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Batch : F8

WEEK 8

Github Link: https://github.com/Amanjakhetiya/OSS_LAB_8

```
# -*- coding: utf-8 -*-
"""Amanjakhetiya_9918103209_F8_OSS_LAB8.ipynb
Automatically generated by Colaboratory.
```

```
Original file is located at
    https://colab.research.google.com/drive/1FdyA0RAYk5fVVsvtEmPwdfuI0x14R8Nt
"""
```

```
# Q1.
```

```
import numpy as np
from scipy import sparse
eye = np.eye(4)
print("NumPy array:\n", eye)
sparse_matrix = sparse.csr_matrix(eye)
print("\nSciPy sparse matrix in CSR format:\n", sparse_matrix)
```

```
# Q2.
```

```
from google.colab import files
files.upload()
```

```
import pandas as pd
df = pd.read_csv("Iris (2).csv")
df.describe()
```

```
df
```

```
# Q3.
```

```
import pandas as pd
from sklearn.model_selection import train_test_split
```

```
df.drop('Id',axis=1,inplace=True)
```

```
y= df['Species']
X=df.drop('Species',axis=1)
```

```
X.shape,y.shape
```

```
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.30)
```

```
print("\n70% train data:")
print(X_train)
print(y_train)
print("\n30% test data:")
print(X_test)
print(y_test)
```

```
# Q4.
```

```
new X_train,new X_test,new Y_train,new Y_test=train_test_split(X,y,test_size=0.20)
```

```
from sklearn.neighbors import KNeighborsClassifier
from sklearn.metrics import accuracy_score
```

```
neigh =KNeighborsClassifier(n_neighbors=3)
neigh.fit(new_X_train, new_Y_train)
pred = neigh.predict(new_X_test)
print ("KNeighbors accuracy score :",accuracy_score(new_Y_test,
pred))
```

```
# Q5.
```

```
from sklearn.datasets import load_boston
boston_dataset = load_boston()
boston_dataset
```

```
X,y=boston_dataset['data'],boston_dataset['target']
```

```
from sklearn.model_selection import train_test_split
X_train, X_test, y_train, y_test =train_test_split(X,y,random_state=0)
```

```
from sklearn.linear_model import LinearRegression
reg = LinearRegression().fit(X_train, y_train)
```

```
from sklearn.metrics import mean_absolute_error
pred=reg.predict(X_test)
print(mean_absolute_error(pred,y_test))
```