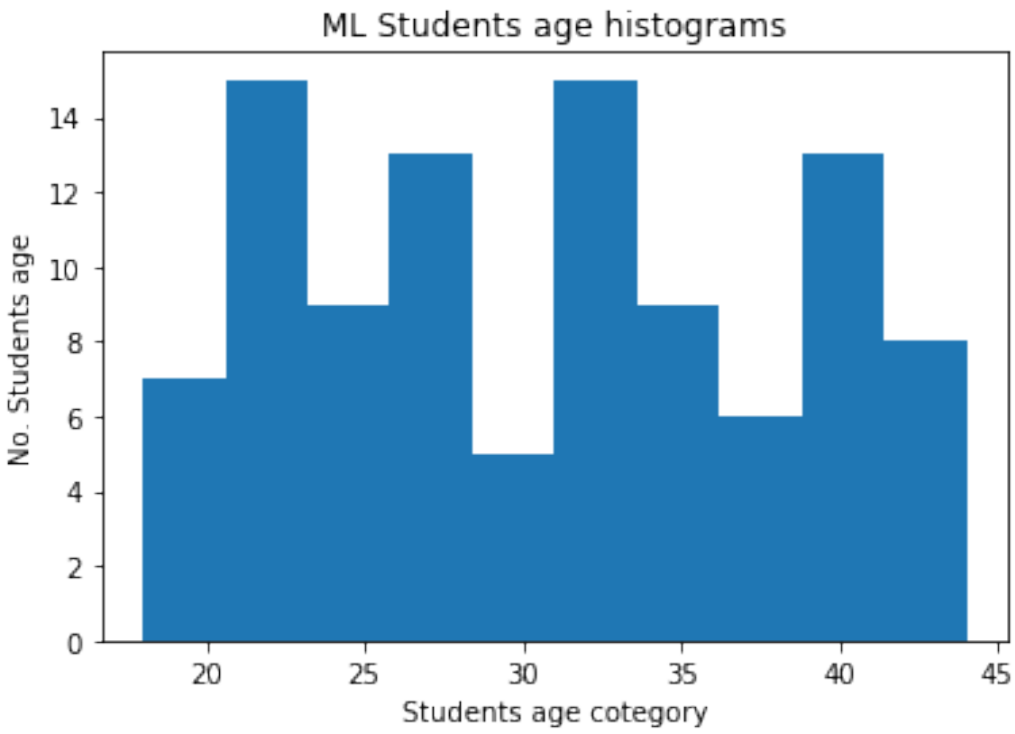
Python Matplotlib Tutorial Part - 4

Ploting Histograms

```
import matplotlib.pyplot as plt
import numpy as np
import random

ml_students_age = np.random.randint(18,45, (100))
py_students_age = np.random.randint(15,40, (100))

print(ml_students_age)
print(py_students_age)
```

```
[22 20 22 42 40 21 35 23 22 24 24 21 44 25 24 40 41 44 44 44 19 23 33
27
 29 21 28 18 34 31 32 29 32 18 39 23 26 24 33 21 20 26 38 25 38 31 30
20
 39 32 41 20 24 27 26 22 33 31 22 38 37 33 34 28 28 34 34 34 33 40 34
23
 33 39 39 25 42 27 23 28 33 31 44 39 28 26 25 29 23 39 39 38 41 34 26
38
 35 42 31 29]
[21 29 26 22 21 20 29 29 26 38 28 32 35 20 21 16 39 26 39 31 27 23 29
37
 32 30 21 36 18 32 17 20 18 28 17 30 29 26 35 31 19 19 19 39 21 26 27
17
 23 22 37 21 35 37 16 33 36 39 31 33 37 26 26 17 17 17 23 27 28 32 38
20
 19 33 24 36 34 27 25 21 33 15 39 15 37 27 32 35 21 37 16 38 36 18 39
21
 29 27 18 30]
```

```
plt.hist(ml_students_age)

plt.title("ML Students age histograms")
plt.xlabel("Students age cotegory")
plt.ylabel("No. Students age")
plt.show()
```

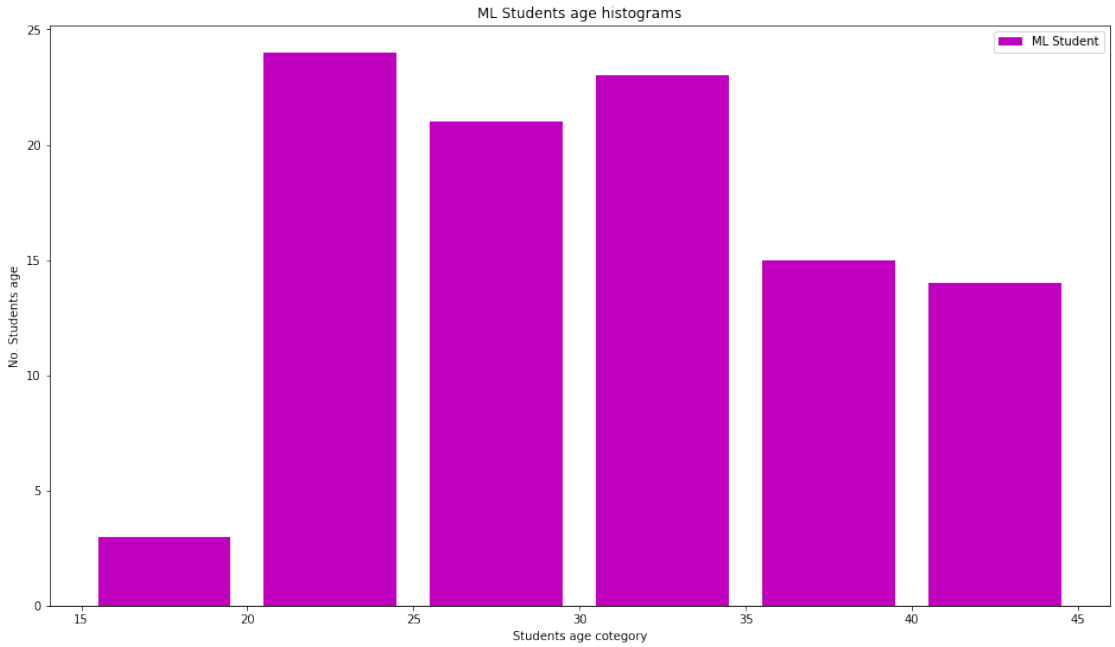



```
"""
plt.hist(
    x,
    bins=None,
    range=None,
    density=None,
    weights=None,
    cumulative=False,
    bottom=None,
    histtype='bar',
    align='mid',
    orientation='vertical',
    rwidth=None,
    log=False,
    color=None,
    label=None,
    stacked=False,
    normed=None,
    *,
    data=None,
    **kwargs,
)

x, or format []
bins=None or sequence
histtype : {'bar', 'barstacked', 'step',  'stepfilled'}
align : {'left', 'mid', 'right'}
```

