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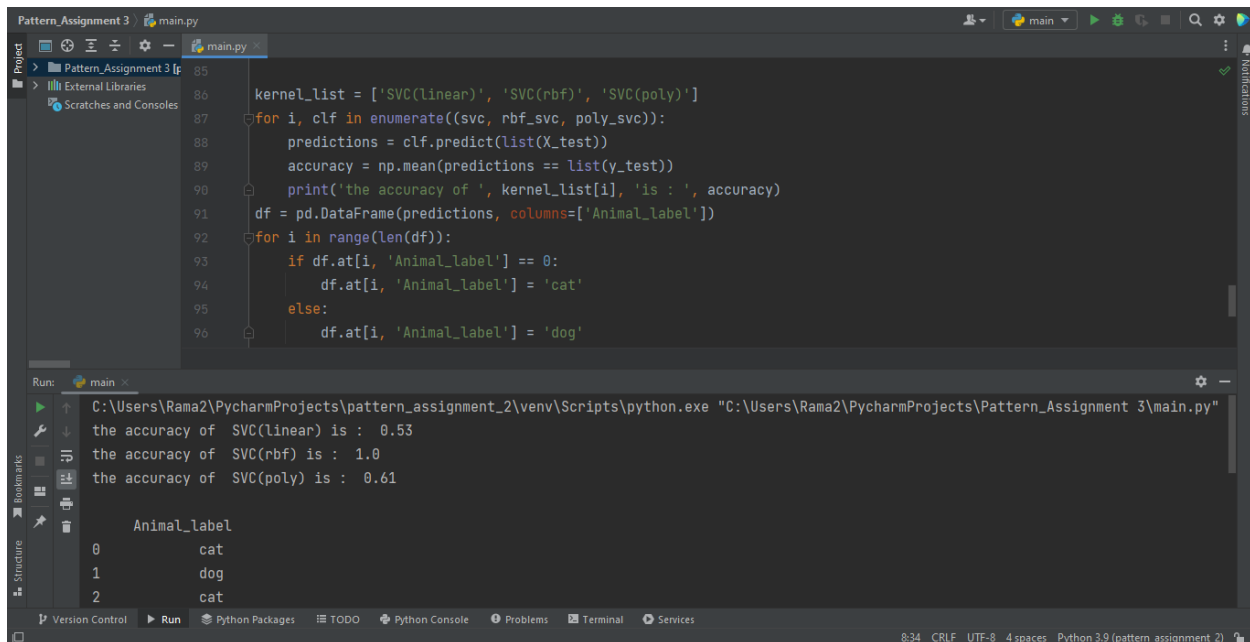
## conclusion about the assignment 3

### 1. what experiments I tried?

I tried support vector classification (SVC) with kernels:

- ('Linear')
- ('rbf')
- ('poly')

And the height accuracy was for ('rbf')



The screenshot displays a PyCharm IDE window titled 'Pattern\_Assignment 3'. The main editor shows a Python script (main.py) that evaluates the accuracy of three SVC models: Linear, RBF, and Polynomial. The script iterates over these models, predicts on a test set, and prints the accuracy. Below the editor, the 'Run' console shows the execution output, and a 'Structure' window displays the resulting DataFrame.

```
85 kernel_list = ['SVC(Linear)', 'SVC(rbf)', 'SVC(poly)']
86
87 for i, clf in enumerate((svc, rbf_svc, poly_svc)):
88     predictions = clf.predict(list(X_test))
89     accuracy = np.mean(predictions == list(y_test))
90     print('the accuracy of ', kernel_list[i], 'is : ', accuracy)
91     df = pd.DataFrame(predictions, columns=['Animal_label'])
92     for i in range(len(df)):
93         if df.at[i, 'Animal_label'] == 0:
94             df.at[i, 'Animal_label'] = 'cat'
95         else:
96             df.at[i, 'Animal_label'] = 'dog'
```

Run: C:\Users\Rama2\PycharmProjects\pattern\_assignment\_2\venv\Scripts\python.exe "C:\Users\Rama2\PycharmProjects\Pattern\_Assignment 3\main.py"

```
the accuracy of SVC(Linear) is : 0.53
the accuracy of SVC(rbf) is : 1.0
the accuracy of SVC(poly) is : 0.61
```

Animal_label
0
cat
1
dog
2
cat

### 2. why I choose the parameters?

These parameters produce for me the best accuracy for all models after many trials.