

PROBLEM SET 2, MRIDUL HARISH, CED18I034

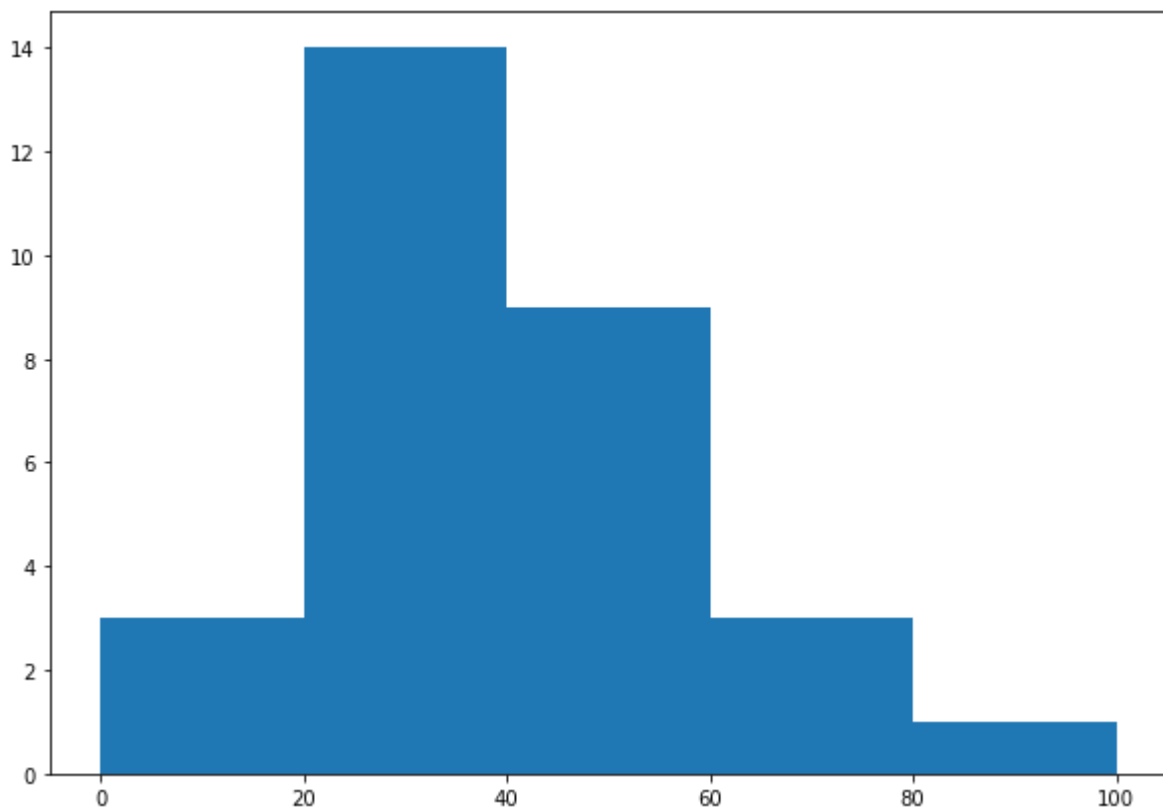
Question 1 - On New Year's Eve, Tina walked into a random shop and surprised to see a huge crowd there. She is interested to find what kind of products they sell the most, for which she needs the age distribution of customers. Help her to find out the same using histogram. The age details of the customers are given below 7, 9, 27, 28, 55, 45, 34, 65, 54, 67, 34, 23, 24, 66, 53, 45, 44, 88, 22, 33, 55, 35, 33, 37, 47, 41, 31, 30, 29, 12. Identify the type of histogram (eg. Bimodal, Multimodal, Skewed..etc). Use different bin sizes.

```
In [ ]: from matplotlib import pyplot as plt
import numpy as np
```

```
In [ ]: age = np.array([7, 9, 27, 28, 55, 45, 31, 65, 54, 67, 34, 23, 24, 66, 53, 45,
```

