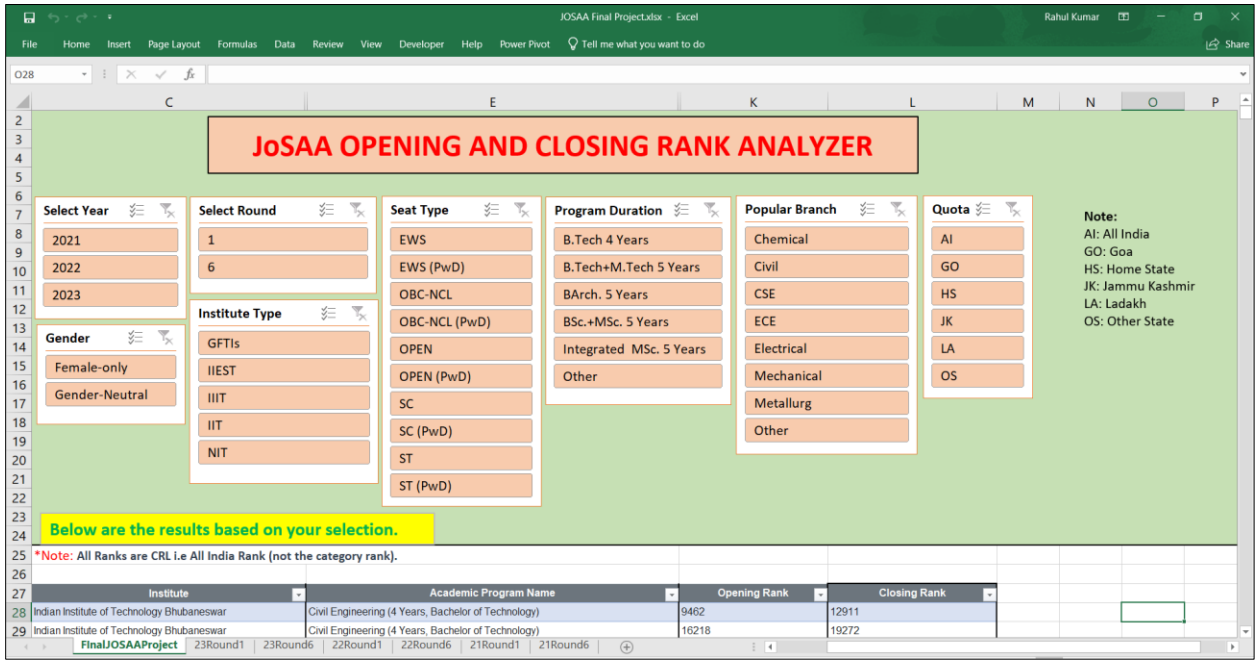
Description about the project…



Screenshot of Excel Interface (Dynamic Dashboard)

Here is a bit more explanation about my project.

1. Context and Problem Statement:

- **Background:** Every year, around 2 million students take the JEE exam and use the JoSAA portal to determine their college preferences based on opening and closing ranks.
- **Problem:** The JoSAA portal requires students to spend considerable time searching for trends in previous years' data, and it offers limited filtering options, making it cumbersome to compare multiple criteria simultaneously.

2. Project Objective:

- **Solution:** To address this issue, I created a user-friendly Excel interface that allows students to filter and analyze opening and closing ranks based on multiple criteria simultaneously, which the JoSAA portal does not offer. My tool also works offline, providing additional convenience.

3. Data Collection and Preprocessing:

- **Data Extraction:** I collaborated with a friend to learn web scraping using tools likeBeautifulSoup and Selenium. We wrote Python scripts to automate the extraction of data from the JoSAA website, which was in raw HTML format. We then converted this data into structured tables using dataframes.

- **Data Cleaning:** After extracting the data, I cleaned and merged eight different tables into a single, comprehensive file using Excel. This step was crucial for preparing the data for further analysis and filtering.

4. Excel Interface and Features:

- **Interface Design:** I designed the Excel interface with over 8 slicers, allowing users to filter the data based on multiple criteria such as year, branch, college, category, gender, and quota. This was an improvement over the JoSAA portal, which only allowed single selections with fewer filters.
- **Automation:** To streamline the data processing, I automated repetitive tasks using Excel Macros, making the tool more efficient and user-friendly.
- **Impact:** I tested the tool with my cousin and his friends during their admissions process, and they found it extremely helpful. It saved them time and provided more flexibility in their decision-making process.

5. Future Enhancements:

- **Predictive Features:** I'm currently exploring the addition of predictive features using machine learning to forecast future opening and closing ranks based on historical data. I'm actively learning the necessary skills to implement this.

6. Technical Skills and Learning:

- **Tech Stack:** The project primarily used MS-Excel, Selenium for web scraping, and Python for data handling. Through this project, I gained hands-on experience in web scraping, data preprocessing, and Excel automation.
- **Collaboration and Learning:** Working with a friend helped me quickly learn new tools and apply them effectively. This project also demonstrated my ability to tackle real-world problems and create practical solutions.

Conclusion:

- **Summary:** This project not only provided a useful tool for students navigating the JoSAA process but also allowed me to develop and demonstrate a range of technical skills. It was a valuable learning experience that I'm eager to build on, especially with the potential future enhancements I have planned.

Thank you.!!