Header Explanation…

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②

left.pr <- rep(0, 28) # Vector of Pr[left-handed flower]. (Pr = Probability)

left.n <- 0:27 # Vector of number of left-handed flowers from 1 to 27.

for (idx in 1:length(left.n)) {

left.pr[idx] <- dbinom(x = (idx - 1), size = 27, prob = .25)

}

plot(x = left.n, y = left.pr, type = "h", lwd = 8, col = "lightblue",

xlab = "Number of left-handed flowers", ylab = "Probability", ylim = c(0, 0.20))

③

left.pr <- sapply(left.n, function(left.n) {dbinom(x = left.n, size = 27, prob = .25)})

plot(x = left.n, y = left.pr, type = "h", lwd = 8, col = "lightblue",

xlab = "Number of left-handed flowers", ylab = "Probability", ylim = c(0, 0.20))

④

①

Insert explanatory text here.

②

Insert explanatory text here.

③

Taking a functional programming approach, we now populate left.pr, using sapply() instead of writing loop code to step through each trial and call to dbinom().

④

Insert explanatory text here.

Additional Resources

Noam Ross has written a delightful article on vectorization in R that can be found at:

<http://www.noamross.net/blog/2014/4/16/vectorization-in-r--why.html>

Neil Saunders has written a concise introduction to the apply family of functions.  These functions allow you to perform some action on each item in a list or dataframe without having to write loop code to step through each item in the set.

[https://nsaunders.wordpress.com/2010/08/20/a-brief-introduction-to-apply-in-r/](https://nsaunders.wordpress.com/2010/08/20/a-brief-introduction-to-apply-in-r/%20/o%20https:/nsaunders.wordpress.com/2010/08/20/a-brief-introduction-to-apply-in-r/Ctrl+Click%20or%20tap%20to%20follow%20the%20link)