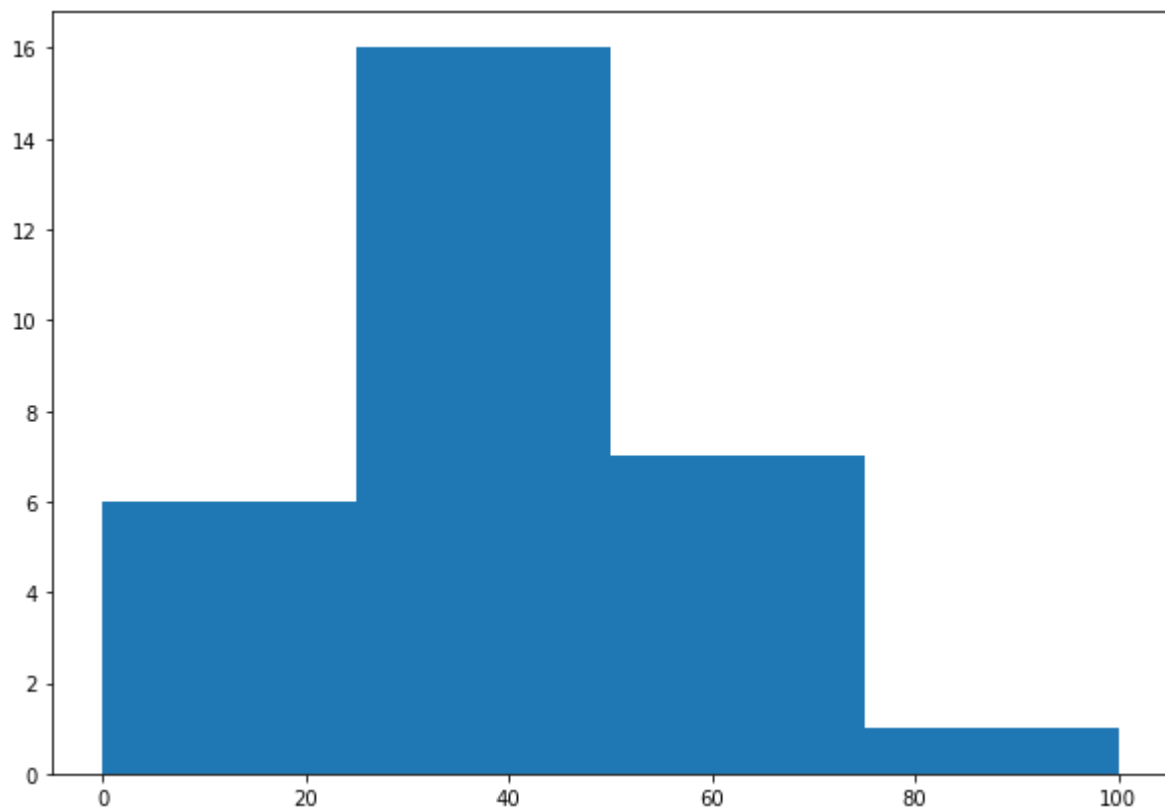
```
In [ ]: fig, ax = plt.subplots(figsize=(10, 7))
ax.hist(age, bins = [0, 20, 40, 60, 80, 100])
```

```
Out[ ]: (array([ 3., 14.,  9.,  3.,  1.]),
array([ 0, 20, 40, 60, 80, 100]),
<BarContainer object of 5 artists>)
```



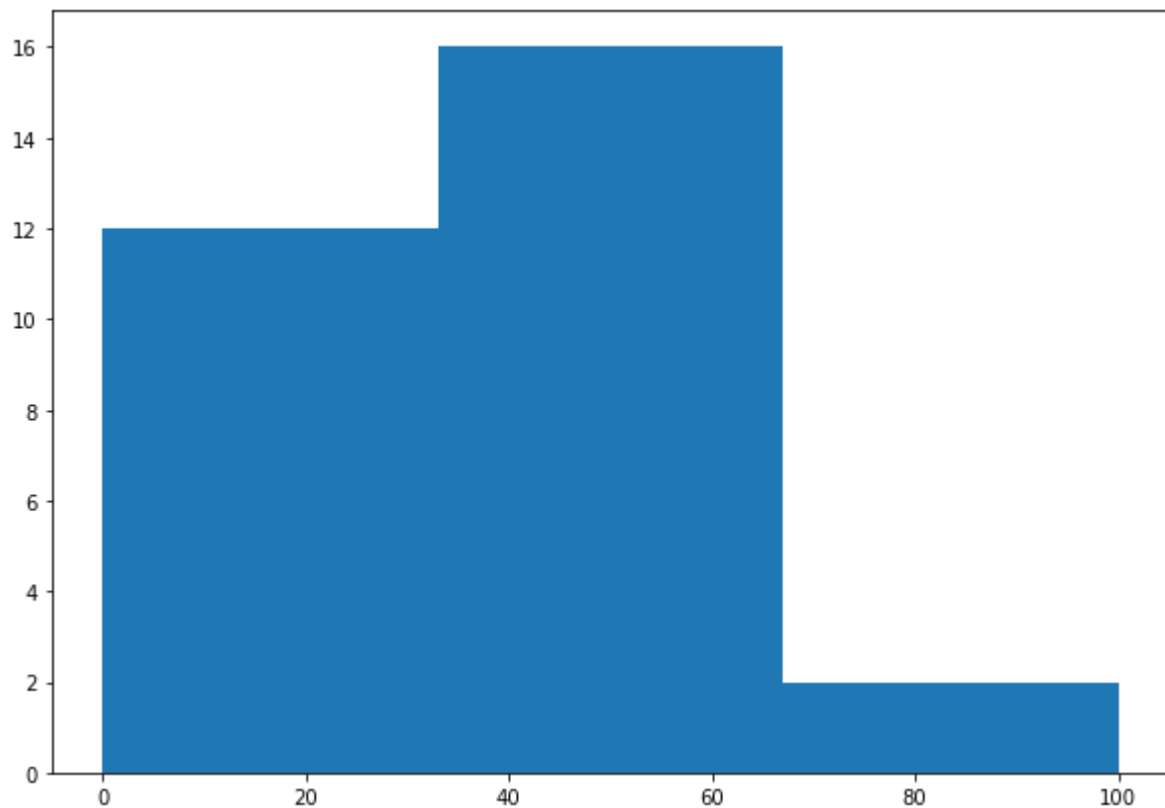
```
In [ ]: fig, ax = plt.subplots(figsize=(10, 7))
ax.hist(age, bins = [0, 25, 50, 75, 100])
```

```
Out[ ]: (array([ 6., 16.,  7.,  1.]),
array([ 0, 25, 50, 75, 100]),
```



