plt_final.py

plt_final ⟩ No Selection

```python
import matplotlib.pyplot as plt
from pandas import *
from scipy import stats

data = read_csv('rpidata.csv')
x = data['CPU Usage %']
y = data['Temperature C']

# Time series
plt.plot(y, 'r', lw=2, label='Temperature C')
plt.plot(x, 'b', lw=2, label='CPU Usage %')
plt.xticks([209,452,703,957],['21:00','21:30','22:00','22:30'])
plt.xlabel('Time')
plt.legend(loc='lower center')
plt.title('Iotu 2017-04-28')

# Histogram of CPU usage
plt.figure()
num_bins = 35
n, bins, patches = plt.hist(x, num_bins, density=1, facecolor='blue',
    alpha=0.5)
plt.xlabel('CPU Usage %')
plt.ylabel('Probability')
plt.title('Iotu 2017-04-28')

# Histogram of temperature
plt.figure()
num_bins = 30
n, bins, patches = plt.hist(y, num_bins, density=1, facecolor='red',
    alpha=0.5)
plt.xlabel('Temperature C')
plt.ylabel('Probability')
plt.title('Iotu 2017-04-28')

# Horizontal box plot of CPU usage
plt.figure()
plt.boxplot(x, 0, '+', 0)
plt.xlabel('CPU Usage %')
plt.title('Iotu 2017-04-28')

# Vertical box plot of temperature
plt.figure()
plt.boxplot(y, 0, '+')
plt.ylabel('Temperature C')
```

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plt_cv2.py

plt_cv2 ⟩ No Selection

```python
import matplotlib.pyplot as plt
from pandas import *
from scipy import stats
from sklearn.model_selection import cross_val_predict
from sklearn import linear_model

X = read_csv('rpidata.csv', usecols=[1])
X = X.assign(t = X.index)
y = read_csv('rpidata.csv', usecols=[2])
lr = linear_model.LinearRegression()
predicted = cross_val_predict(lr, X, y, cv=10)
plt.plot(y, predicted, 'ro')
plt.plot([y.min(), y.max()], [y.min(), y.max()], 'b-', lw=2)
plt.xlabel('Temperature C')
plt.ylabel('Predicted')
plt.title('Iotu 2017-12-17')

plt.show()
```

Line: 1 Col: 1

Figure 1

Iotu 2017-12-17
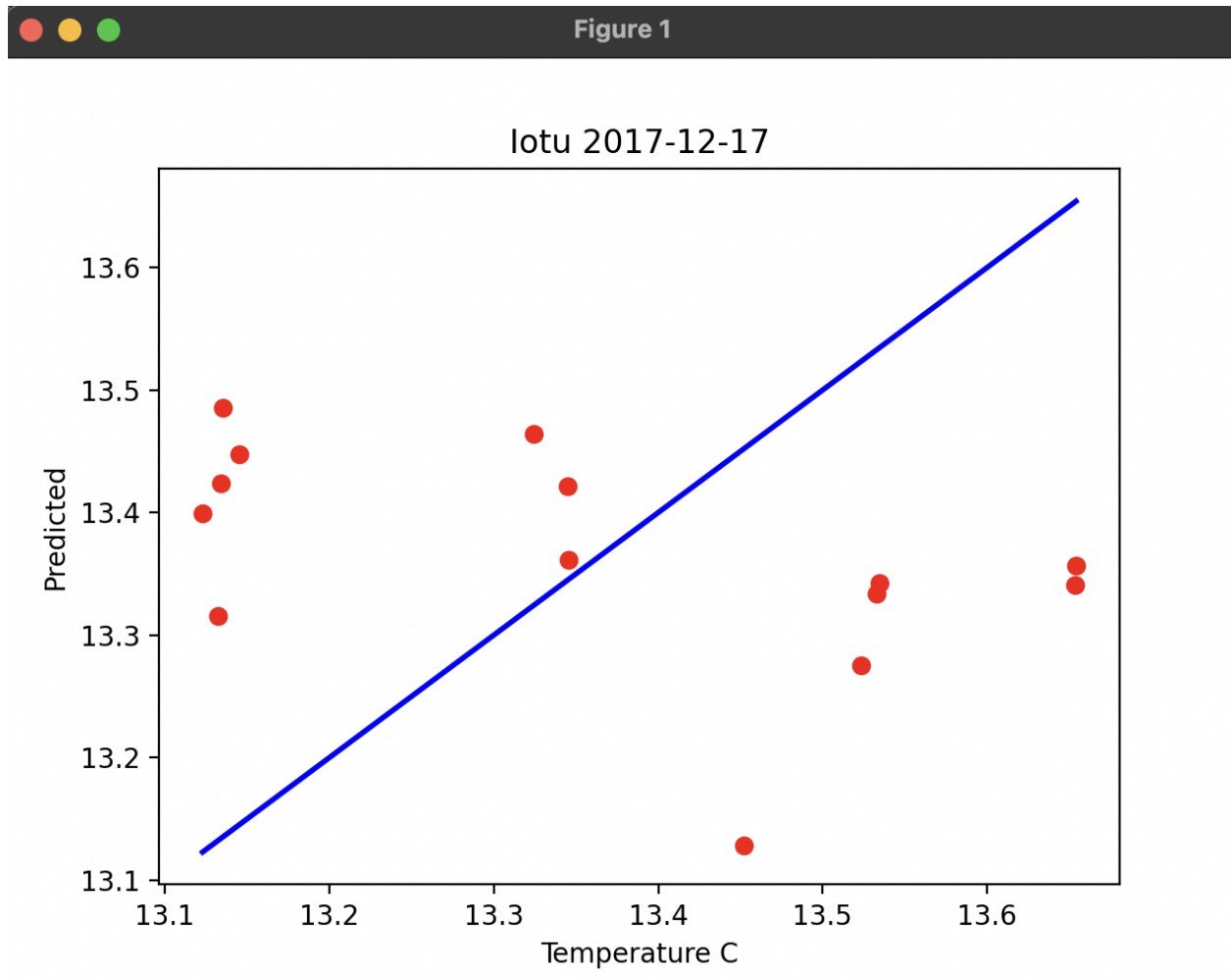
We used the data from the last lab to run python scripts to model our data. My data points for temperature are not working therefore only one graph is depicted above.