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ECO-634 – Environmental Data Analysis Lab

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Lab Help: Bonnie, John, Matt, Mandy

**R Fundamentals 2**

Q1: n = 12345

vec\_1 = sample(12, n, replace = TRUE)

head(vec\_1)

vec\_1

vec\_2 <- (vec\_1 == 3)

vec\_2

vec\_1[vec\_2]

Q2: Two reasons why determining which element in vec\_1 has a value 3 by visual inspection is a bad idea because it is hard to read the data and keep track of the rows and columns, and if run on different data the values will be different.

Q3: You do not get the same count of 3 when you run the sample () function in R because it samples randomly from the values in the vector. The replace function is set to TRUE meaning that it can choose the same number more than once giving you a different value each time.

Q4: Using a logical test is a safe way to select entries with a value of 3 because you can use it on multiple size vectors and get a correct count every time. This is a quick way to check that vec\_1 and vec\_2 are always equal.

Q5: Performing logical “by hand” subsetting is bad practice because it is not as concise, it is easy to miss something and make a mistake. It also makes it harder to work with the data quickly, or repeat the logical test if needed, or share it with others.

Q6:

for (i in 1:10)

{

print(paste0("This is loop iteration: ", i))

}

Q7:

n <- 55

for (i in 1:n)

{

print(paste0("This is loop iteration: ", i))

}

Q8:

n = 17

vec\_1 = sample(10, n, replace = TRUE)

paste0("The element of vec\_1 at index 1: ", sum(vec\_1 == 3))

for (i in 1:n)

{

print(paste0("The element of vec\_1 at index: ", i, " is ", vec\_1[i]))

}

Q9:

create\_and\_print\_vec = function(n, min = 1, max = 10)

{

vec\_1 = sample(min : max, n, replace = TRUE)

paste0("The element of vec\_1 at index 1: ", sum(vec\_1 == 3))

for (i in 1:n)

{

print(paste0("The element of vec\_1 at index: ", i, " is ", vec\_1[i]))

}

}

create\_and\_print\_vec(10, min = 1, max = 10)