Project SpotifyCrawler

Author: Krystian Góźdź

Data: 03.06.2023

Repository: github.com/kgozd/SpotifyCrawlerProject

## Table of Contents

Introduction

        The SpotifyCrawler application is used to retrieve data from the Spotify streaming service API, such as information about artists, albums, and tracks, and display them in a user-friendly manner through tables and charts. The application was written using Python version 3.11 and SQLite3 database.

# Project Structure and Dependencies

Strukura projektu SpotifyCrawler
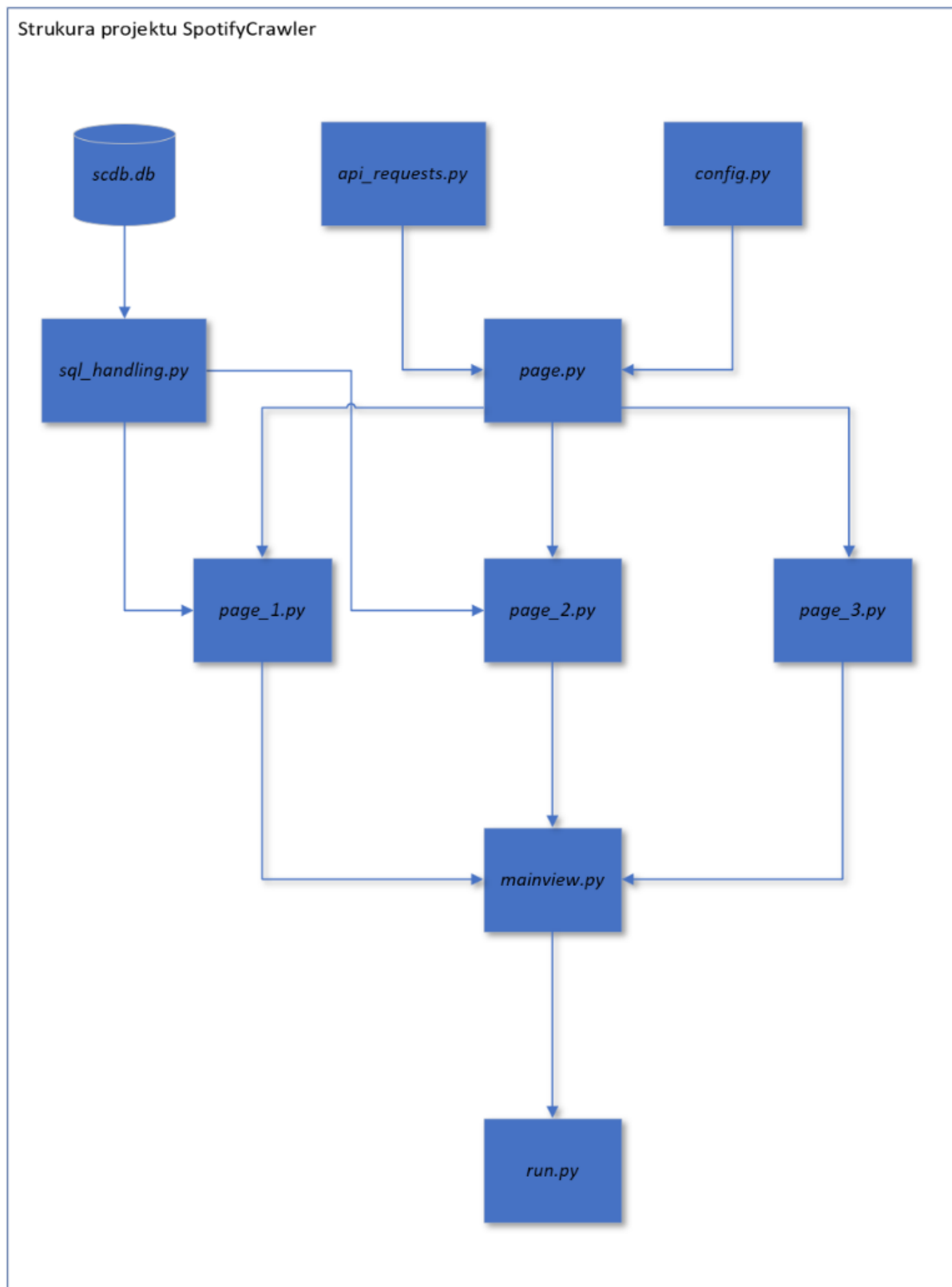
The project has been divided into several files. Below is a brief description of each of them:

