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LISUM20
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Data Glacier

1. Select toy data
 - a. Iris dataset was selected as toy data. This dataset describes the features of iris including sepal length, sepal width, petal length, petal width, and the category of iris based on these features.
2. Save the model
 - a. The logistic model on sklearn was imported and trained on the iris dataset. The trained model was dumped by pickle and saved as iris_model.pkl.

```
1  from sklearn import datasets
2  import pickle
3
4  iris = datasets.load_iris()
5  X = iris.data
6  y = iris.target
7
8  from sklearn.linear_model import LogisticRegression
9  from sklearn.model_selection import train_test_split
10 import joblib
11
12 X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.2)
13
14 model = LogisticRegression()
15 model.fit(X_train, y_train)
16
17 pickle.dump(model, open('iris_model.pkl', 'wb'))
18
19
```

iris_model.pkl

3. Deploy the model on flask
 - a. The model was deployed on flask. Running on local host 127.0.0.1:4000. The result prediction result was checked by Postman.

Iris result:

The screenshot shows the Postman interface with a GET request to the endpoint `http://127.0.0.1:4000/predict/?Sepal length=7&Sepal width=2&Petal length=7&Petal width=5`. The request is successful, returning a 200 OK status. The response body is displayed in JSON format, showing the predicted Iris class as 2.

Query Params

Key	Value	Description
<input checked="" type="checkbox"/> Sepal length	7	
<input checked="" type="checkbox"/> Sepal width	2	
<input checked="" type="checkbox"/> Petal length	7	
<input checked="" type="checkbox"/> Petal width	5	
Key	Value	Description

Body | Cookies | Headers (5) | Test Results

Status: 200 OK | Time: 16 ms | Size: 191 B | Save as Example

Pretty | Raw | Preview | Visualize | JSON | Copy

```
1 {
2   "Iris": [
3     2
4   ]
5 }
```

Reference:

- Fisher, R. A. (1936). The use of multiple measurements in taxonomic problems. *Annals of Eugenics*, 7(2), 179-188.
- Dua, D. and Graff, C. (2019). UCI Machine Learning Repository [<http://archive.ics.uci.edu/ml>]. Irvine, CA: University of California, School of Information and Computer Science.
- Pedregosa, F. et al. (2011). Scikit-learn: Machine Learning in Python. *Journal of Machine Learning Research*, 12, 2825-2830.