In [1]:
```
import matplotlib.pyplot as plt
import numpy as np
import pandas as pd
```

In [32]:
```
from sklearn.datasets import load_iris
```

In [33]:
```
iris_dataset = load_iris()
```

In [34]:
```
iris_dataset.keys()
```

Out[34]:
```
dict_keys(['data', 'target', 'frame', 'target_names', 'DESCR', 'feature_names', 'filename'])
```

In [ ]:

In [35]:
```
df=pd.DataFrame(iris_dataset['data'],columns=iris_dataset['feature_names'])
```

In [36]:
```
df.head(10)
```

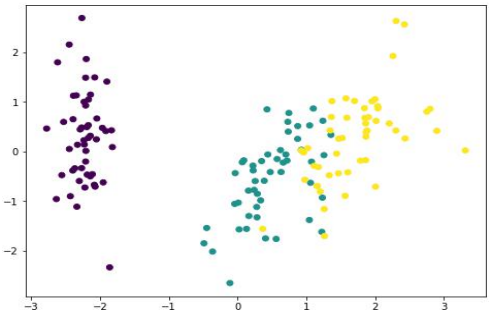
Out[36]:

| | sepal length (cm) | sepal width (cm) | petal length (cm) | petal width (cm) |
|---|---|---|---|---|
| 0 | 5.1 | 3.5 | 1.4 | 0.2 |
| 1 | 4.9 | 3.0 | 1.4 | 0.2 |
| 2 | 4.7 | 3.2 | 1.3 | 0.2 |
| 3 | 4.6 | 3.1 | 1.5 | 0.2 |
| 4 | 5.0 | 3.6 | 1.4 | 0.2 |
| 5 | 5.4 | 3.9 | 1.7 | 0.4 |
| 6 | 4.6 | 3.4 | 1.4 | 0.3 |
| 7 | 5.0 | 3.4 | 1.5 | 0.2 |
| 8 | 4.4 | 2.9 | 1.4 | 0.2 |
| 9 | 4.9 | 3.1 | 1.5 | 0.1 |

In [38]:
```
n_pca
```

Out[38]:
```
array([[-2.26470281,  0.4800266 ],
       [-2.08096115, -0.67413356],
       [-2.36422905, -0.34190802],
       [-2.29938422, -0.59739451],
       [-2.38984217,  0.64683538],
       [-2.07563095,  1.48917752],
       [-2.44402884,  0.0476442 ],
       [-2.23284716,  0.22314807],
       [-2.33464048, -1.11532768],
       [-2.18432817, -0.46901356],
       [-2.1663101 ,  1.04369065],
       [-2.32613087,  0.13307834],
       [-2.2184509 , -0.72867617],
       [-2.6331007 , -0.96150673],
       [-2.1987406 ,  1.86005711],
       [-2.26221453,  2.68628449],
       [-2.2075877 ,  1.48360936],
       [-2.19034951,  0.48883832],
       [-1.898572  ,  1.40501879],
       [-2.34336905,  1.12784938],
       [-1.914323  ,  0.40885571],
       [-2.20701284,  0.92412143],
       [-2.7743447 ,  0.45834367],
       [-1.81866953,  0.08555853],
       [-2.22716331,  0.13725446],
       [-1.95184633, -0.62561859],
       [-2.05115137,  0.24216355],
       [-2.16857717,  0.52714953],
       [-2.13956345,  0.31321781],
       [-2.26526149, -0.3377319 ],
       [-2.14012214, -0.50454069],
       [-1.83159477,  0.42369507],
       [-2.61494794,  1.79357586],
       [-2.44617739,  2.15072788],
       [-2.10997488, -0.46020184],
       [-2.2078089 , -0.2061074 ],
       [ 2.04055823,  0.8675206 ],
       [ 1.9981471 ,  1.04916875],
       [ 1.87050329,  0.38696608],
       [ 1.56458048, -0.89668681],
       [ 1.5211705 ,  0.26906914],
       [ 1.37278779,  1.01125442],
       [ 0.96065603, -0.02433167]])
```

In [39]:
```
plt.figure(figsize=(8,6))
plt.scatter(n_pca[:,0],n_pca[:,1],c=iris_dataset['target'])
plt.xlabel='first principle component'
plt.ylabel='second princ1ple component'
```




In [ ]: