In [228…
```
import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
from sklearn.model_selection import KFold
from sklearn.model_selection import cross_val_score
from sklearn.linear_model import LogisticRegression
from sklearn import datasets
from sklearn.metrics import confusion_matrix
from sklearn.metrics import classification_report
from sklearn.model_selection import train_test_split
from sklearn.preprocessing import StandardScaler
import seaborn as sns
from sklearn import metrics
```

In [229…
```
dataset = pd.read_csv('C:\\Users\\Eric\\Desktop\\4105\\HW2\\diabetes.csv')
x = dataset.values[:,6]
y = dataset.values[:,8]
```

In [230…
```
xTrain, xTest, yTrain, yTest = train_test_split(x, y, test_size = 0.2, random_state=0)

xTrain = xTrain.reshape(-1,1)
xTest = xTest.reshape(-1,1)

xTrainSc = StandardScaler()
xTrain = xTrainSc.fit_transform(xTrain)
xTest = xTrainSc.fit_transform(xTest)

classifier = LogisticRegression(random_state=0)
classifier.fit(xTrain, yTrain)
```

Out[230]:
```
LogisticRegression(random_state=0)
```

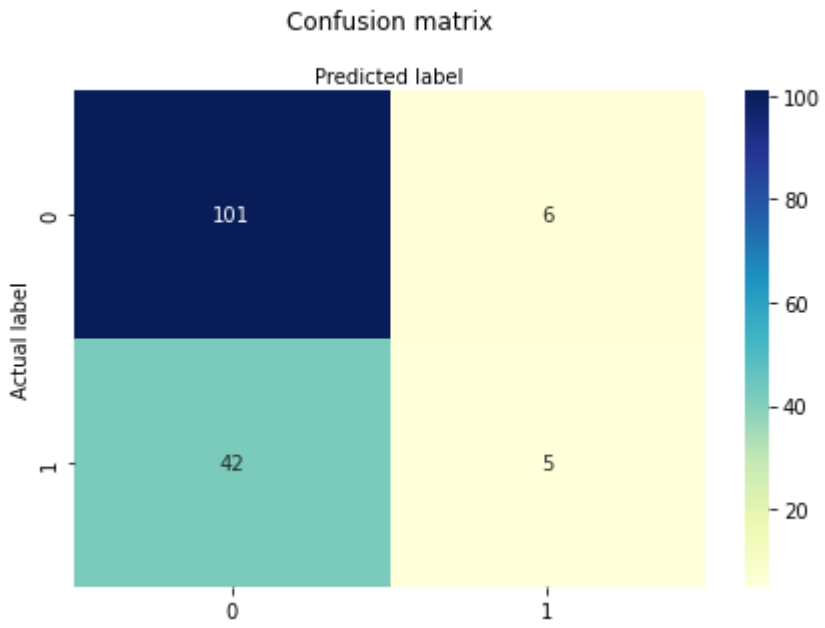
In [231…
```
yPredic = classifier.predict(xTest)
cnf_matrix = confusion_matrix(yTest, yPredic)
```

In [232…
```
print("Accuracy:",metrics.accuracy_score(yTest, yPredic))
print("Precision:",metrics.precision_score(yTest, yPredic))
print("Recall:",metrics.recall_score(yTest, yPredic))
```

```
Accuracy: 0.6883116883116883
Precision: 0.45454545454545453
Recall: 0.10638297872340426
```

In [233…
```
class_names=[0,1] # name  of classes
fig, ax = plt.subplots()
tick_marks = np.arange(len(class_names))
plt.xticks(tick_marks, class_names)
plt.yticks(tick_marks, class_names)
# create heatmap
sns.heatmap(pd.DataFrame(cnf_matrix), annot=True, cmap="YlGnBu" ,fmt='g')
ax.xaxis.set_label_position("top")
plt.tight_layout()
plt.title('Confusion matrix', y=1.1)
plt.ylabel('Actual label')
plt.xlabel('Predicted label')
```

Out[233]: Text(0.5, 257.44, 'Predicted label')



In [ ]: