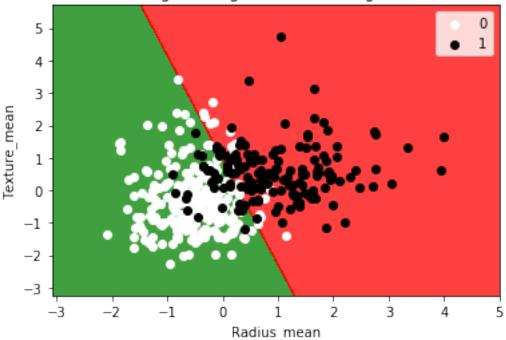
Logistic_reg_cancer

December 13, 2017

```
In [1]: import numpy as np
        import matplotlib.pyplot as plt
        import pandas as pd
In [32]: dataset = pd.read_csv('cancer_small.csv')
         X = dataset.iloc[2:, [2,3]].values
         y = dataset.iloc[2:, 1].values
In [33]: from sklearn.model_selection import train_test_split
         X_train, X_test, y_train, y_test = train_test_split(X, y, test_size = 0.25, random_sterms)
In [34]: from sklearn.preprocessing import StandardScaler
         sc = StandardScaler()
         X_train = sc.fit_transform(X_train)
         X_test = sc.transform(X_test)
In [35]: from sklearn.linear_model import LogisticRegression
         classifier = LogisticRegression(random_state = 0)
         classifier.fit(X_train, y_train)
Out[35]: LogisticRegression(C=1.0, class_weight=None, dual=False, fit_intercept=True,
                   intercept_scaling=1, max_iter=100, multi_class='ovr', n_jobs=1,
                   penalty='12', random_state=0, solver='liblinear', tol=0.0001,
                   verbose=0, warm_start=False)
In [36]: y_pred = classifier.predict(X_test)
In [37]: from sklearn.metrics import confusion_matrix
         cm = confusion_matrix(y_test, y_pred)
In [49]: from matplotlib.colors import ListedColormap
         X_set, y_set = X_train, y_train
         X1, X2 = np.meshgrid(np.arange(start = X_set[:, 0].min() - 1, stop = X_set[:, 0].max(
                              np.arange(start = X_set[:, 1].min() - 1, stop = X_set[:, 1].max(
         plt.contourf(X1, X2, classifier.predict(np.array([X1.ravel(), X2.ravel()]).T).reshape
                      alpha = 0.75, cmap = ListedColormap(('green', 'red')))
         plt xlim(X1.min(), X1.max())
         plt.ylim(X2.min(), X2.max())
```

Logistic Regression (Training set)



plt.legend()
plt.show()