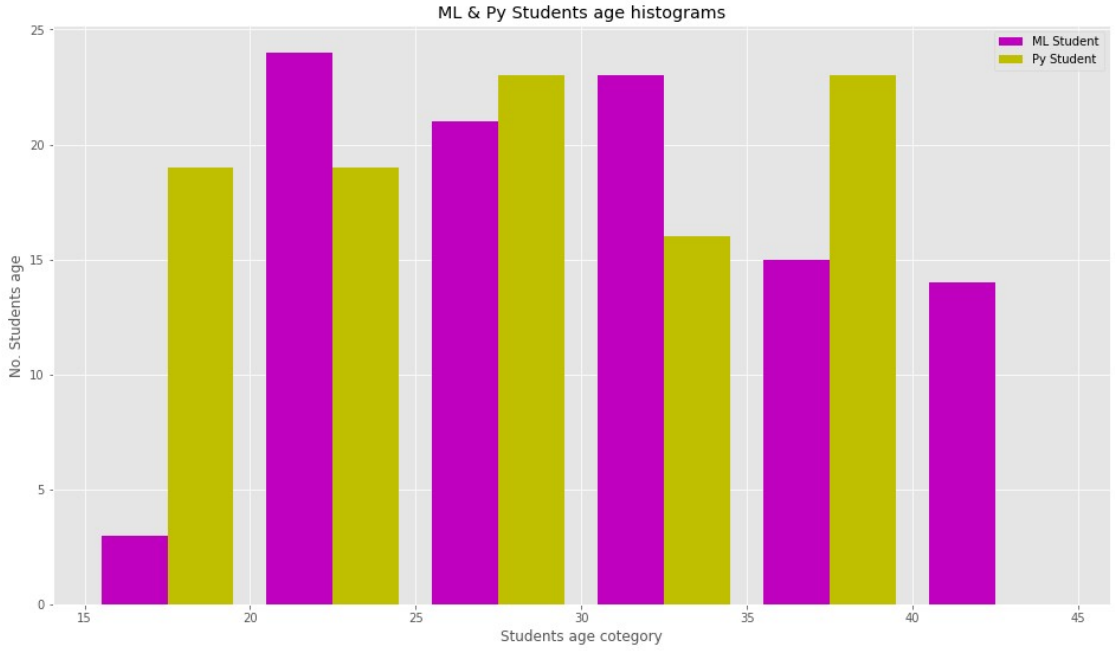
```
orientation : {'horizontal', 'vertical'}
rwidth : scalar or None
color : color or format []
label : str or format []
"""
```

```
"\nplt.hist(\n    x,\n    bins=None,\n    range=None,\n
density=None,\n    weights=None,\n    cumulative=False,\n
bottom=None,\n    histtype='bar',\n    align='mid',\n
orientation='vertical',\n    rwidth=None,\n    log=False,\n
color=None,\n    label=None,\n    stacked=False,\n    normed=None,\n
*,\n    data=None,\n    **kwargs,\n)\n\nx, or format []\nbins=None or
sequence\nhisttype : {'bar', 'barstacked', 'step',  'stepfilled'}\
nalign : {'left', 'mid', 'right'}\norientation : {'horizontal',
'vertical'}\nrwidth : scalar or None\ncolor : color or format []\
nlabel : str or format []\n"
```

```
bins = [15,20,25,30,35,40,45]
plt.figure(figsize = (16,9))


plt.hist(ml_students_age, bins, rwidth=0.8, histtype = "bar",
         orientation='vertical', color = "m", label = "ML Student")

plt.title("ML Students age histograms")
plt.xlabel("Students age cotegory")
plt.ylabel("No. Students age")
plt.legend()
plt.show()
```



```
from matplotlib import style
style.use("ggplot")
plt.figure(figsize = (16,9))

plt.hist([ml_students_age, py_students_age], bins, rwidth=0.8,
histtype = "bar",
         orientation='vertical', color = ["m", "y"], label = ["ML
Student", "Py Student"])

#plt.hist(py_students_age, bins, rwidth=0.8, histtype = "bar",
#         orientation='vertical', color = "y", label = "Py Student")

plt.title("ML & Py Students age histograms")
plt.xlabel("Students age cotegory")
plt.ylabel("No. Students age")
plt.legend()
plt.show()
```




```
print("Thank you")
```

```
Thank you
```