L4: Vectors in R Lab

Complete the following exercises in R. Work in your small group to solve them. For each question, first write the code on the board, and then try running it to see if it works as expected.

1. Write down the data type R will assign to each of the following: 23, "banana", FALSE. First predict on paper, then check in R:

2. What do you think will happen if you combine the elements above into a single vector in R? Predict the result, then check:

3. Create a vector containing the numbers 10, 20, 30, 40. Then add 5 to the entire vector. Predict the output on paper, then check in R:

4. Suppose you have the following values: 2, 7, 4, 9, 6. How can we quickly determine the mean, maximum value, the standard deviation, and the number of values in the vector?

5. Using the vector you created above, how can we quickly determine which elements less than or equal to 5? What about determining how many of them are less than or equal to 5? What about displaying the actual values that are less than or equal to 5?

6. Create a vector given the following animals: dog, cat, parrot, and fish. How could we display just the second animal on the list? What about both the first and the third animal (at the same time)? What about every animal but the fourth?

7. Determine what the outputs will be for the following lines of code:

```
> seq(1, 10, by=2)
> rep(c("ABC", "123", "Do-Re-Mi"), times=3)
```

8. Write the code to create a named vector in R if Alice got a score of 85, Bob got a score of 90, and Carol for a score of 78. Display just Bobs score using his name