Knowledge Check Test

Web Service and UI

Based on macroeconomics data IMF WEO (the example is attached) create an OLAP

- The data should be stored within the database (ex. MS SQL)
- Create a web service on C# .NET Core or .NET Framework
    - The service should read the data out of the database
    - The service should process the data into the multidimensional cube
    - The service should serve API requests and return data in a JSON format
- Create a UI using TypeScript (you can also use any frameworks like React, Angular, Vue, etc.)
    - UI should be able to fetch the data via API from the Web Service
    - UI should visualize the data as a table
    - UI should have controls for dimensions so the user can change the selected elements (ex. change the country)
        - Once the selection is changed UI should get new data from the API based on the user's selection
    - (Optional) UI to have an ability to swap dimensions across rows and columns and move some of the dimensions to filters

Data structure

The data has two dimensions:

- Countries
    - Countries dimensions has two attributes (the name and the code)
- Indicators
    - Indicators dimensions has two attributes (the name and the code)

The data itself are numeric values by date, the frequency of the data is annual data (A) and quarterly data (Q)

Related links on OLAP

- https://en.wikipedia.org/wiki/Online_analytical_processing
- https://ru.wikipedia.org/wiki/OLAP-%D0%BA%D1%83%D0%B1
- https://help.sap.com/docs/SAP_BUSINESSOBJECTS_ANALYSIS,_EDITION_FOR_OLAP/4ae5a34085c44f4ea2b4cab4d7c43e19/47146f866e041014910aba7db0e91070.html?locale=ru-RU
- http://www.olap.ru/basic/multi_dim_DWH.asp