- **api_requests.py** – It is used to establish a connection with the API and retrieve data from it.
- **config.py** - It contains keys for API communication (for security reasons, this file is not included in the GitHub repository).
- **sql_handling.py** – It is used to establish a connection, create queries, and tables in the database.
- **scdb.db** – The database created to store information about tracks.
- **page.py** – A base class used to create page_x classes. It also contains classes for creating widgets on other pages.
- **page_x.py** – They are used to display information retrieved from the database and API on the screen.
- **mainview.py** – It is used to dynamically create application windows and launch the application.
- **run.py** – A script used to check the Python version, verify and install missing packages, and run the entire application.

Below is a brief user manual for using the application:

1) Launching the application

To start the application, you should run the "run.py" file located in the program's main directory. The "run.py" file will automatically check the Python version (recommended 3.11 or higher)* and install the required packages (spotipy, customtkinter, matplotlib)**. Afterward, the main program will start within a few seconds.***
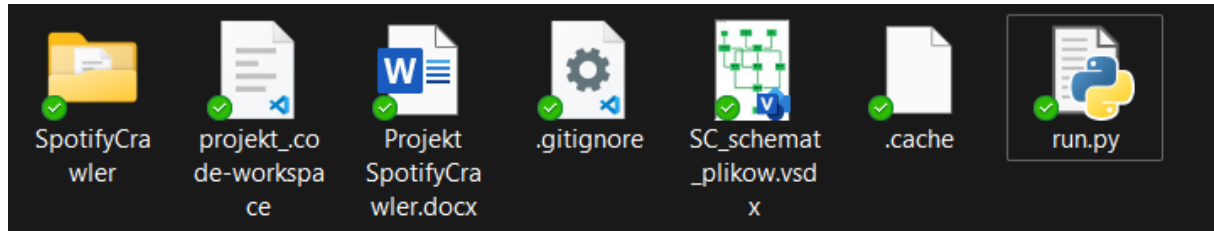

*Older versions of Python will also run the program (there may be issues with correct widget display).
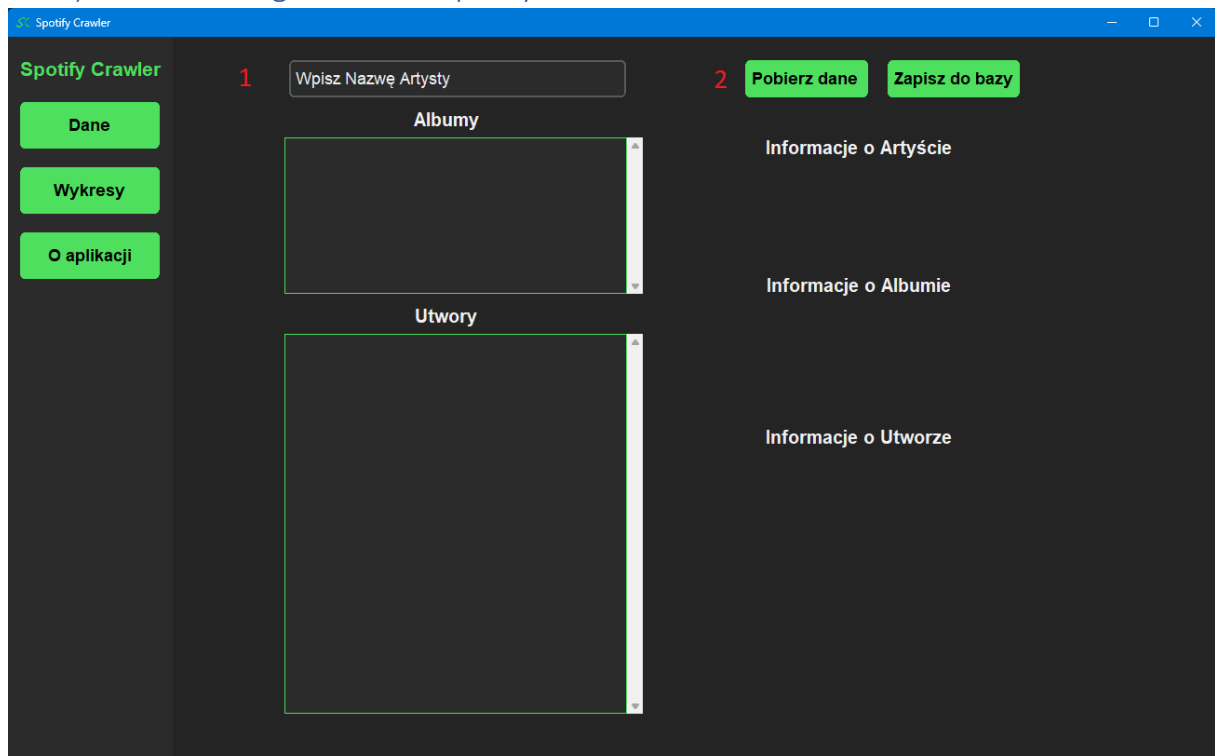
** If you encounter problems with package installation, you can install them manually using the command: "pip install <package_name>" e.g., "pip install matplotlib," etc. Then, navigate to the "SpotifyCrawler" folder and run the "mainview.py" file.

*** If the program doesn't start, you should restart "run.py."

2) View after launching the application
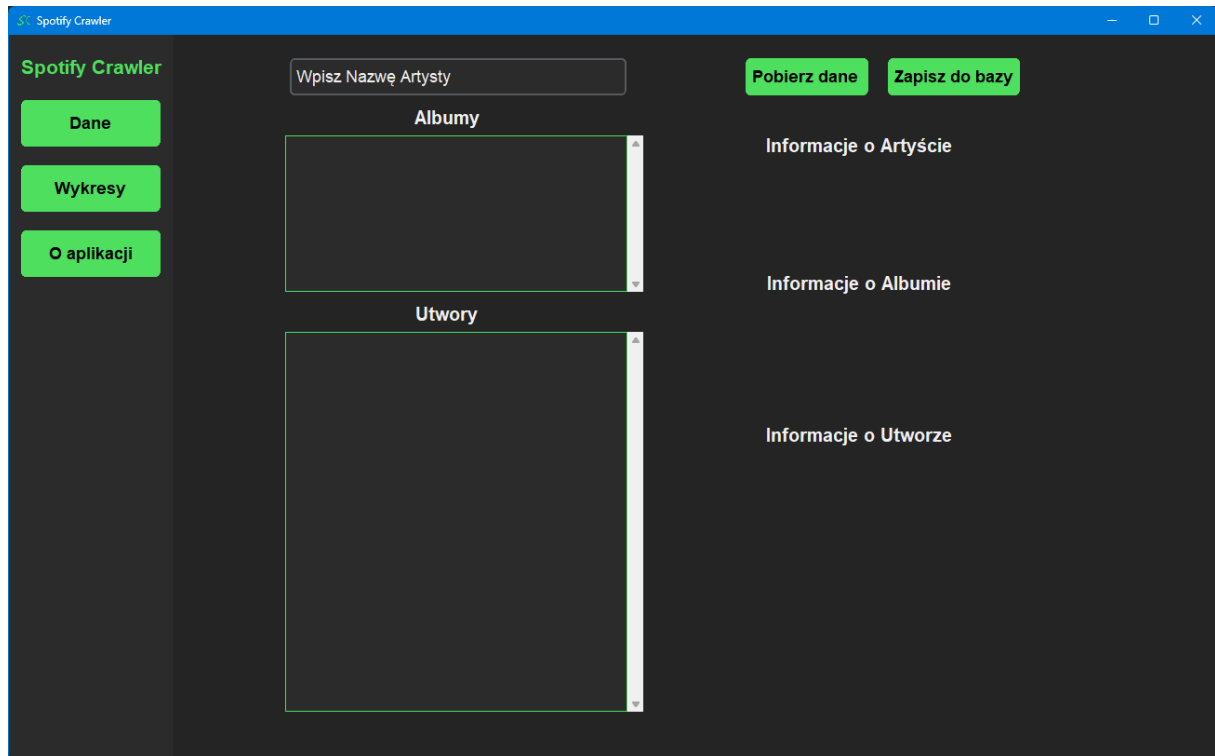
3) Downloading data from Spotify.

