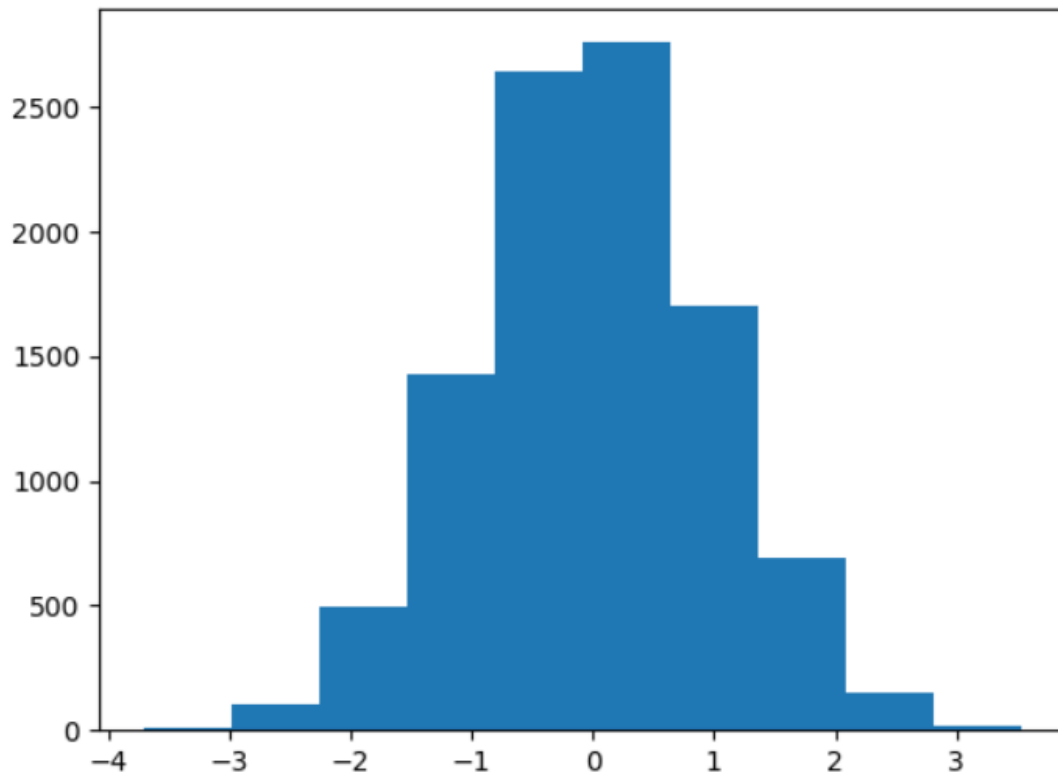
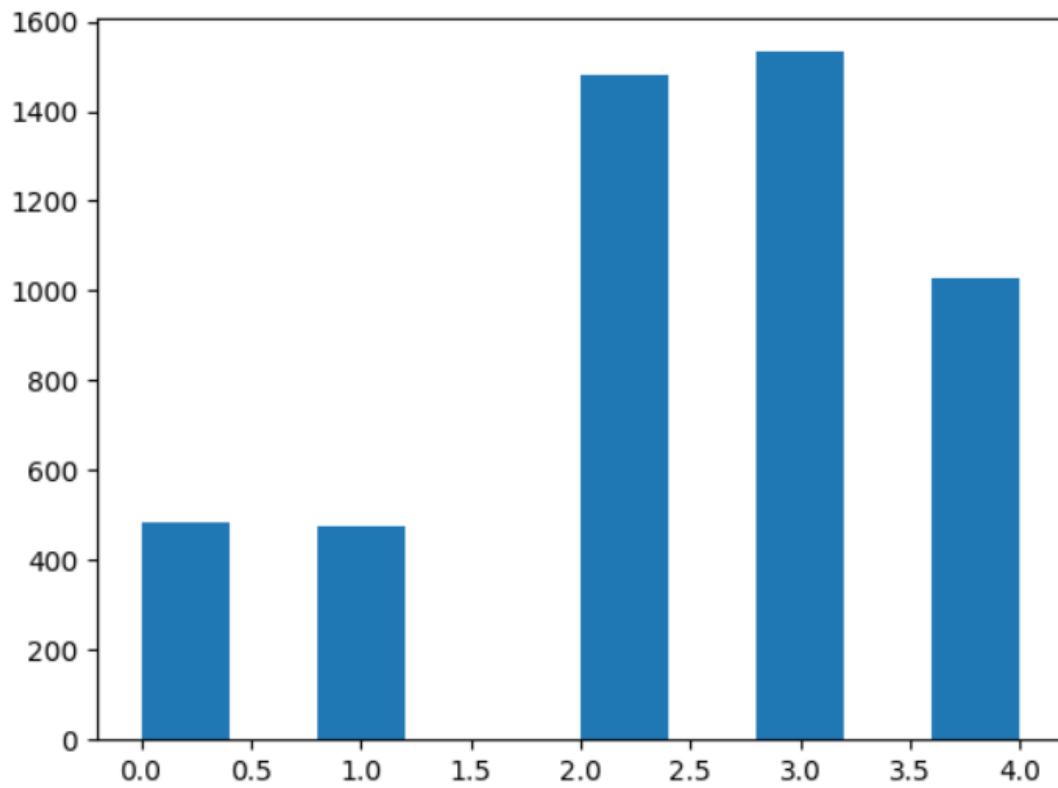


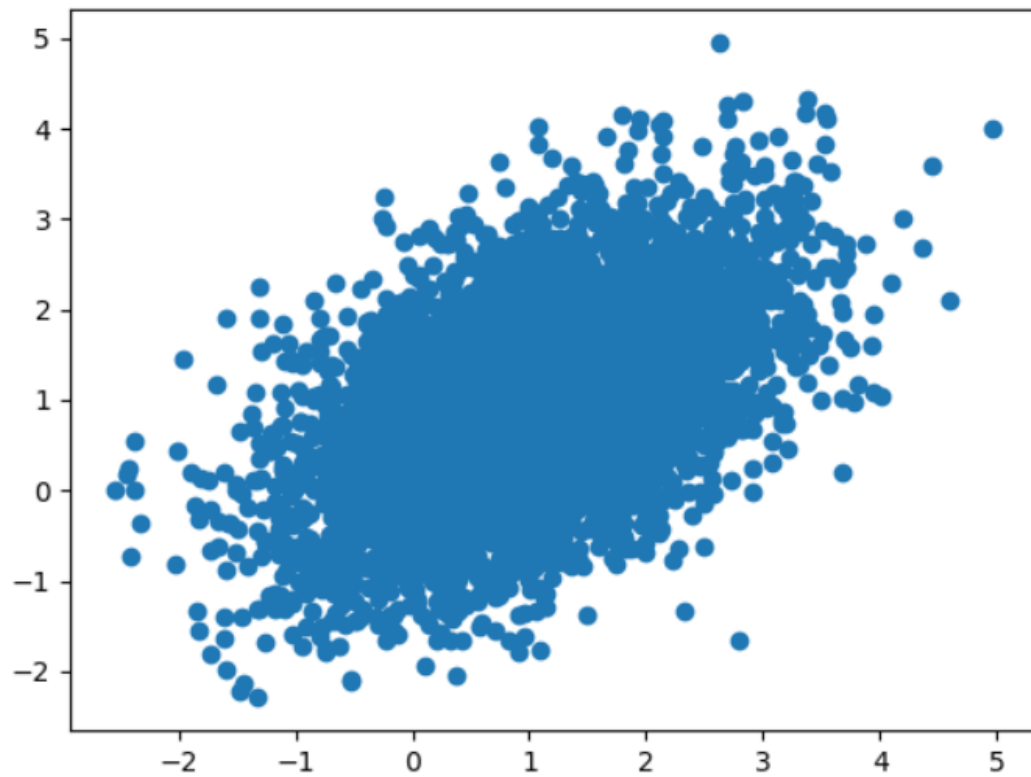
Univariate normal distribution with mean of an standard deviation of 1



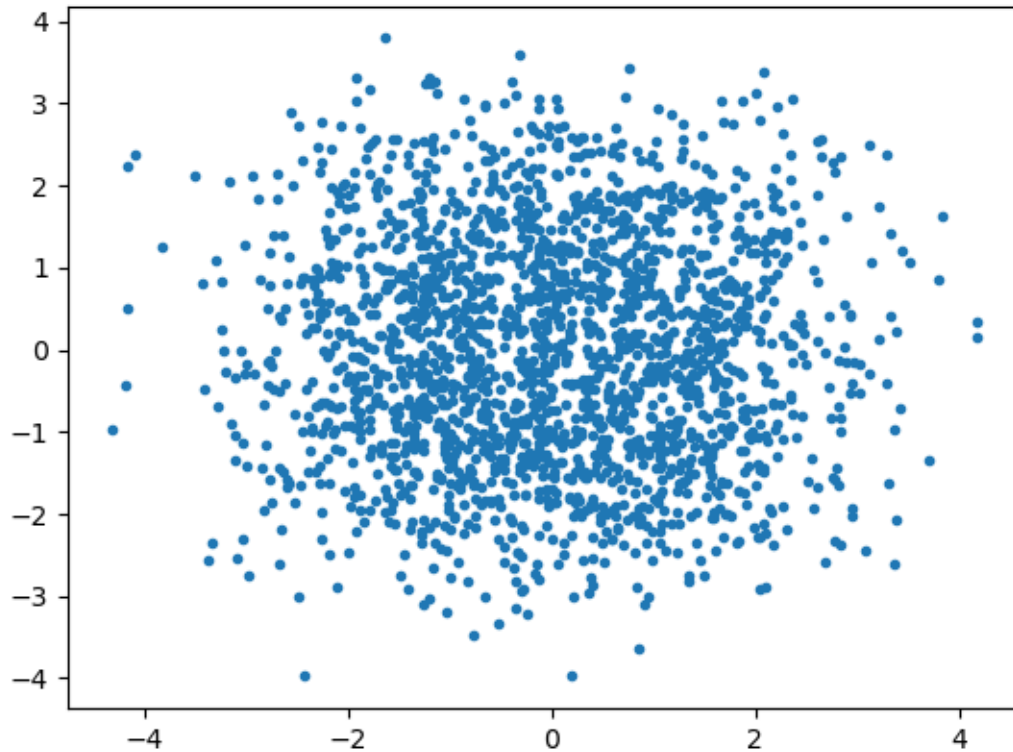
Histogram of samples generated by a categorical distribution with probabilities [0.1, 0.1, 0.3, 0.3, 0.2]



Scatter plot of the samples for a 2-D Gaussian with mean at  $[1, 1]$  and a covariance matrix  $\begin{bmatrix} 1, & 0.5 \\ 0.5, & 1 \end{bmatrix}$



equal-weighted mixture of four Gaussians in 2 dimensions, centered at  $(1,1)$ ,  $(1,-1)$ ,  $(-1,1)$  and  $(-1,-1)$ , and having covariance  $I$ .



If we draw a unit circle centered at  $(0.1, 0.2)$ , the probability of a sample lie in this circle is around 0.16 - 0.18