**CGS Technovation Writeup**

Explanation of the code and its functionality:

The program first uploads a .csv file using pandas, provided in the repository. This file contains the unemployment rate of all the states in India from January 2020 to January 2023. The user is then asked to enter the state’s name, year, and month to find the unemployment rate. A total of 5 arrays are created to store data on unemployment rates. Next, I format the year and month such that if the year was 2020, and the month was 3, the result would be 202003. This allows me to search for the specific year and month of the given state. After this, I use CSV library to manage my file and extract specific data into the arrays, ie., the rows in which the state name is what was entered by the user. Finally, I use the binary search algorithm to find the specific year and month within those rows. The code outputs the unemployment rate of the state, then that of India, and the difference between both.

Intended use and application:

With this program, people can learn and get to know about the unemployment rate of the state they live in and how it compares at the national level. It states the economic condition of the state and that of India. With further developments, the program could display the entire economic state and health of India, with the data being provided by the government itself.

How the code can be utilized in future projects, and its benefits on the people

This code can be used in auto-completion programs to find the closest word to the one it has to auto-complete. Tech industry usage to manage resources efficiently, by figuring out the number of CPUs required to handle a predicted load. Finally, gene sequencing programs detect genome fragments, based on samples given.

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