1 – This field is used to enter the name of the artist for whom you want to view statistics. To do this, simply type the artist's name and press the "Enter" key or use the „Pobierz dane". button.

2 – The button is used to fetch data from Spotify for the previously entered artist..

4) Displaying and saving album information:
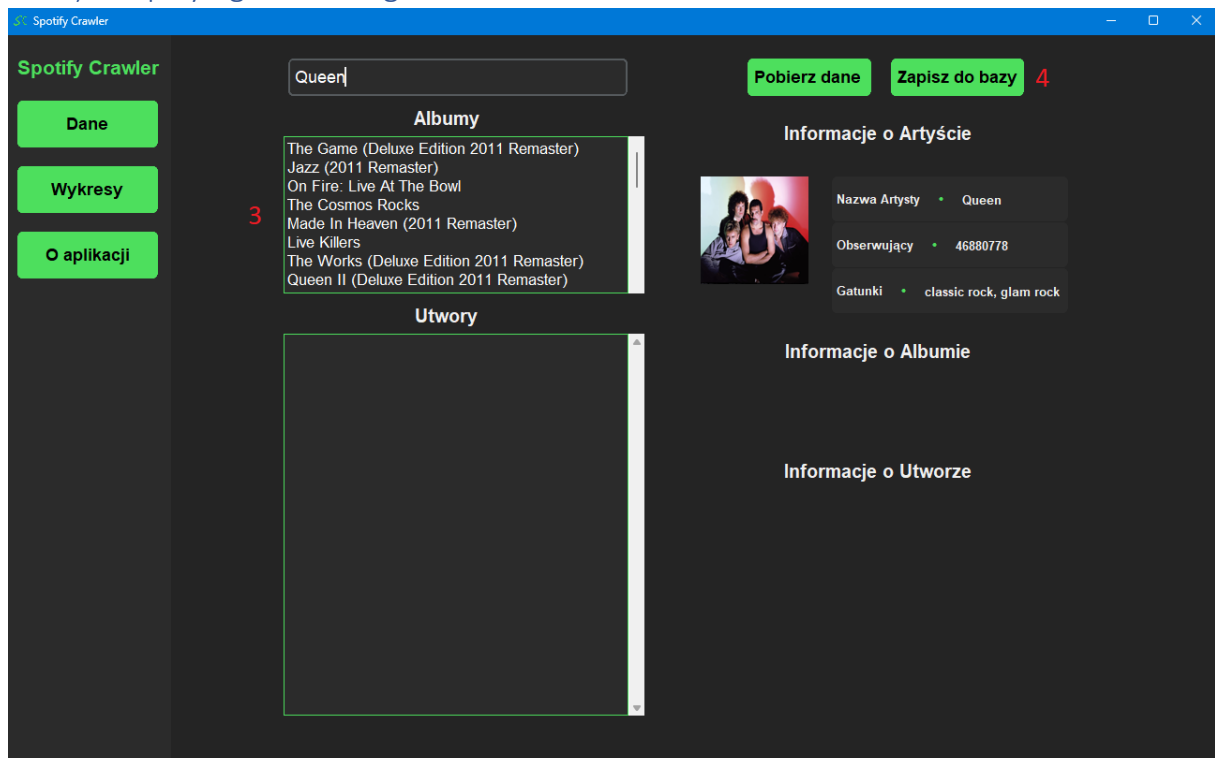
3 – The list displays information about albums by a specific artist, and you can select the album you're interested in to view its details.

4 – The button is used to save album information to the database. This action is necessary and can be performed at any time when you have a selected album on the album list if you want to later view charts.

5) Displaying song information:

5 – The list displays information about songs from the previously selected album, and you can choose the song you are interested in to view its details.

6) Switching to the Charts tab

6 – By clicking the "Charts" button, you will navigate to the next window where you will find graphical representations of song information (remember to save album data to the database beforehand).
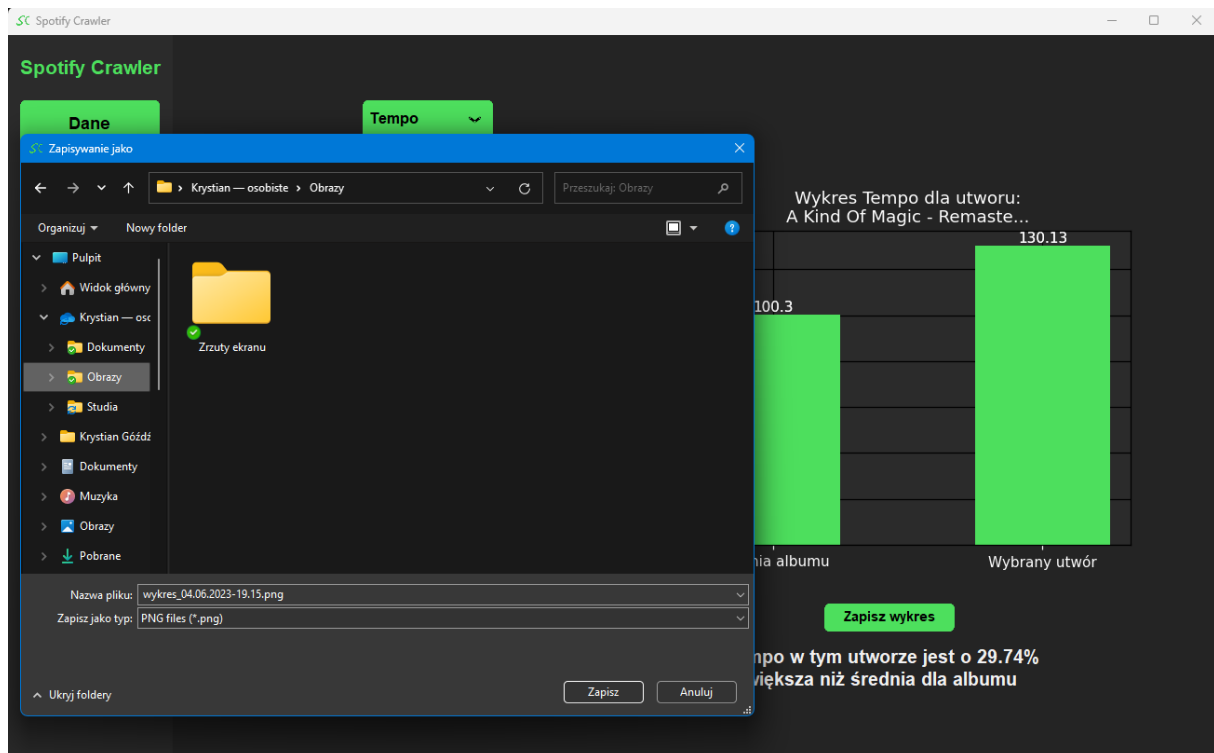
7) Charts tab
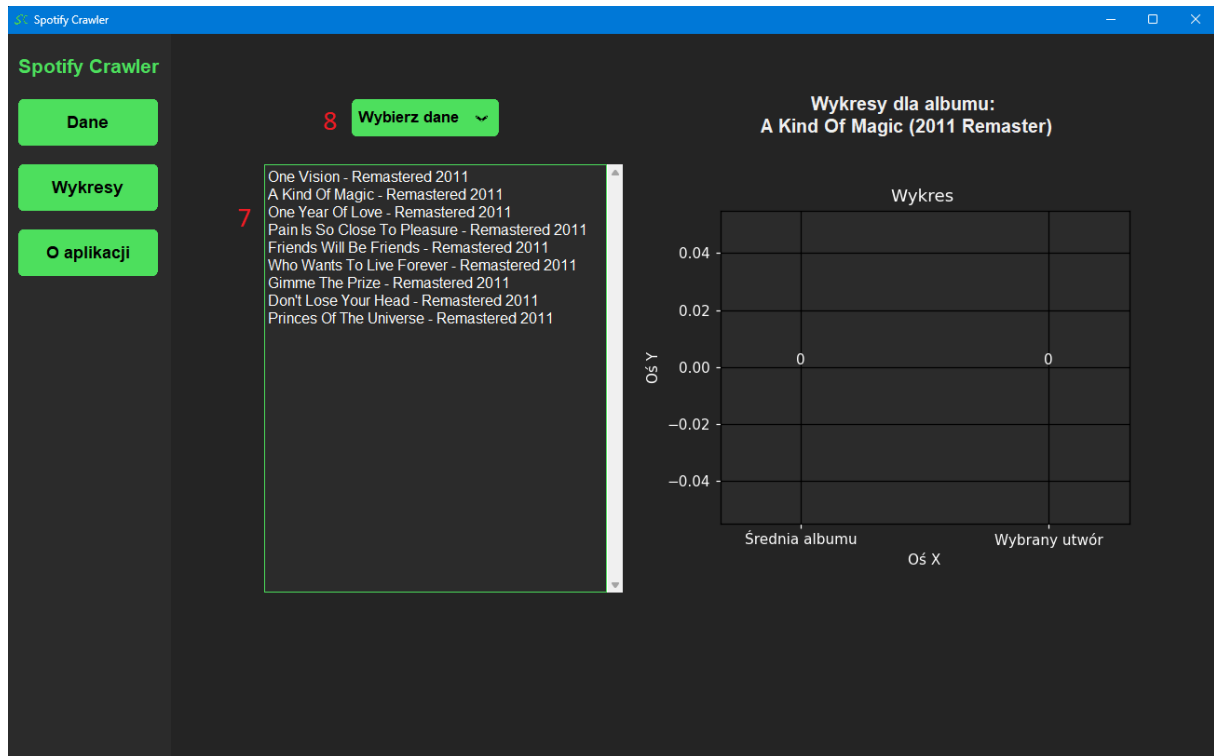
7 - The list displays songs from the album that was previously saved to the database. You can now select a song you want to compare with the average for other songs.

8 – Using the dropdown menu, you can select the category of data that interests you.

8) Saving the charts

9 – Using the "Save Chart" button, you can save it on your system.

9) The tab with information about the application

Spotify Crawler

Dane

Wykresy

O aplikacji

Informacje o aplikacji

- Nazwa: Spotify Crawler
- Wersja: 1.0.1
- Autor: Krystian Góźdź
- Data utworzenia: 01-06-2023
- Opis:
Ta aplikacja służy do pobierania informacji o artystach, albumach i utworach ze Spotify, aby wydobyć te dane komunikauje się z API tego serwisu a następnie przetwarza i prez entuje je z pomocą tabel oraz wykresów.