="restecg" name="restecg" required>
<option disabled selected value> -- Select an Option -- </option>
<option value = "0">Normal  </option>
<option value = "1">Having ST-T wave abnormality  </option>
<option value = "2">Probable or definite left ventricular hypertrophy</option>
</select>
</div>
<div class="col-sm">
<label for="thalach">Maximum Heart Rate</label>
<input type="number" class="form-control" id="thalach" name="thalach" required>
</div>
<div class="col-sm">
<label for="exang">Exercise Induced Angina </label>
<select class="form-control" id="exang" name="exang" required>
<option disabled selected value> -- Select an Option -- </option>
<option value = "0">No</option>
<option value = "1">Yes</option>
</select>
</div>
<div class="col-sm">
<label for="oldpeak">ST Depression Induced</label>
<input type="number" step="any" class="form-control" id="oldpeak" name="oldpeak" required>
</div>
</div>
<br>
<div class="form-group  row">
<div class="col-sm">
<label for="slope">Slope of the Peak Exercise ST Segment </label>
```

```html
<select class="form-control" id="slope" name="slope" required>
<option disabled selected value> -- Select an Option -- </option>
<option value = "1">Upsloping</option>
<option value = "2">Flat</option>
<option value = "3">Downsloping</option>
</select>
</div>
<div class="col-sm">
<label for="ca">Number of Vessels Colored by Flourosopy</label>
<select class="form-control" id="ca" name = "ca" required>
<option disabled selected value> -- Select an Option -- </option>
<option value = "0">0</option>
<option value = "1">1</option>
<option value = "2">2</option>
<option value = "3">3</option>
</select>
</div>
<div class="col-sm">
<label for="thal">Thalassemia</label>
<select class="form-control" id="thal" name = "thal" required>
<option disabled selected value> -- Select an Option -- </option>
<option value = "3">Normal</option>
<option value = "6">Fixed defect</option>
<option value = "7">Reversable defect</option>
</select>
</div>
</div>
<br>
<div class="form-group">
<input class="btn btn-primary" type="submit" value="Result">
</div>
```
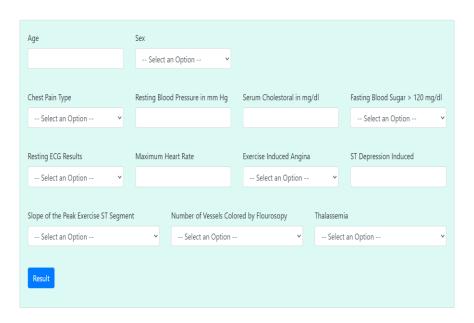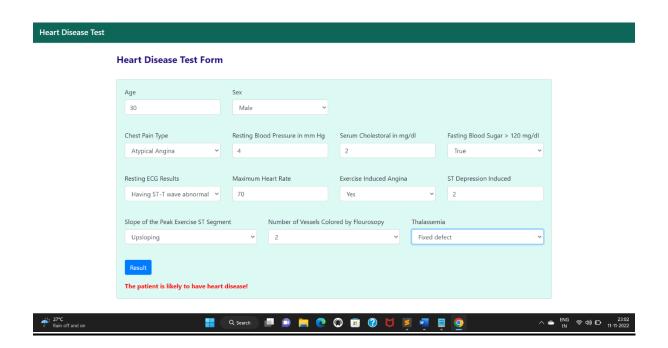
```
<!--Prediction Result-->

<div id ="result">

<strong style="color:red">{{result}}</strong>

</div>

</div>

</fieldset>

</form>



</div>



</body>

</html>
```

SCRRENSHOT OF OUTPUT:

USER INTERFACE:

Heart Disease prediction presence or absence Analytics:

Heart disease Presence:

Heart disease Absence: