```python
#sample calculation for low range(lr) , upper range (ur),percentile
import numpy as np
array=np.random.randint(1,100,16) # randomly generate 16 numbers
between 1 to 100
array
```

```
array([ 6, 66,  9, 37, 29, 40, 12, 23, 20, 77, 26, 95, 56, 14,  9,
67])
```

```python
array.mean()
```

```
36.625
```

```python
np.percentile(array,25)
```

```
13.5
```

```python
np.percentile(array,50)
```

```
27.5
```

```python
np.percentile(array,75)
```

```
58.5
```

```python
np.percentile(array,100)
```
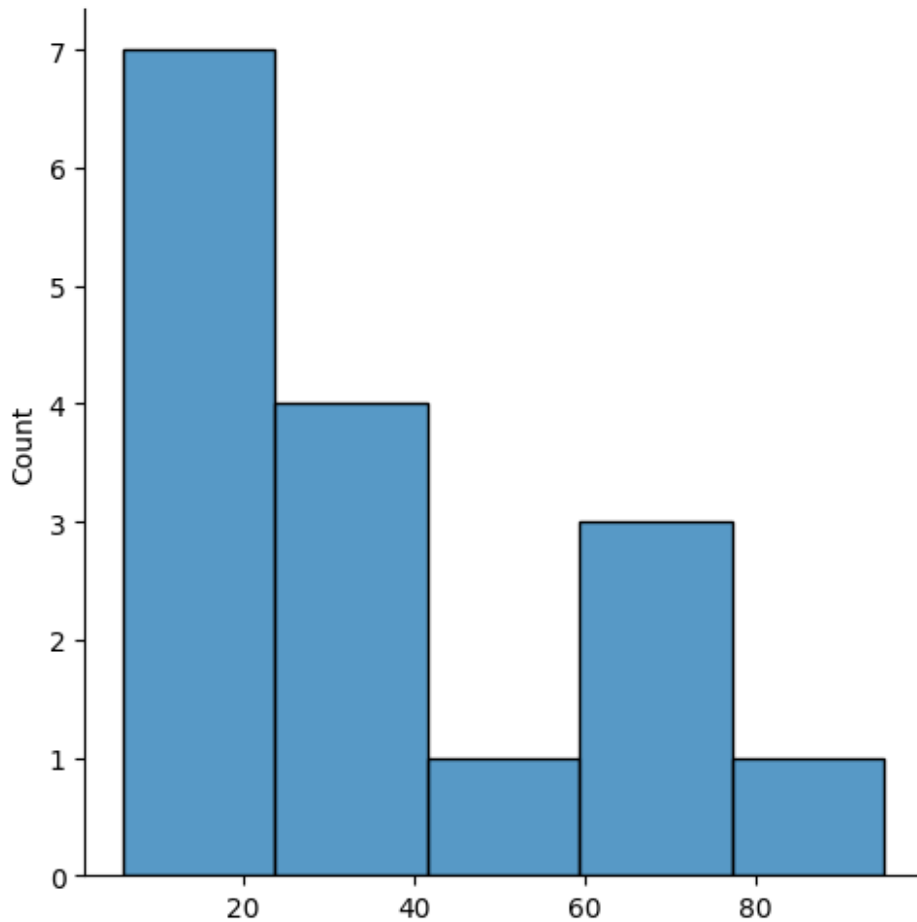
```
95.0
```

```python
#outliers detection
def outDetection(array):
    sorted(array)
    Q1,Q3=np.percentile(array,[25,75])
    IQR=Q3-Q1
    lr=Q1-(1.5*IQR)
    ur=Q3+(1.5*IQR)
    return lr,ur
lr,ur=outDetection(array)
lr,ur
```

```
(-54.0, 126.0)
```

```python
import seaborn as sns
%matplotlib inline
sns.displot(array)
```

```
<seaborn.axisgrid.FacetGrid at 0x1dbcd642bc8>
```

```
sns.distplot(array)
```

c:\users\asus\appdata\local\programs\python\python37\lib\site-
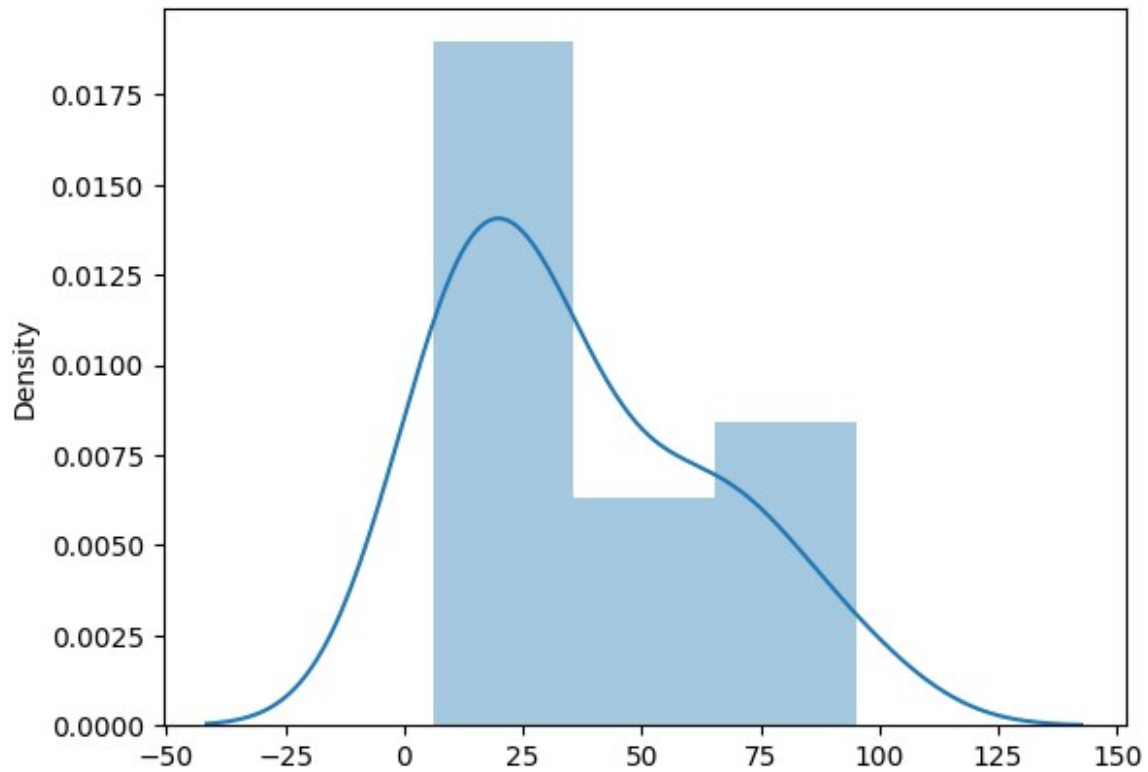packages\ipykernel_launcher.py:1: UserWarning:

`distplot` is a deprecated function and will be removed in seaborn
v0.14.0.

Please adapt your code to use either `displot` (a figure-level
function with
similar flexibility) or `histplot` (an axes-level function for
histograms).

For a guide to updating your code to use the new functions, please see
https://gist.github.com/mwaskom/de44147ed2974457ad6372750bbe5751

  """Entry point for launching an IPython kernel.

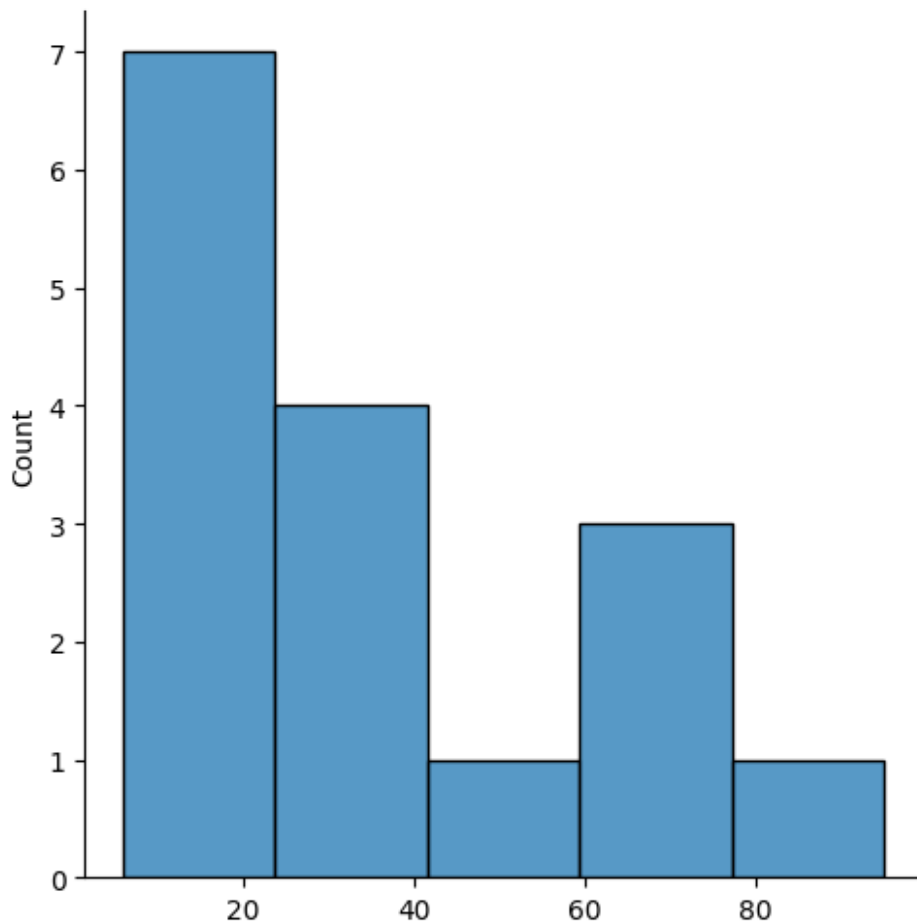<AxesSubplot:ylabel='Density'>

```
new_array=array[(array>lr) & (array<ur)]
new_array
```

```
array([ 6, 66,  9, 37, 29, 40, 12, 23, 20, 77, 26, 95, 56, 14,  9,
       67])
```

```
sns.displot(new_array)
```

```
<seaborn.axisgrid.FacetGrid at 0x1dbcfbd1f08>
```

```
lr1,ur1=outDetection(new_array)
lr1,ur1
```

```
(-54.0, 126.0)
```

```
final_array=new_array[(new_array>lr1) & (new_array<ur1)]
final_array
```

```
array([ 6, 66,  9, 37, 29, 40, 12, 23, 20, 77, 26, 95, 56, 14,  9,
       67])
```

```
sns.distplot(final_array)
```

```
c:\users\asus\appdata\local\programs\python\python37\lib\site-
packages\ipykernel_launcher.py:1: UserWarning:
```

```
`distplot` is a deprecated function and will be removed in seaborn
v0.14.0.
```

```
Please adapt your code to use either `displot` (a figure-level
function with
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```

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  """"Entry point for launching an IPython kernel.

<AxesSubplot:ylabel='Density'>