```
#Drive mount
from google.colab import drive
drive.mount('/content/drive')
```

```
Drive already mounted at /content/drive; to attempt to forcibly remount, call drive.mount("/content/drive", force_remount=True).
```

```
import pandas as pd
import numpy as np
import matplotlib.pyplot as plt
from sklearn.svm import SVC
import os                       # used to read file or files and dictionary path decline
from skimage.io import imread  #usedt for reading images
from sklearn.model_selection import train_test_split
from skimage.transform import resize
```

```
os.listdir('/content/drive/MyDrive/data')
```

```
['Cat', 'Dog']
```

```
len(os.listdir('/content/drive/MyDrive/data/Cat'))
```

```
85
```

```
len(os.listdir('/content/drive/MyDrive/data/Dog'))
```

```
68
```

```
catpath=os.path.join('/content/drive/MyDrive/data','Cat')
for img in os.listdir(catpath):
  print(img)
```

```
cat.85.jpg
cat.64.jpg
cat.76.jpg
cat.70.jpg
cat.50.jpg
cat.68.jpg
cat.78.jpg
cat.83.jpg
cat.98.jpg
cat.77.jpg
cat.37.jpg
cat.60.jpg
cat.73.jpg
cat.47.jpg
cat.86.jpg
cat.43.jpg
cat.36.jpg
cat.109.jpg
cat.66.jpg
cat.41.jpg
cat.49.jpg
cat.44.jpg
```

```
      cat.108.jpg
      cat.55.jpg
      cat.58.jpg
      cat.61.jpg
      cat.119.jpg
      cat.39.jpg
      cat.107.jpg
      cat.113.jpg
```

```
dogpath=os.path.join('/content/drive/MyDrive/data','Dog')
for img in os.listdir(dogpath):
  print(img)
```

```
      dog.48.jpg
      dog.51.jpg
      dog.57.jpg
      dog.35.jpg
      dog.53.jpg
      dog.3.jpg
      dog.55.jpg
      dog.68.jpg
      dog.60.jpg
      dog.56.jpg
      dog.7.jpg
      dog.41.jpg
      dog.39.jpg
      dog.46.jpg
      dog.62.jpg
      dog.28.jpg
      dog.4.jpg
      dog.6.jpg
      dog.37.jpg
      dog.66.jpg
      dog.16.jpg
      dog.45.jpg
      dog.32.jpg
      dog.9.jpg
      dog.18.jpg
      dog.59.jpg
      dog.58.jpg
      dog.42.jpg
      dog.64.jpg
      dog.49.jpg
      dog.65.jpg
      dog.67.jpg
      dog.50.jpg
      dog.27.jpg
      dog.8.jpg
      dog.36.jpg
      dog.11.jpg
      dog.47.jpg
      dog.29.jpg
      dog.61.jpg
      dog.19.jpg
      dog.63.jpg
      dog.33.jpg
      dog.21.jpg
      dog.54.jpg
      dog.40.jpg
      dog.20.jpg
      dog.24.jpg
      dog.38.jpg
      dog.15.jpg
      dog.5.jpg
      dog.25.jpg
      dog.2.jpg
      dog.13.jpg
      dog.52.jpg
      dog.26.jpg
      dog.12.jpg
      dog.1.jpg
```

```
flat_data_arr=[]             #used for collecting input variable
target_arr=[]                #used for collecting ouput variable
categories=['Cat','Dog']     #index of cat=0 and dog=1
datadir='/content/drive/MyDrive/data'
```

```
for i in categories: #cat,dog..
   print('Loading categories')
   path=os.path.join(datadir,i)   #'/content/drive/MyDrive/data','cat
   for img in os.listdir(path):
     img_arr=imread(os.path.join(path,img))  # '/content/drive/MyDrive/data,cat,cat103.jpg
     img_resize=resize(img_arr,(150,150,3))
     flat_data_arr.append(img_resize.flatten())
     target_arr.append(categories.index(i))
     print('Loaded completely',i)
```

```
Loading categories
Loaded completely Cat
Loaded completely Cat
Loaded completely Cat
Loaded completely Cat
Loaded completely Cat
Loaded completely Cat
Loaded completely Cat
Loaded completely Cat
Loaded completely Cat
Loaded completely Cat
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```

```
flat_data=np.array(flat_data_arr)  #converted into array
target_data=np.array(target_arr)    #converted into array
df=pd.DataFrame(flat_data)
df['target']=target_data
```

```
df
```

	0	1	2	3	4	5	6	7	8	9	...
0	0.621080	0.465577	0.447873	0.596306	0.416634	0.402760	0.628918	0.415703	0.386915	0.753134	..
1	0.541660	0.487603	0.452309	0.486105	0.432048	0.396754	0.566645	0.512587	0.477293	0.594260	..

