**Self-Study R Course (SSRC)**

**Chapter 4: Data Visualization**

**Instructions**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Instructions** | **Resource** | **Comments** |
| **1.** | Briefly check out the exercise sheet for chapter 4 to get an impression of what you need to learn/know to solve it. |  |  |
| **2.** | Solve Tasks 1-7 of the exercise sheet. |  | Download and open the R -Script template that is provided on the SSRC website to insert your solutions in RStudio. |
| **3.** | Watch the following YouTube Video. | [Video:](https://www.youtube.com/watch?v=HPJn1CMvtmI&list=PLtL57Fdbwb_C6RS0JtBojTNOMVlgpeJkS&index=1) An Introduction to Data Visualization |  |
| **4.** | Do the “Exploratory Data Analysis” tutorial offered in the RStudio Cloud. | [Tutorial: Exploratory Data Analysis](https://rstudio.cloud/learn/primers/3.1) |  |
| **5.** | Solve Task 8 of the exercise sheet. |  |  |
| **6.** | Do the “Bar Charts” tutorial offered in the RStudio Cloud. | [Tutorial: Bar Charts](https://rstudio.cloud/learn/primers/3.2) | It is sufficient if you focus on the subchapters “Bar Charts” and “Aesthetics”. |
| **7.** | Solve Tasks 9-10 of the exercise sheet. |  |  |
| **8.** | Do the “Histograms” tutorial offered in the RStudio Cloud. | [Tutorial: Histograms](https://rstudio.cloud/learn/primers/3.3) | It is sufficient to focus on the subchapter “Histograms”. |
| **9.** | Solve Tasks 11-12 of the exercise sheet. |  |  |
| **10.** | Watch the following Video. | [Video: Density Plots](https://www.youtube.com/watch?v=UGeJ73k6BGs) |  |
| **11.** | Solve Tasks 13-14 |  |  |
| **12.** | Watch the following Video. | [Video: Boxplots](https://www.youtube.com/watch?v=EZjkg_hsh-w&list=PLkrJrLs7xfbVbI1WHs8FfkOoFvtiI6EXd&index=8) |  |
| **13.** | Solve Task 15 |  |  |
| **14.** | Watch the following Video. | [Video: Scatter Plots](https://www.youtube.com/watch?v=DjORoUDMLD4&list=PLkrJrLs7xfbVbI1WHs8FfkOoFvtiI6EXd&index=10) |  |
| **15.** | Solve Task 16 |  |  |
| **16.** | Watch the following Video. | [Video: Smoother](https://www.youtube.com/watch?v=P2_qYBV1Byc&list=PLkrJrLs7xfbVbI1WHs8FfkOoFvtiI6EXd&index=11) |  |
| **17.** | Solve Task 17 |  |  |
| **18.** | Watch the following Video. | [Video: Draw Lines](https://www.youtube.com/watch?v=dD51z8MN1GI) |  |
| **19.** | Solve Task 18 |  |  |
| **20.** | Compare your solutions to the sample solution provided at the SSRC website. |  |  |

**Additional Resources:**

[Cheat Sheet: Data Visualization](https://raw.githubusercontent.com/rstudio/cheatsheets/master/data-visualization-2.1.pdf) -> Nice overview on how to make plots with ggplot2

If you want to make your graphs more beautiful and understandable (e.g add a title, change colours), the following resources are recommended:

* [Tutorial: Customize Plots](https://rstudio.cloud/learn/primers/3.8)
* Google!!!