In [1]:

```
import numpy as np
import pandas
import matplotlib.pyplot as plt
from sklearn.model_selection import train_test_split
from sklearn.metrics import accuracy_score
from sklearn.discriminant_analysis import LinearDiscriminantAnalysis
from sklearn.decomposition import PCA
from sklearn.datasets import load_iris
```

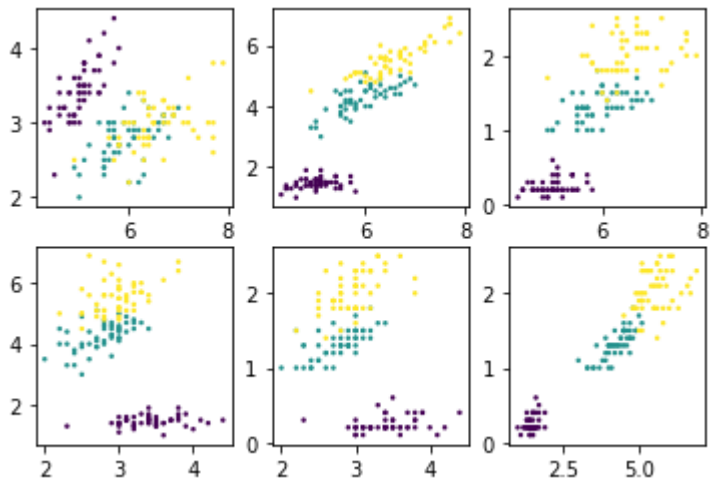
In [2]:

```
X,Y = load_iris(return_X_y=True)
print('X',X.shape,'Y',len(Y))
```

```
X (150, 4) Y 150
```

In [3]:

```
plt.figure()
plt.subplot(2,3,1)
plt.scatter(X[:,0],X[:,1],c=Y,s=2)
plt.subplot(2,3,2)
plt.scatter(X[:,0],X[:,2],c=Y,s=2)
plt.subplot(2,3,3)
plt.scatter(X[:,0],X[:,3],c=Y,s=2)
plt.subplot(2,3,4)
plt.scatter(X[:,1],X[:,2],c=Y,s=2)
plt.subplot(2,3,5)
plt.scatter(X[:,1],X[:,3],c=Y,s=2)
plt.subplot(2,3,6)
plt.scatter(X[:,2],X[:,3],c=Y,s=2)
plt.show()
```



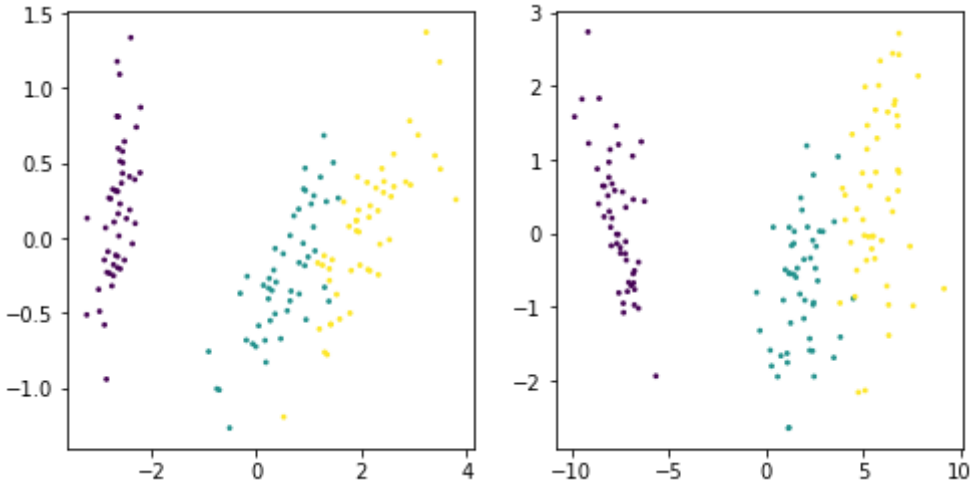
In [4]:

```
modelPCA = PCA()
X2PCA = modelPCA.fit_transform(X)

modelLDA = LinearDiscriminantAnalysis()
X2LDA = modelLDA.fit_transform(X,Y)
```

In [5]:

```
plt.figure(figsize=(8,4))
plt.subplot(1,2,1)
plt.scatter(X2PCA[:,0],X2PCA[:,1], c=Y, s=3)
plt.subplot(1,2,2)
plt.scatter(X2LDA[:,0],X2LDA[:,1], c=Y, s=3)
plt.show()
```



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