The entries in the binomial tables are \( F(k) = \sum_{x=0}^{k} p(k) = P(x \leq k) \)

where \( k \) is an integer and \( 0 \leq k \leq n \).

1. \( P(x \leq k) = F(k) \)
2. \( P(x < k) = F(k-1) \)
3. \( P(x = k) = F(k) - F(k-1) \)
4. \( P(x > k) = 1 - F(k) \)
5. \( P(x \geq k) = 1 - F(k-1) \)
6. \( P(j \leq x \leq k) = F(k) - F(j-1) \)
7. \( P(j < x \leq k) = F(k) - F(j) \)
8. \( P(j \leq x < k) = F(k-1) - F(j) \)
9. \( P(j < x < k) = F(k-1) - F(j) \)

To understand these expressions it is helpful to know how the values in a binomial table are computed. An example is given below.

\( X \) is a binomial random variable with \( n = 5 \); \( p \) is unknow. Let \( k \) be a particular value of \( x \). The set of possible values of \( x \) is \( \{x \mid x = 0, 1, 2, \ldots, n\} \).

\[
\begin{array}{c|c|c}
 k & p(x) & F(k) = \sum_{x=0}^{k} p(k) \\
\hline
 0 & p(0) & F(0) = p(0) \\
 1 & p(1) & F(1) = p(0) + p(1) \\
 2 & p(2) & F(2) = p(0) + p(1) + p(2) \\
 3 & p(3) & F(3) = p(0) + p(1) + p(2) + p(3) \\
 4 & p(4) & F(4) = p(0) + p(1) + p(2) + p(3) + p(4) \\
 5 & p(5) & F(5) = p(0) + p(1) + p(2) + p(3) + p(4) + p(5) \\
\end{array}
\]

Since \( n = 5 \), \( F(5) = p(0) + p(1) + p(2) + p(3) + p(4) + p(5) = 1 \).