Lecture 1.9 – Factors, Special Values, and Class Coercion

Specific Learning Objectives:

1.1.9 – Create vectors, arrays, matrices, lists, and data frames.

1.1.10 – Understand vectors and vectorized calculations.

1.1.11 – Understand the data classes of R.

1.1.12 – Learn how to index vectors, arrays, matrices, lists, and data frames.

Info on Skill Check 1

Skill Check 1 will be on **Monday Sept 26th.**

- It will be in class, so you will have 50 minutes to complete it.
- There will be 10 questions on Canvas Quizzes.
- It will be scored complete or not complete. (All 10 questions will need to be completed.)
- For most questions, you will get to pick one or two from a list of options.
- You will receive feedback and get another in-class opportunity to complete it.
- It will cover all CLO in Unit 1 (check schedule and CLO for info).
- It will be aimed at basic competence level (similar to assignments).

Instructions of Skill Check 1

This Skill Check is an individual assessment and you should not receive or offer help on it from any other human.

You may use any resource, either online or physical, to complete the work. This includes:

- Any help forum or website (e.g. StackOverflow) questions that already exist. (You MAY NOT ask a question on a forum and then receive specific help from a person.)
- Any notes, code, slides, papers, or previous feedback from the instructor.
- Any books, online or physical.
- Scholarly works such as papers.

You may NOT use:

- Help from any other student or person. **This is an individual assessment.**
- Asking for help on specific questions. (It is fine to ask for clarification!)
- Help from homework websites such as Course Hero or Chegg.

Instructions

You may choose to answer any one part of each question. You must get at least one correct for each question to get full credit.

Check Your Understanding

Create a data frame that contains:

- **a column of class character describing something in your current surroundings**

- **a column of class factor describing the color of those items**

Check Your Understanding

What would you do in the following scenarios?

a) **You have a data set in a data frame. It is very large, and you want to know whether or not it has missing data values. You'd also like to remove those values so that you only have a set of complete observations.**

b) **You have a data frame in which you use your own function with vectorized calculations. When you look at the output, it is `NULL`. What has happened? What should you do?**

Check Your Understanding

Which command can accomplish the following coercions:

a) a logical vector into a numeric vector

b) a numeric vector into a character vector

c) two vectors into a data frame

d) a list into a vector

Check Your Understanding

1. Old Assignment questions

2. Assignments 1.12 and 1.13

Action Items

1. **Complete Assignments 1.12 and 1.13.**

2. **Prepare for your first Skill Check!**