

# Problem Set 1

insert your name here

insert date here

## Overview

Welcome to Introduction to Programming and Data Management using R! This problem set is fairly short and is intended to give you some practice becoming familiar with using R. In this problem set, we are asking you to create an R project, download the file directory structure from the first lecture (if you haven't already), knit to pdf, and practice setting and changing your working directory using the absolute and relative file path.

- Note: Change the values of the YAML header above to your name and the date.

## Question 1: Creating an R project & directory structure

### Download directory structure

- Navigate to the Appendix of the “Intro to R” lecture and review the slides in the “Create R project and directory structure”
  - *Note: We went through this in lecture so this may be review, but we encourage you to read through the instructions to make sure you did everything correctly.*
- Follow the instructions and download the zip file [here](#).
- Save the rclass1 folder in an easily accessible location (e.g. Desktop, Documents, Dropbox, etc.)
  - You should have two subfolders (data, lectures) in the rclass1 folder
  - Make sure to save the following lecture files in “rclass1/lectures/intro\_to\_r”
    - \* intro\_to\_r.Rmd
    - \* intro\_to\_r.pdf

### R project

- In RStudio, click on “File” » “New Project” » “Existing Directory” » “New Project”
- Browse to find the “rclass1” folder you saved
- Click on “Create Project”
  - Save this problemset.Rmd file anywhere in the “rclass1” folder.
  - You can save this file in the lectures folder or create a new problemset folder.

- Run the `list.files()` function in the code chunk below.
- What is the output? Why?

## Question 2: Knit to pdf

- Go to your `rclass1` folder and find your saved `intro_to_r.Rmd` file (hint: in `intro_to_r` folder)
- Open the `intro_to_r.Rmd` file in RStudio
- At the top of the `intro_to_r.Rmd` file, before the heading “# What is R? Why R?”, type your first and last name (e.g. “Patricia Martin”)
- Now click the “Knit” button near the top of your RStudio window (icon with blue yarn ball) or drop down and select “Knit to PDF”
  - The goal of this assignment is to make sure you are able to knit to a PDF without running into errors.

## Question 3: Load .Rdata directly with url

- Make sure to check your current working directory first using `getwd()`
- Url to data: [https://github.com/anyone-can-cook/rclass1/raw/master/data/recruiting/recruit\\_ps1\\_small.Rdata](https://github.com/anyone-can-cook/rclass1/raw/master/data/recruiting/recruit_ps1_small.Rdata)
  - Hint: to load .Rdata use the `load()` and `url()` functions because you are using a link
  - E.g. `load(url("link"))`

## Question 4: Set your working directory and use the absolute filepath to load data

- Download the same .Rdata from above by pasting the link in a browser.
- Save the .Rdata file in the recruiting folder (`rclass1/data/recruiting`)
- View your current working directory using `getwd()`
- Use `setwd()` function to set your working directory to where the .Rdata file is saved (ie. `rclass1/data/recruiting`)
  - When setting your working directory, use the absolute filepath
- View your current working directory again using `getwd()`
- Load the .Rdata file using `load("data.Rdata")`
- Using `names(dataframe_name)`, report the column names in this dataframe (Hint: the `dataframe_name` is `df_recruiting`)

### Question 5: Set your working directory and use the relative filepath to load data

- View your current working directory using `getwd()`
- Use `setwd()` function to set your working directory to where the .Rdata file is saved (ie. `rclass1/data/recruiting`)
  - When setting the working directory, use the relative filepath
- View your current working directory again using `getwd()`
- Load the .Rdata file using `load()`
- Using `str(dataframe_name)`, view the structure of this dataframe (Hint: the dataframe\_name is `df_recruiting`)

### Question 6: Load dataset using relative filepath without first changing working directory

- View your current working directory using `getwd()`
- Load data without setting directory `load("relative_filepath/data.Rdata")`

### Question 7: Create a GitHub issue

- Go to the [class repository](#) and create a new issue.
- Make sure to give your issue a relevant title and write down a question you would like to ask (e.g., favorite food, self-care practices, favorite shows)
- Mention the instructors (@ozanj, @mpatricia01, @cyouh95) and two people you do not know from the class.
- Once those two people you mentioned have answered your question, make sure to close your issue.
- Paste the url to your issue here:

## Knit to pdf and submit problem set

**Knit to pdf** by clicking the “Knit” button near the top of your RStudio window (icon with blue yarn ball) or drop down and select “Knit to PDF”

- Go to the [class website](#) and under the “Readings & Assignments” » “Week 1” tab, click on the “Problem set 1 submission link”
- Submit both .Rmd and pdf files
- Use this naming convention “lastname\_firstname\_ps#” for your .Rmd and pdf files (e.g. martin\_patricia\_ps1.Rmd & martin\_patricia\_ps1.pdf)