9   In how many different ways can a person order 2 sushi rolls from a menu that contains 4 rolls to choose from?

A discrete probability distribution is a table that lists out all the values of a random variable, together with its probability.

A continuous probability distribution is generally represented as a formula or a curve that describes the values of probabilities based on a set of input variables.

In this chapter, we will be concerned with discrete probability distributions and will explore some continuous distributions later in the class.

A discrete probability distribution is essentially a relative frequency distribution. In fact, if you start with a frequency distribution, you can convert it into a probability distribution using the same technique.

x	f	P(x)
0	35	
1	61	
2	23	
3	15	
4	6	

c. What is the mean and standard deviation of this distribution?

$\mu =$ _____ $\sigma =$ _____

d. Find P(X = 1) _____

e. Find P(X < 2) _____

f. Find P(X ≥ 3) _____

g. Find P(1 < X < 4) _____

The expected value of a distribution is equal to its weighted mean. It is interpreted as the average gain or loss over many repeated trials.