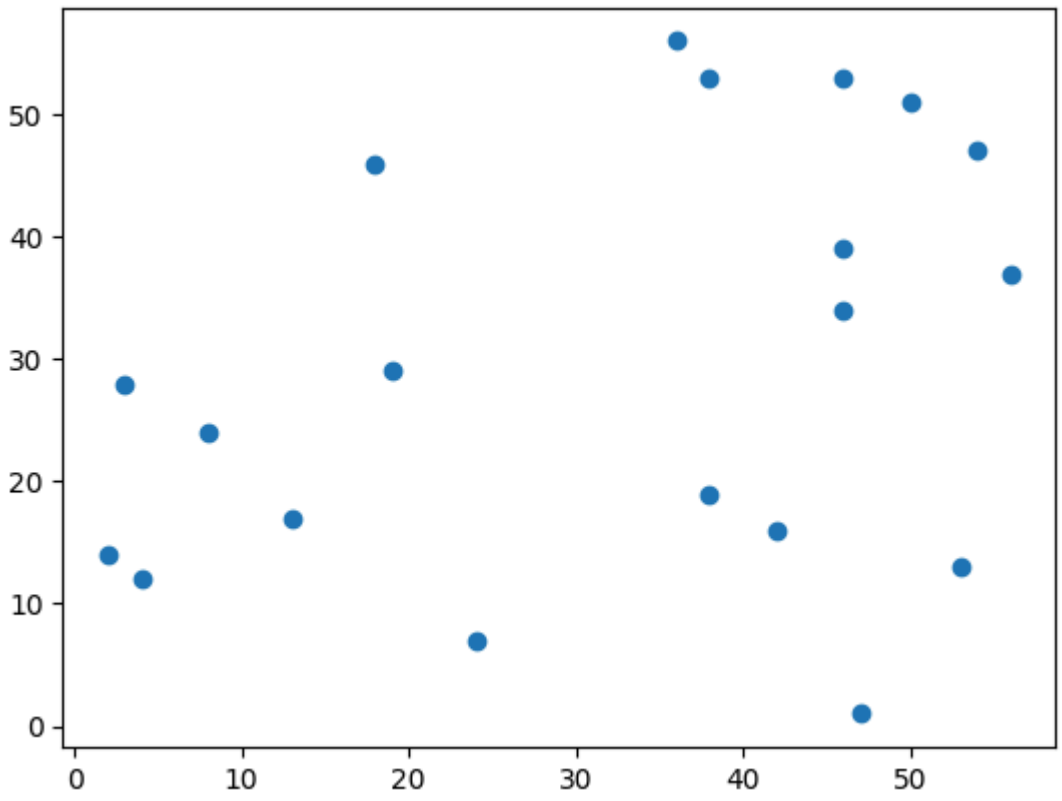
In [ ]:
```
import numpy as np
import pandas as pd
from matplotlib import pyplot as plt
from sklearn.cluster import DBSCAN
```

In [ ]:
```
# data
np.random.seed(30)
x = np.random.randint(1,60,20)
y =np.random.randint(1,60,20)
data = list(zip(x,y))
print(data)
plt.scatter(x,y)
```

```
[(38, 19), (38, 53), (46, 53), (46, 39), (53, 13), (13, 17), (24, 7), (3, 28), (54, 47), (18, 46), (47, 1), (4, 12), (42, 16),
(8, 24), (56, 37), (2, 14), (50, 51), (46, 34), (36, 56), (19, 29)]
```

Out[ ]:
```
<matplotlib.collections.PathCollection at 0x20176993490>
```



In [ ]:
```
db = DBSCAN(eps=17, min_samples=5).fit(data)
```

In [ ]:
```
db.labels_
```

Out[ ]:
```
array([ 0,  0,  0,  0, -1,  1,  1,  1,  0, -1, -1,  1, -1,  1,  0,  1,  0,
        0,  0,  1], dtype=int64)
```

In [ ]:
```
db.core_sample_indices_
```

Out[ ]:
```
array([ 1,  2,  3,  5,  7,  8, 11, 13, 14, 15, 16, 17], dtype=int64)
```

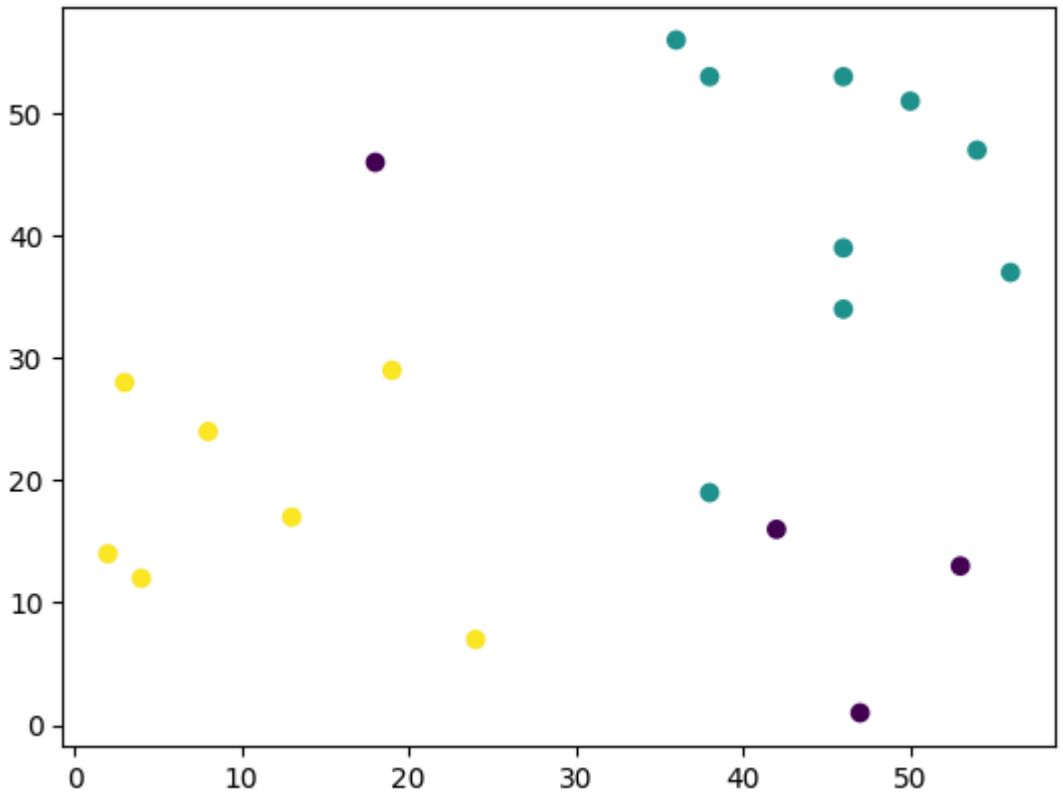
In [ ]:
```

```

Out[ ]:
```
array([12.25      , 18.71428571, 43.5       , 51.66666667])
```

In [ ]:
```
plt.scatter(x,y,c=db.labels_)
```

Out[ ]:
```
<matplotlib.collections.PathCollection at 0x20102f55910>
```


0
10
20
30
40
50
0
10
20
30
40
50