```
x=df.iloc[:,:-1].values
x
```

```
array([[0.6210796 , 0.46557724, 0.44787331, ..., 0.16005866, 0.12424757,
        0.1188809 ],
       [0.54166045, 0.48760334, 0.45230922, ..., 0.51357633, 0.44388066,
        0.41512538],
       [0.5388433 , 0.52314535, 0.47870314, ..., 0.66192849, 0.63209774,
        0.62374067],
       ...,
       [0.84878496, 0.82525555, 0.77819672, ..., 0.8437947 , 0.82128239,
        0.70493063],
       [0.42086494, 0.41694337, 0.48750825, ..., 0.05443897, 0.17167448,
        0.12790311],
       [0.16286669, 0.16140007, 0.19516824, ..., 0.54382581, 0.44383272,
        0.42771497]])
```

```
y=df.iloc[:,-1].values
y
```

```
array([0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
       0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
       0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0,
       0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 1,
       1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,
       1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,
       1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1])
```

```
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.30,random_state=42)
x_train
```

```
array([[0.81496055, 0.84946577, 0.84452277, ..., 0.3634451 , 0.45156258,
        0.27338905],
       [0.85903125, 0.90233049, 0.87871615, ..., 0.61102608, 0.65416334,
        0.66200647],
       [0.37947203, 0.5284926 , 0.19472258, ..., 0.3408293 , 0.55951882,
        0.11676072],
       ...,
       [0.22265035, 0.03049349, 0.1050033 , ..., 0.35145011, 0.35929324,
        0.3536187 ],
       [0.33728606, 0.36960507, 0.42370379, ..., 0.61269059, 0.44406313,
        0.30680823],
       [0.62180287, 0.58961474, 0.52139508, ..., 0.57966304, 0.54642465,
        0.47821619]])
```

```
x_test
```

```
array([[0.05657169, 0.04872855, 0.05265012, ..., 0.75980784, 0.52555008,
        0.39222049],
       [0.53882658, 0.6273537 , 0.78593784, ..., 0.24145756, 0.17827466,
        0.16357622],
       [0.72293078, 0.7582249 , 0.77783274, ..., 0.55358525, 0.38056387,
        0.10016978],
       ...,
       [0.69901007, 0.69116693, 0.6950885 , ..., 0.20402255, 0.27909114,
        0.34415506],
       [0.438122  , 0.45380828, 0.45772985, ..., 0.15093425, 0.15485582,
        0.12348327],
       [0.97714594, 0.98891064, 0.92224398, ..., 0.90294284, 0.91862912,
        0.85980559]])
```

```
y_train
```

```
array([1, 1, 1, 0, 1, 0, 0, 1, 1, 0, 0, 1, 1, 0, 0, 0, 1, 0, 0, 1, 0, 0,
       1, 0, 1, 1, 0, 1, 1, 0, 0, 1, 1, 0, 0, 1, 0, 0, 1, 1, 0, 0, 0, 0,
       0, 1, 0, 0, 0, 1, 1, 0, 1, 1, 1, 0, 0, 1, 1, 0, 0, 0, 0, 1, 0, 1,
       1, 0, 0, 0, 1, 0, 1, 0, 1, 0, 1, 0, 0, 1, 0, 1, 0, 0, 1, 0, 0, 1,
       1, 0, 1, 0, 0, 1, 1, 1, 1, 1, 0, 1, 1, 0, 0, 1, 0, 1, 1])
```

```
y_test
```

```
array([0, 1, 1, 1, 0, 1, 0, 0, 0, 0, 0, 0, 0, 0, 0, 0, 1, 1, 0, 1, 0, 1,
       0, 0, 0, 0, 0, 1, 1, 0, 1, 1, 0, 0, 0, 0, 0, 1, 1, 1, 0, 0, 1, 1,
       0, 0])
```

```
model=SVC()
model.fit(x_train,y_train)
```

```
y_pred=model.predict(x_test)
y_pred
```

```
array([1, 0, 0, 0, 0, 0, 0, 1, 0, 1, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 1, 1,
       0, 0, 0, 1, 0, 1, 1, 0, 1, 1, 0, 0, 0, 1, 0, 0, 0, 0, 0, 0, 1, 1,
       0, 1])
```

```
from sklearn.metrics import confusion_matrix,accuracy_score
print('accuracy_score',accuracy_score(y_test,y_pred))
```

```
accuracy_score 0.6086956521739131
```

```
path2='/content/drive/MyDrive/download.jpg'
img=imread(path2)
img=resize(img,(150,150,3)).flatten().reshape(1,-1)
model.predict(img)
```

```
array([0])
```