```
Python 3.9.0 (tags/v3.9.0:9cf6752, Oct  5 2020, 15:34:40) [MSC v.1927 64 bit
(AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>> import numpy as np
>>> import matplotlib.pyplot as plt
>>>
>>> X = np.random.randn(10000)
>>> plt.hist(X)
(array([   4.,   53.,  373., 1415., 2869., 2978., 1697.,  518.,   86.,
          7.]), array([-4.19313324, -3.3694357 , -2.54573816, -1.72204062,
-0.89834308,
       -0.07464554,  0.749052  ,  1.57274954,  2.39644708,  3.22014462,
        4.04384216]), <BarContainer object of 10 artists>)
>>> plt.show()
>>> x
Traceback (most recent call last):
  File "<pyshell#6>", line 1, in <module>
    x
NameError: name 'x' is not defined
>>> X
array([ 0.97953968,  1.15300855, -1.94311041, ...,  0.85621434,
        0.04351403,  0.24312534])
>>> # We'll get more bars
>>> plt.hist(X,bins=50)
(array([  1.,   0.,   1.,   2.,   0.,   3.,   2.,  11.,  11.,  26.,  29.,
        51.,  60., 104., 129., 177., 224., 278., 352., 384., 447., 512.,
       638., 611., 661., 646., 606., 660., 562., 504., 459., 423., 332.,
       256., 227., 169., 125.,  98.,  73.,  53.,  38.,  23.,  11.,   9.,
         5.,   3.,   2.,   0.,   0.,   2.]), array([-4.19313324, -4.02839373,
-3.86365422, -3.69891472, -3.53417521,
       -3.3694357 , -3.20469619, -3.03995668, -2.87521718, -2.71047767,
       -2.54573816, -2.38099865, -2.21625914, -2.05151964, -1.88678013,
       -1.72204062, -1.55730111, -1.3925616 , -1.2278221 , -1.06308259,
       -0.89834308, -0.73360357, -0.56886406, -0.40412456, -0.23938505,
       -0.07464554,  0.09009397,  0.25483348,  0.41957298,  0.58431249,
        0.749052  ,  0.91379151,  1.07853102,  1.24327052,  1.40801003,
        1.57274954,  1.73748905,  1.90222856,  2.06696806,  2.23170757,
        2.39644708,  2.56118659,  2.72592609,  2.8906656 ,  3.05540511,
        3.22014462,  3.38488413,  3.54962363,  3.71436314,  3.87910265,
        4.04384216]), <BarContainer object of 50 artists>)
>>> plt.show()
>>> # Lets generate now random from an uniform distribution
>>> X = np.random.rand(10000)
>>> plt.hist(X,bins=50)
(array([232., 192., 205., 191., 200., 193., 203., 186., 218., 226., 187.,
       203., 187., 181., 187., 196., 198., 203., 203., 212., 203., 184.,
       206., 208., 180., 187., 205., 197., 210., 194., 204., 203., 205.,
       175., 191., 222., 201., 180., 178., 195., 197., 192., 191., 209.,
       214., 214., 207., 205., 196., 244.]), array([2.86254354e-05,
2.00222898e-02, 4.00159541e-02, 6.00096184e-02,
       8.00032827e-02, 9.99969471e-02, 1.19990611e-01, 1.39984276e-01,
       1.59977940e-01, 1.79971604e-01, 1.99965269e-01, 2.19958933e-01,
       2.39952597e-01, 2.59946262e-01, 2.79939926e-01, 2.99933590e-01,
       3.19927255e-01, 3.39920919e-01, 3.59914583e-01, 3.79908248e-01,
```

```
        3.99901912e-01, 4.19895576e-01, 4.39889241e-01, 4.59882905e-01,
        4.79876569e-01, 4.99870234e-01, 5.19863898e-01, 5.39857562e-01,
        5.59851226e-01, 5.79844891e-01, 5.99838555e-01, 6.19832219e-01,
        6.39825884e-01, 6.59819548e-01, 6.79813212e-01, 6.99806877e-01,
        7.19800541e-01, 7.39794205e-01, 7.59787870e-01, 7.79781534e-01,
        7.99775198e-01, 8.19768863e-01, 8.39762527e-01, 8.59756191e-01,
        8.79749856e-01, 8.99743520e-01, 9.19737184e-01, 9.39730849e-01,
        9.59724513e-01, 9.79718177e-01, 9.99711842e-01]), <BarContainer object of
50 artists>)
>>> plt.show()
>>> plt.hist(X,bins=20)
(array([521., 499., 491., 535., 485., 460., 507., 505., 476., 505., 494.,
        499., 506., 472., 511., 465., 476., 527., 521., 545.]),
array([2.86254354e-05, 5.00127862e-02, 9.99969471e-02, 1.49981108e-01,
        1.99965269e-01, 2.49949429e-01, 2.99933590e-01, 3.49917751e-01,
        3.99901912e-01, 4.49886073e-01, 4.99870234e-01, 5.49854394e-01,
        5.99838555e-01, 6.49822716e-01, 6.99806877e-01, 7.49791038e-01,
        7.99775198e-01, 8.49759359e-01, 8.99743520e-01, 9.49727681e-01,
        9.99711842e-01]), <BarContainer object of 20 artists>)
>>> plt.show()
>>>
```