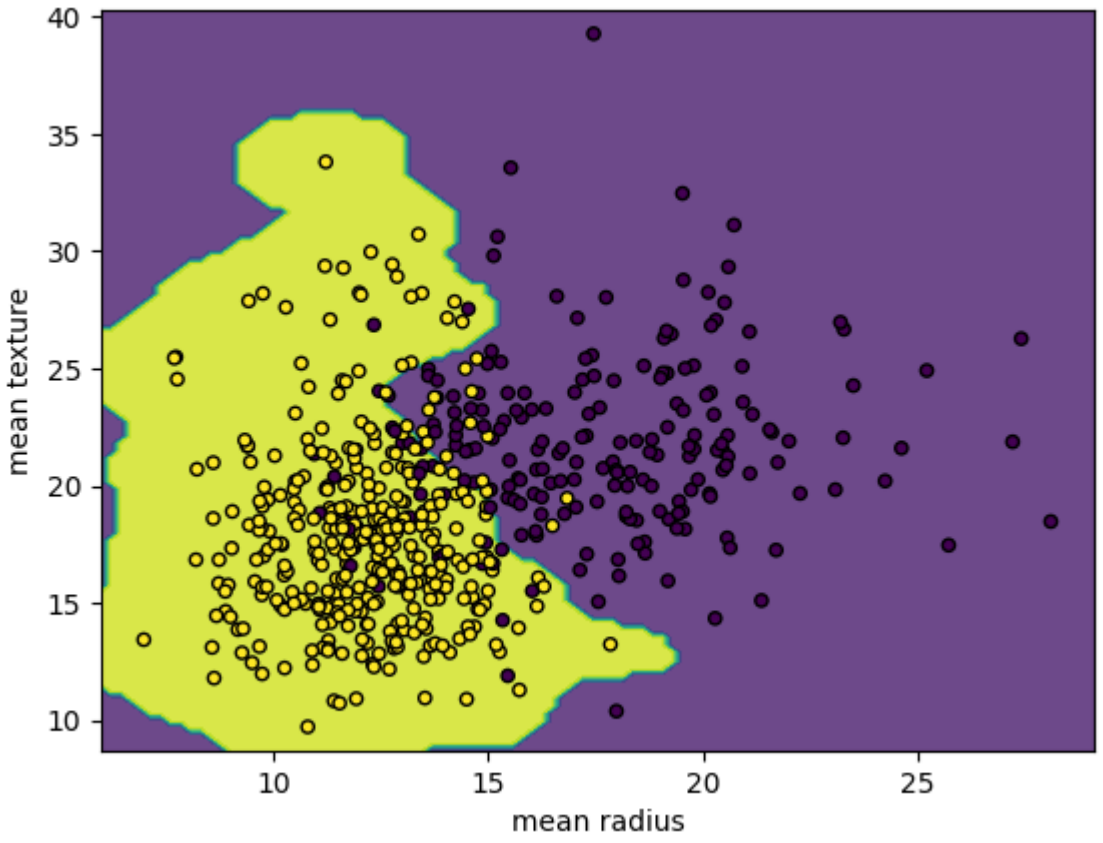
```
from sklearn.datasets import load_breast_cancer
import matplotlib.pyplot as plt
from sklearn.inspection import DecisionBoundaryDisplay
from sklearn.svm import SVC
```

```
cancer = load_breast_cancer()
X = cancer.data[:, :2]
y = cancer.target
```

```
svm = SVC(kernel="rbf", gamma=0.5, C=1.0)
svm.fit(X,y)
```

```
SVC(gamma=0.5)
```

```
DecisionBoundaryDisplay.from_estimator(svm, X, response_method="predict", alpha=0.8, xlabel=cancer.f
plt.scatter(X[:, 0], X[:, 1], c=y, s=20, edgecolor="k")
plt.show()
```



Conclusion: The **Support Vector Machine (SVM)** algorithm is a powerful and versatile classification technique, especially suitable for both linear and non-linear data. With the right kernel, it can handle complex decision boundaries, making it effective for a wide range of applications. In this practical, we applied SVM to both synthetic classification and regression tasks, achieving an accuracy of 85% and a mean squared error of 0.18. The performance of SVM depends on the choice of kernel and feature scaling.