Documentation

2022-FIFA-WC-Stats Program

What it is and what it does:

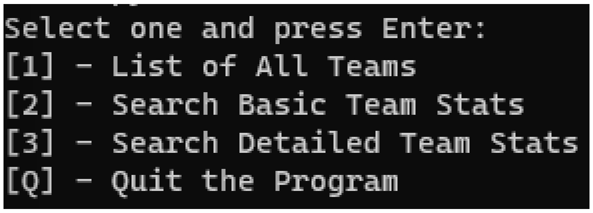
The 2022-FIFA-WC-Stats Program lets users answer statistical queries about the 2022 FIFA World Cup Teams and Groups. Users are able to enter a team name and see statistics on the team's performance in the 2022 World Cup displayed in the command line. There is also an option to export/print the retrieved data to a text file.

There are options for basic and detailed statistics on each team. The basic information includes the Name of the Team, Total Historical World Cup Wins, Group Name, Group Rank, Total Games, Group Wins, Groups Losses, and Total Goals. The detailed information contains more statistics such as Total Players, Average Player Age, Yellow Cards, Red Cards, Fouls, Offsides, Own Goals, Total Shots, Shots on Target, Pens Made, Corners Taken, Passes Complete, and Total Saves.

How to use the program:

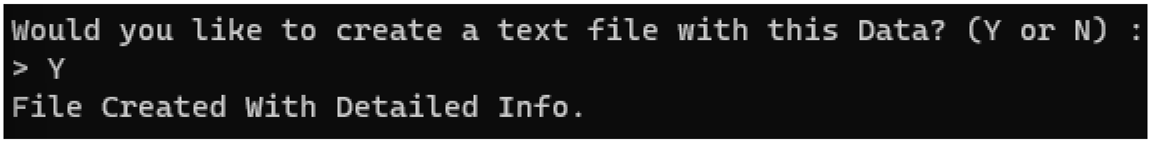
This program requires Python to be installed and runs in the command line. To download and install Python visit this website. Then follow these steps:

1. Visit the GitHub repository here. It contains the required script, data files, and the latest documentation.
2. Download the Python file named worldcupstats.py and the CSV files named group_stats.csv and team_data.csv.
3. Make sure all three files are in the same directory or folder.
4. Open up the terminal and navigate to the directory where the three files are located.
5. Once in the correct directory, type in python worldcupstats.py and press enter to run the program.
6. Once run, the program will ask for the following input:



```
Select one and press Enter:
[1] - List of All Teams
[2] - Search Basic Team Stats
[3] - Search Detailed Team Stats
[Q] - Quit the Program
```

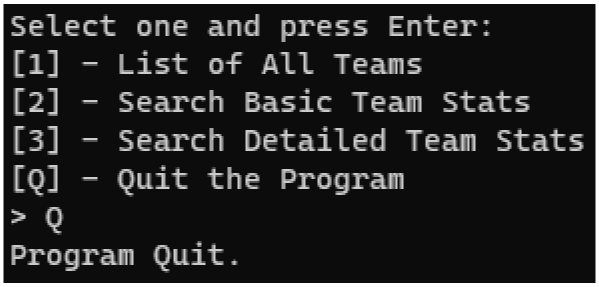
7. Entering 1 will display a list of all the teams in the 2022 World Cup.
8. Entering 2 or 3 will prompt the user to enter a team name. Then if 2 was entered, basic statistics will be displayed for the specified team. If 3 was entered, detailed statistics will be displayed for the specified team.
9. The next option asks if you would like to create a text file with the retrieved team data. Entering N will prompt the first set of choices again.



```
Would you like to create a text file with this Data? (Y or N) :
> Y
File Created With Detailed Info.
```

Entering Y will create a new text file in the same directory. The file will be named 2022_WC_{TeamName}_Stats.txt and contain the statistics for the specific team with the specified amount of information.

10. To stop the program, enter Q when prompted with the following choices:



```
Select one and press Enter:
[1] - List of All Teams
[2] - Search Basic Team Stats
[3] - Search Detailed Team Stats
[Q] - Quit the Program
> Q
Program Quit.
```

Annotated Bibliography

Link to the dataset we used from Kaggle:

Swaptr. (2022, December 19). *FIFA World Cup 2022 team data*. Kaggle.

https://www.kaggle.com/datasets/swaptr/fifa-world-cup-2022-statistics

Kaggle is a subsidiary of Google. The Kaggle website provides a platform for people to share and use data with others. We utilized Kaggle to find datasets containing the statistics for the 2022 FIFA World Cup groups and teams. This is the link to the specific dataset we used in our program.

Link to the Wikipedia webpage we scraped data from:

List of FIFA World Cup finals. (2023, April 18). In *Wikipedia*.
https://en.wikipedia.org/wiki/List_of_FIFA_World_Cup_finals

Wikipedia provides data on many topics and subjects. In our project, we used the page on the List of FIFA World Cup finals to gather data on each team's historical world cup wins. This data was not provided in our original dataset. So, we used web scraping to get the total number of wins for each team. We also ensured the data was accurate by comparing it to the official FIFA records.

Link to the website we used as a reference for developing our program:

Schools, W. (n.d.). *Python Tutorial*. Python tutorial.

https://www.w3schools.com/python/

W3Schools provides coding/programming examples and tutorials. We referenced the Python tutorials and examples when writing the code for our project. For example, we referenced the correct syntax for dealing with file input, output, and creation.

Link to the other website we used for developing our program.
More specifically, for web scraping:

Prasad, A. (2021, January 24). *Beautifulsoup - scraping paragraphs from HTML*. GeeksforGeeks.

https://www.geeksforgeeks.org/beautifulsoup-scraping-paragraphs-from-html/

GeeksforGeeks is another site that provides tutorials, instructions, and examples for various programming languages. We used this article on BeautifulSoup to guide us while implementing the web-scraping part of our project.