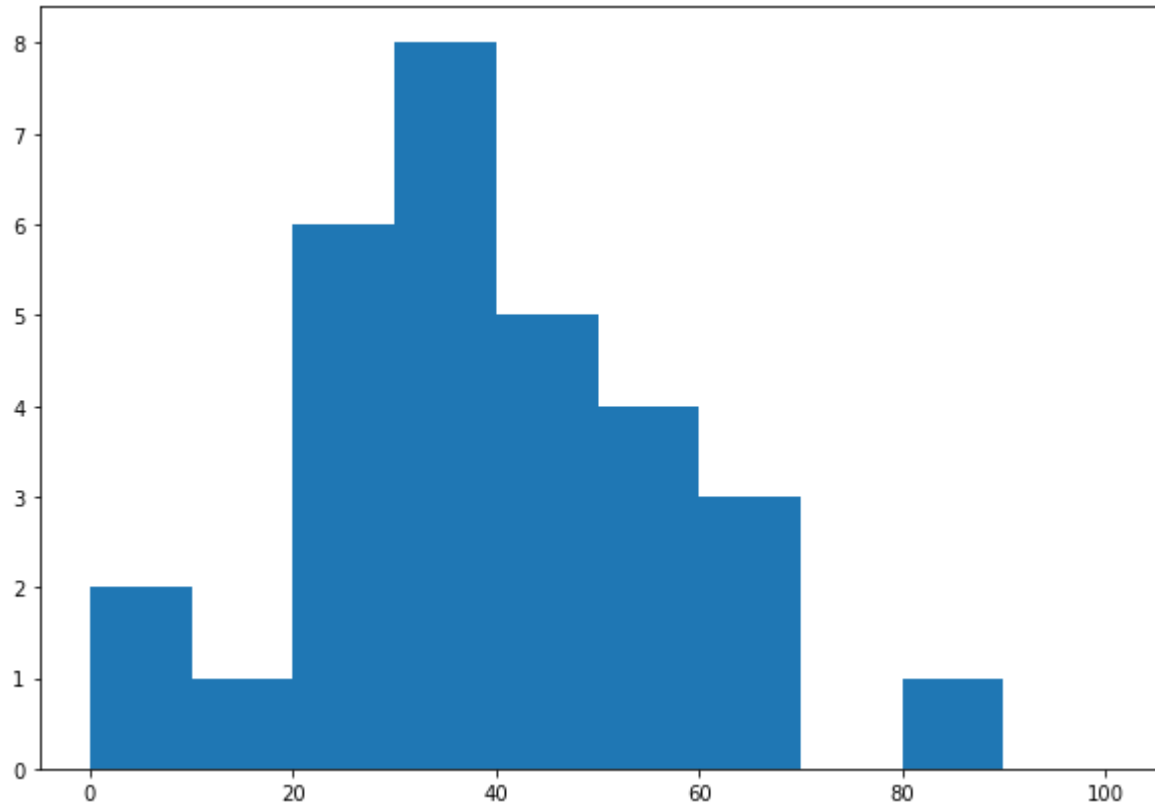
```
In [ ]: fig, ax = plt.subplots(figsize =(10, 7))
ax.hist(age, bins = [0, 33, 67, 100])
```

```
Out[ ]: (array([12., 16.,  2.]),
array([ 0, 33, 67, 100]),
<BarContainer object of 3 artists>)
```



```
In [ ]: fig, ax = plt.subplots(figsize =(10, 7))  
ax.hist(age, bins = [0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100])
```

```
Out[ ]: (array([2., 1., 6., 8., 5., 4., 3., 0., 1., 0.]),  
array([ 0, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100]),  
<BarContainer object of 10 artists>)
```



The type of histogram is "unimodal" even with different bin sizes.