SWE 307 – 2025 BIG DATA PROJECT - 1
DATA VISUALIZATON WITH R

Due date: 9.Oct.2025 Thursday, in class.

In this project, you are asked to implement a ***Java Spring-Boot*** web application that calls one of the ***R*** plot functions over GraalVM. Your application will read a line from MongoDB NoSQL database server (see Figure 1). The data is given CVS file (https://github.com/ozmen54/SWE307-2025/blob/main/swe307_pro1.csv) and you are supposed to import this data into MongoDB server as explained in the class.

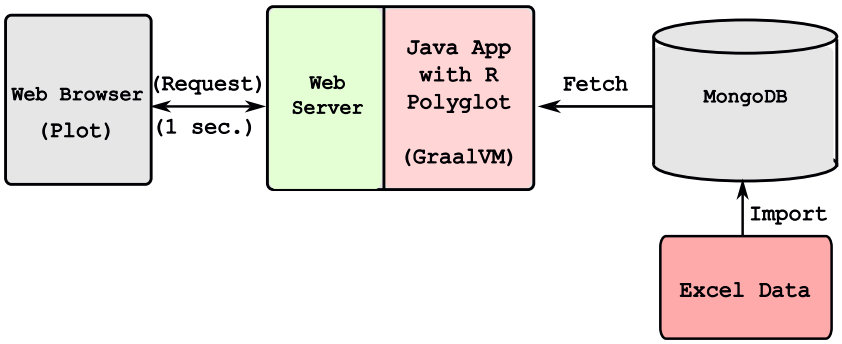

Figure 1. Block diagram of project 1.

The Java application will fetch one data from the database server, and pass it to the R-plot function. Then the graphic output generated by R function will be sent to the browser. The page automatically refreshed every second and the graph will change dynamically.

What is required from you is as follows:

1) Every group will use only one column from given data, such as first group will use only ***Col-1*** data. There will be 100 rows (100 data) in the database, and this data will read by Java not R.

2) Your Java program will fetch one dat item every second from the file, and this double number will be sent to the R function for plot as shown in the class.

3) Preferably use ***xyplot()*** from lattice library. In your plot, x axis will show integer from [0-99] and y axis will represent the double value sent from your Java program.

4) Your plot should be ***line*** type and the line color should be ***dark brown***. Use ***grid*** in your graph (see Figure 2).

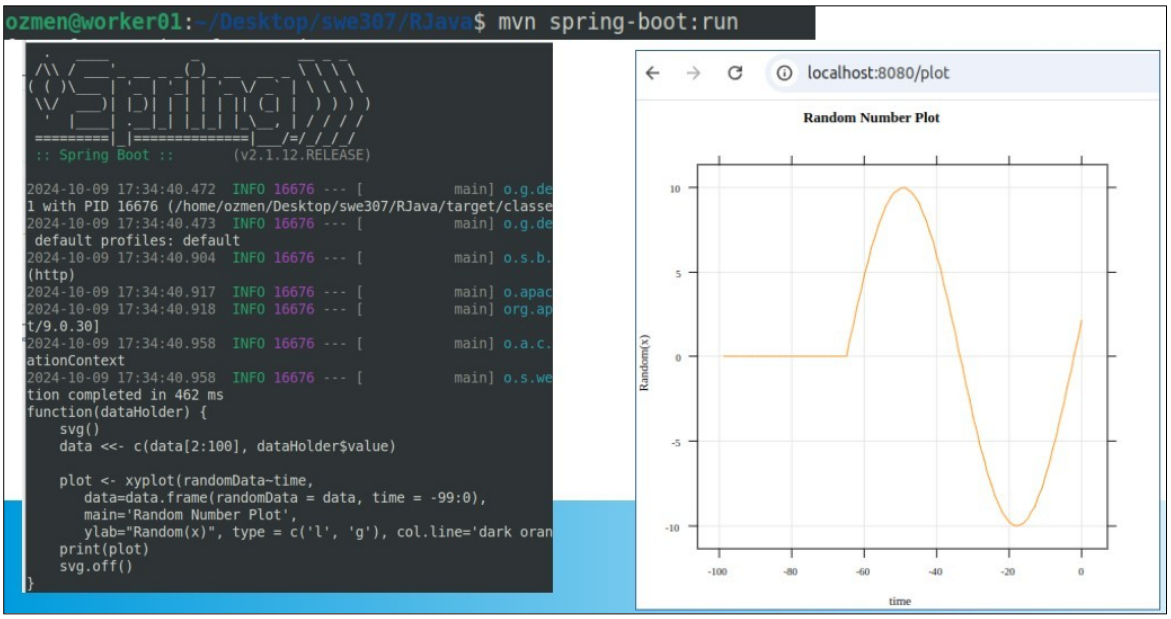

Figure 2. Data visualization on the web using Java and R.