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VIRTUAL INTERNSHIP
DATA GLACIER

IRIS FLOWER DETECTION

I chose iris flower data set to work with and make a ML application . For this week we have deployed our app with the help of flask framework .

Steps :

1. **Set Flask environement**
   - ☐ cd myproject
   - ☐ python3 -m venv envi
   - ☐ envi\Scripts\activate

⇒ Installing Flask

- ☐ pip install Flask

2. **Prepare Data :**

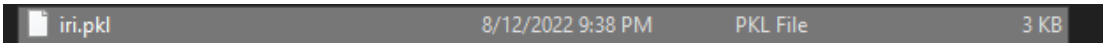
```
df = pd.read_csv('iris.data')
print(df)
```

```
C:\Users\raoue\myproject\myenvi\Scripts\python.exe C:/Users/raoue/myproject/iris.py
     5.1  3.5  1.4  0.2     Iris-setosa
0    4.9  3.0  1.4  0.2     Iris-setosa
1    4.7  3.2  1.3  0.2     Iris-setosa
2    4.6  3.1  1.5  0.2     Iris-setosa
3    5.0  3.6  1.4  0.2     Iris-setosa
4    5.4  3.9  1.7  0.4     Iris-setosa
..   ...  ...  ...  ...             ...
144  6.7  3.0  5.2  2.3  Iris-virginica
145  6.3  2.5  5.0  1.9  Iris-virginica
146  6.5  3.0  5.2  2.0  Iris-virginica
147  6.2  3.4  5.4  2.3  Iris-virginica
```

```
X = np.array(df.iloc[:, 0:4])
y = np.array(df.iloc[:, 4:])

from sklearn.preprocessing import LabelEncoder
le = LabelEncoder()
y = le.fit_transform(y.reshape(-1))

from sklearn.model_selection import train_test_split
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2)

from sklearn.svm import SVC
sv = SVC(kernel='linear').fit(X_train,y_train)
```

Saving model using pickle

```
pickle.dump(sv, open('iri.pkl', 'wb'))
```

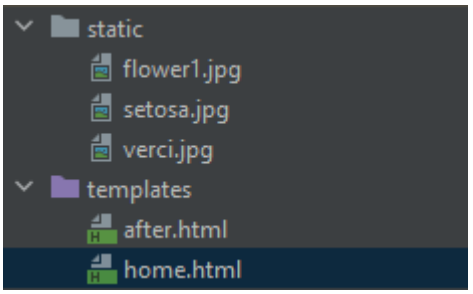


3. Creating main application :

```python
from flask import Flask, render_template, request
import pickle
import numpy as np

model = pickle.load(open('iri.pkl', 'rb'))
app = Flask(__name__)

@app.route('/')
def man():
    return render_template('home.html')


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

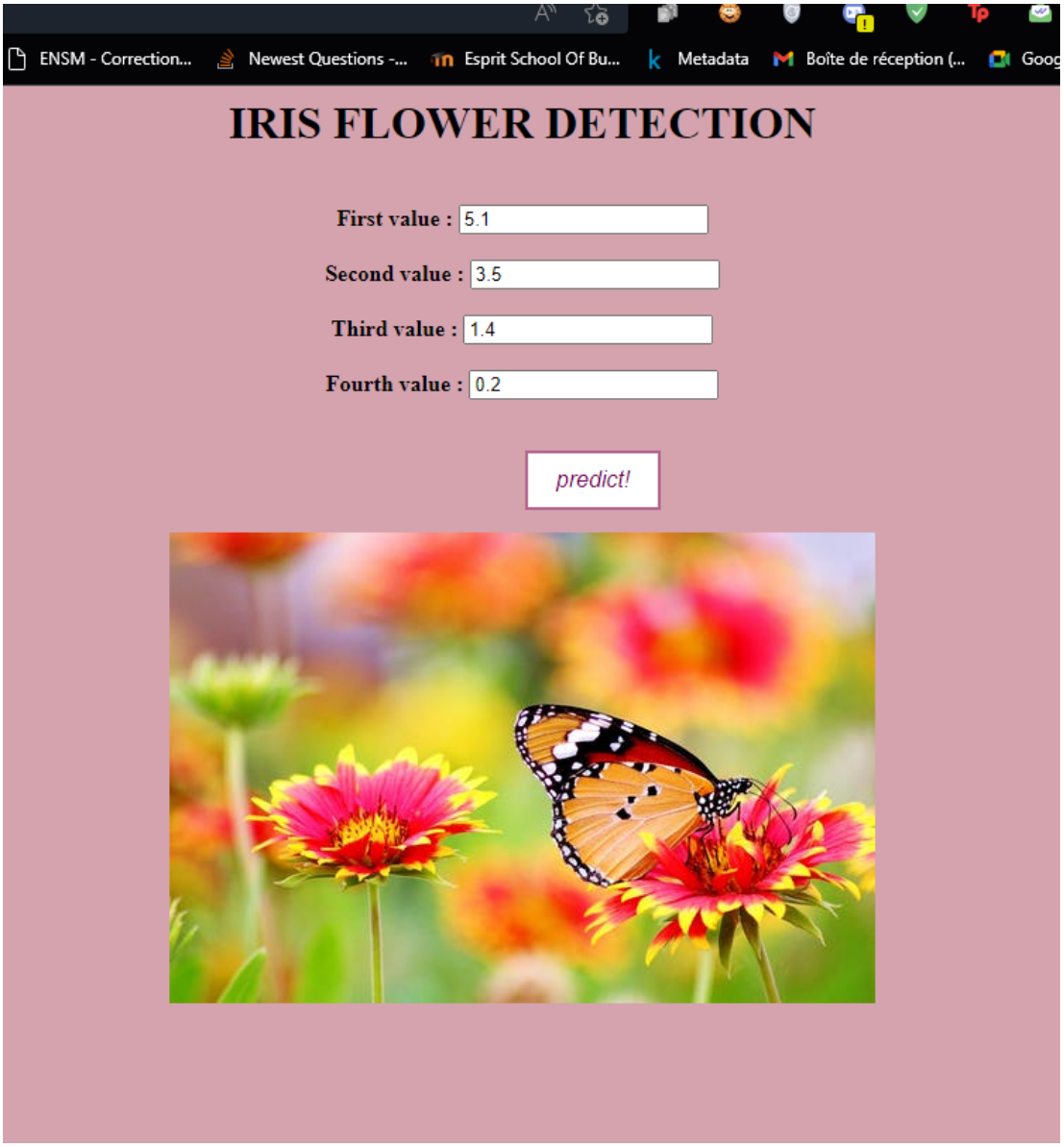
```python
def home():
    data1 = request.form['a']
    data2 = request.form['b']
    data3 = request.form['c']
    data4 = request.form['d']
    arr = np.array([[data1, data2, data3, data4]])
    pred = model.predict(arr)
    return render_template('after.html', data=pred)


if __name__ == "__main__":
    app.run(debug=True)
```

4. **templates and pictures :**



5. **Running our application :**

```
FLASK_APP = app.py
FLASK_ENV = development
FLASK_DEBUG = 0
In folder C:/Users/raoue/myproject
C:\Users\raoue\myproject\myenvi\Scripts\python.exe -m flask run
 * Debug mode: off
WARNING: This is a development server. Do not use it in a production deployment.
 * Running on http://127.0.0.1:5000
```



PREDICTION :

Iris-setosa

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