In [1]:

```python
# Import necessary libraries
import numpy as np
from sklearn.model_selection import train_test_split
from sklearn.svm import SVC
from sklearn.svm import LinearSVC


# Load the dataset
X = np.loadtxt("/home/admin1/Downloads/svm.csv", delimiter=",", skiprows=1)
y = X[:, -1]
X = X[:, :-1]
```

In [2]:

```python
X_train, X_test, y_train, y_test = train_test_split(X, y, test_size=0.25, random_state=42)
```

In [3]:

```python
# Create the SVM model with RBF kernel
svm_model = SVC(kernel="rbf")

# Train the SVM model
svm_model.fit(X_train, y_train)

# Make predictions on the test set
y_pred = svm_model.predict(X_test)

# Calculate the accuracy
accuracy = np.mean(y_pred == y_test)

# Print the accuracy
print(f" RBF Accuracy: {accuracy}")
```

RBF Accuracy: 0.7962962962962963

In [4]:

```python
#Create the SVM model with linear kernel
svm_model = LinearSVC()

# Train the SVM model
svm_model.fit(X_train, y_train)

# Make predictions on the test set
y_pred = svm_model.predict(X_test)

# Calculate the accuracy
accuracy = np.mean(y_pred == y_test)

# Print the accuracy
print(f"Linear Accuracy: {accuracy}")
```

Accuracy: 0.6666666666666666

/home/admin1/.local/lib/python3.10/site-packages/sklearn/svm/_base.py:1225:
ConvergenceWarning: Liblinear failed to converge, increase the number of ite
rations.
  warnings.warn(

In [5]:

```python
# Create the SVM model with polynomial kernel
svm_model = SVC(kernel="poly", degree=3)

# Train the SVM model
svm_model.fit(X_train, y_train)

# Make predictions on the test set
y_pred = svm_model.predict(X_test)

# Calculate the accuracy
accuracy = np.mean(y_pred == y_test)

# Print the accuracy
print(f"Polynomial Accuracy: {accuracy}")
```

Accuracy: 0.9629629629629629

In [6]:

```python
# Create the SVM model with sigmoid kernel
svm_model = SVC(kernel="sigmoid")

# Train the SVM model
svm_model.fit(X_train, y_train)

# Make predictions on the test set
y_pred = svm_model.predict(X_test)

# Calculate the accuracy
accuracy = np.mean(y_pred == y_test)

# Print the accuracy
print(f"Sigmoid Accuracy: {accuracy}")
```

Accuracy: 0.5925925925925926

In [ ]: