EXPERIMENT – 4

DETECT OUTLIERS IN A GIVEN DATASET

Aim:

To detect outliers in a given dataset

Procedure:

- Import numpy and create an array with random integers
- Create a function for outlier
- Then plot it using seaborn with displot and distplot

Program:

```
import numpy as np
array=np.random.randint(1,100,16)
array
```

```
array([18, 38, 76, 45, 93, 92, 73, 13, 83, 97, 15,  1,  4, 62, 29, 41])
```

```
array.mean()
```

```
np.float64(48.75)
```

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

```
np.float64(17.25)
```

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

```
np.float64(43.0)
```

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

```
np.float64(77.75)
```

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

```
np.float64(97.0)
```

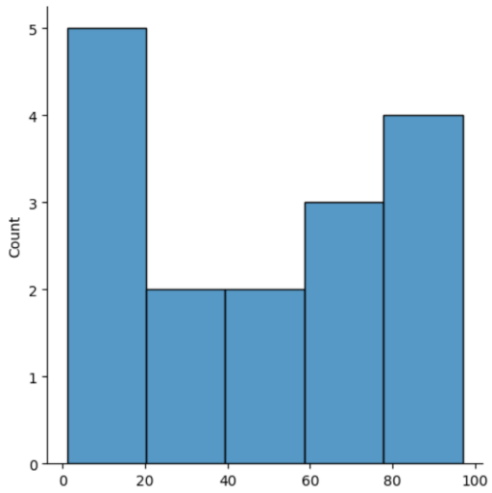
```
def outlierdetect(array):
    sorted(array)
    q1,q3=np.percentile(array,[25,75])
    iqr=q3-q1
    lr=q1-(1.5*iqr)
    ur=q3+(1.5*iqr)
    return lr,ur
```

```
lr,ur=outlierdetect(array)
lr,ur
```

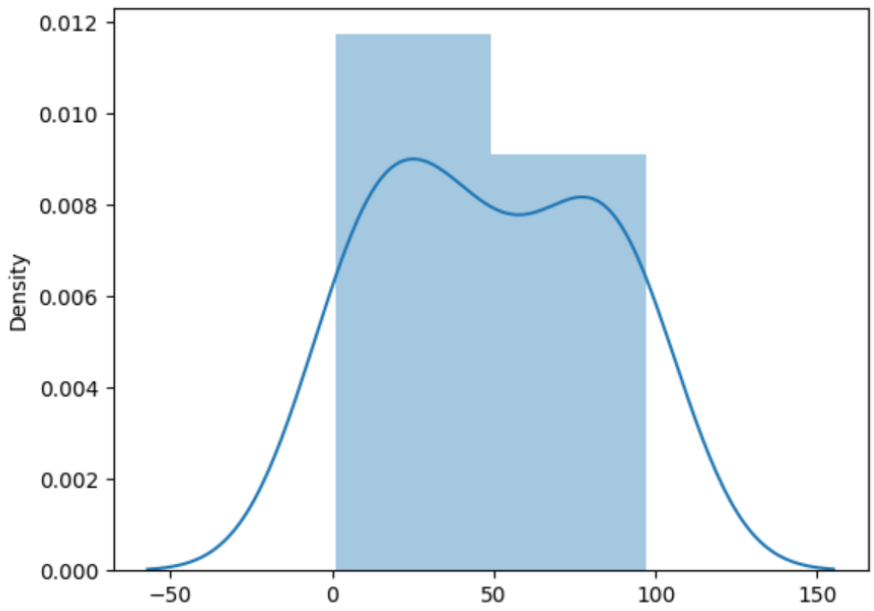
```
(np.float64(-73.5), np.float64(168.5))
```

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

```
<seaborn.axisgrid.FacetGrid at 0x7bffd30a3e60>
```




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



Result:

Thus the python program to detect outliers in a given dataset is executed and output verified successfully