Task 1 – Sufficient

Introduction:

Your friends have decided to **invest in gold** and need your help in developing an application that analyzes gold prices. Their strategy is simple:

- **Buy** when the price **decreases**
- **Sell** when the price **increases**

To support their investment decisions, they found that the **National Bank of Poland (NBP)** provides **gold prices and currency exchange rates** via a publicly available API:

https://api.nbp.pl/en.html and allows the rates to be obtained using APIs.

They have started developing an **analysis tool**, and now they need your assistance in implementing key **data processing and query functionalities using LINQ**.

Steps:

1. Create a feature branch “sufficient” and work on it for steps 2-6
2. Answer the following questions using LINQ syntax:
    a. (method and query syntax) What are the TOP 3 highest and TOP 3 lowest prices of gold within the last year?
    b. If one had bought gold in January 2020, is it possible that they would have earned more than 5%? On which days?
    c. Which 3 dates of 2022-2019 opens the second ten of the prices ranking? (note that the app allows only to get data about the last … days)
    d. (query syntax) What are the averages of gold prices in 2020, 2023, 2024?
    e. When it would be best to buy gold and sell it between 2020 and 2024? What would be the return on investment?

3. Write a method that saves the list of prices to a file in XML format.
4. Write a method that reads the contents of the XML file from the previous set using one instruction (you cannot use more than one semicolon).

5. Invite a colleague of yours to your repository, create a pull request to merge with the main branch asking him/her to review your task
6. Review a task of your colleague within a pull request