```
In [1]:
```

```
1 import pandas as pd
```

## In [10]:

```
df = pd.DataFrame(
{ "a" : [4, 5, 6, 4],
    "b" : [7, 8, 9, 9],
    "c" : [10, 11, 12, 10]},
    index = [1, 2, 3, 4])
df
```

## Out[10]:

```
a b c1 4 7 10
```

**2** 5 8 11

**3** 6 9 12

**4** 4 9 10

#### In [4]:

```
1 df["a"]
```

## Out[4]:

1 4

2 5

3 6

Name: a, dtype: int64

#### In [5]:

```
1 df[["a"]]
```

## Out[5]:

```
____a
```

**2** 5

**3** 6

## In [7]:

```
1 df[df["a"] > 4]
```

## Out[7]:

```
a b c
2 5 8 11
```

**3** 6 9 12

```
In [8]:
```

```
1 df[["a", "b"]]
```

# Out[8]:

- a b
- **2** 5 8
- **3** 6 9

#### In [11]:

```
1 df["a"].value_counts()
```

## Out[11]:

- 4 2
- 5 1
- 6 1

Name: a, dtype: int64

## In [12]:

```
1 len(df)
```

# Out[12]:

4

## In [16]:

```
1 df.sort_values("a", ascending=False)
```

## Out[16]:

- **2** 5 8 11
- **1** 4 7 10
- **4** 4 9 10

```
In [19]:
```

```
1 df = df.drop(["c"], axis=1)
df
```

## Out[19]:

```
a b
```

- **2** 5 8
- **3** 6 9
- **4** 4 9

## In [21]:

```
1 df.groupby(["a"])["b"].agg(["mean", "sum", "count"])
```

# Out[21]:

#### mean sum count

| а |     |    |   |
|---|-----|----|---|
| 4 | 8.0 | 16 | 2 |
| 5 | 8.0 | 8  | 1 |
| 6 | 9.0 | 9  | 1 |

## In [22]:

```
1 df.groupby(["a"])["b"].describe()
```

# Out[22]:

|   | count | mean | std      | min | 25% | 50% | 75% | max |
|---|-------|------|----------|-----|-----|-----|-----|-----|
| а |       |      |          |     |     |     |     |     |
| 4 | 2.0   | 8.0  | 1.414214 | 7.0 | 7.5 | 8.0 | 8.5 | 9.0 |
| 5 | 1.0   | 8.0  | NaN      | 8.0 | 8.0 | 8.0 | 8.0 | 8.0 |
| 6 | 1.0   | 9.0  | NaN      | 9.0 | 9.0 | 9.0 | 9.0 | 9.0 |

## In [25]:

1 df

## Out[25]:

- a b
- **2** 5 8
- **3** 6 9
- **4** 4 9

```
In [27]:
```

```
pd.pivot_table(df, index="a", values="b", aggfunc="sum")
```

# Out[27]:

b

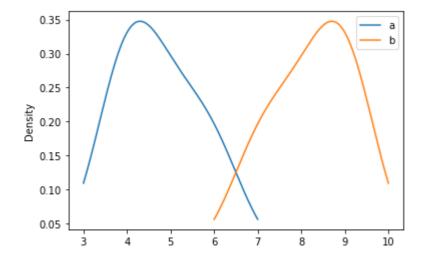
- **4** 16
- **5** 8
- **6** 9

## In [37]:

1 df.plot.density()

## Out[37]:

<AxesSubplot:ylabel='Density'>



# In [ ]: