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```python
from google.colab import drive
drive.mount('/content/drive')
```

```
Drive already mounted at /content/drive; to attempt to forcibly remount, call drive.mount("/content/drive", force_remount=True).
```

```python
import numpy as np
import pandas as pd
```

```python
dir_path = '/content/drive/MyDrive/PPHM/Lab6/'
```

## Load Dataset

```python
X_train = pd.read_csv(dir_path + "N_X_train.csv",header=None)
Y_train = pd.read_csv(dir_path + "N_Y_train.csv",header=None)
X_test = pd.read_csv(dir_path + "N_X_test.csv",header=None)
#Y_test = pd.read_csv(dir_path + "N_Y_test.csv",header=None)
```

```python
print(X_train.shape)
print(Y_train.shape)
print(X_test.shape)
#print(Y_test.shape)
```

```
(250202, 115)
(250202, 1)
(23040, 115)
(23040, 1)
```

## Training Model

```python
# Random Forest model
from sklearn.ensemble import RandomForestClassifier

# instantiate
forest = RandomForestClassifier(max_depth=5)

# fit
forest.fit(X_train, Y_train)
```

```
<ipython-input-22-b8462e00cef6>:8: DataConversionWarning: A column-vector y was passed when a 1d array was expected. Please change the s
  forest.fit(X_train, Y_train)
```

```
▼        RandomForestClassifier
RandomForestClassifier(max_depth=5)
```

```python
Y_test = forest.predict(X_test)
```

## Hint Flag

```python
f = np.zeros((180, 128))
```

```python
f
```

```
array([[0., 0., 0., ..., 0., 0., 0.],
       [0., 0., 0., ..., 0., 0., 0.],
       [0., 0., 0., ..., 0., 0., 0.],
       ...,
       [0., 0., 0., ..., 0., 0., 0.],
       [0., 0., 0., ..., 0., 0., 0.],
       [0., 0., 0., ..., 0., 0., 0.]])
```

```
from google.colab.patches import cv2_imshow
a = np.array(Y_test).reshape(23040, 1)
a = a.reshape(180,128)
a[a == 1] = 255
cv2_imshow(a)
```