In [1]:

```
# Importing Dependencies

import os
import numpy as np
import cv2 as cv
import matplotlib.pyplot as plt
import random
from sklearn.model_selection import t
from sklearn.svm import SVC
```

In [2]:

```
dir = '/mnt/c/Users/StrawHat/MasterRe
```

In [3]:

```
# Setting Path and Reshaping

categories = ['Cat', 'Dog']

data = []

for category in categories:
    path = os.path.join(dir, category
    label = categories.index(category

    for img in os.listdir(path):
        imgpath = os.path.join(path,
        pet_img = cv.imread(imgpath,
        try:
            pet_img = cv.resize(pet_i
            # print(pet_img.shape)
        except:
            break
        image = np.array(pet_img).fla
        data.append([image,label])

print(len(data))
```

```
8005
```

In [4]:

```
random.shuffle(data)

features = []
labels = []

for feature,label in data:
    features.append(feature)
    labels.append(label)
```

In [5]:

```
# Splitting the Dataset

x_train, x_test, y_train, y_test = tr
```

In [6]:

```
# Training the model

model = SVC(C=1, kernel='poly', gamma
model.fit(x_train,y_train)
```

Out[6]:

```
SVC(C=1, gamma='auto', kernel='pol
y')
```

In a Jupyter environment, please rerun this cell to show the HTML representation or trust the notebook.
On GitHub, the HTML representation is unable to render, please try loading this page with nbviewer.org.

In [8]:

```
# Testing the model

mypet = x_test[2].reshape(100,100)
prediction = model.predict(x_test)
accuracy = model.score(x_test,y_test)
print('Accuracy :', accuracy)
print('Prediction is', categories[pre
plt.imshow(mypet, cmap ='gray')
plt.show()
```

Out[6]:

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```

```
Accuracy : 0.5677701436602124
Prediction is Dog
```