Assigment no. 2: Answer each question on a separate slide (prepared with the software of your choice). Hand in a PDF file titled with your surname (surname.pdf). The PDF file must have 7 slides as specified below. Do not provide the code

Slide 1. Name, Surname, Student ID: Include your personal information on this slide.

Slide 2. Download the following series from https://fred.stlouisfed.org/ (or import them from "DataAssignment2.xlsx") and describe them:

- NA000334Q
- GDPDEF
- B230RC0Q173SBEA

Slide 3. Focus on the sample from 1970 to 2022

- Compute real gross domestic product in per capita terms and plot it.
- Describe in one line the main patterns visible in the plot.

Slide 4. What is the sample average of (annualized) per capita GDP growth ($rgdppc_t$)? Use the following formula:

$$\Delta rgdppc_t = 400 \times log\left(\frac{rgdppc_t}{rgdppc_{t-1}}\right)$$

Slide 5. Plot the sample autocorrelation sample of $\Delta rgdppc_t$ and log($rgdppc_t$). Comment in 2 lines

Slide 6. Use data from 1970 to 2019 (last quarter) to estimate a Random Walk with Drift and a Seasonal Random Walk with Drift model for log($rgdppc_t$). Forecast 2020 (quarter 1)-2022 (quarter 4).

- Plot $rgdppc_t$ and the two forecasts for $rgdppc_t$ (you need to transform the log forecast).

Slide 7. Compute the Root Mean Squared Forecast Error of the two models. Comment in 1 line.

Note: Ensure that your presentation covers each of these points clearly and concisely on their respective slides.