**Project Report: U.S. States Guessing Game with Turtle Graphics**

**\*\*1. Introduction\*\***

**This project presents a U.S. States guessing game using Python's Turtle Graphics module and the Pandas library. The game displays a map of the United States and prompts the user to guess the names of different states. The program keeps track of the correctly guessed states and, if needed, provides a CSV file "states\_to\_learn.csv" containing the names of states that were not guessed correctly.**

**\*\*2. Libraries Used\*\***

**The project employs two main libraries:**

**- Turtle Graphics: Used for creating the interactive map and displaying the states on the screen.**

**- Pandas: Used to read the data from the CSV file and handle data manipulation.**

**\*\*3. Game Description\*\***

**The game starts by displaying a blank map of the United States. The user is asked to guess the names of the states one by one. If the user enters the correct state name, the state is displayed on the map. The user can continue guessing until all 50 states are guessed correctly. The number of correctly guessed states is shown in the game title.**

**\*\*4. Data Source\*\***

**The data required for this game is stored in the "50\_states.csv" file. This CSV file contains information about the 50 U.S. states, including their names and corresponding coordinates (x, y) to display them on the Turtle Graphics screen.**

**\*\*5. Game Flow\*\***

**1. Import the necessary libraries, initialize the Turtle Graphics screen, and load the U.S. map image.**

**2. Read the state data from "50\_states.csv" into a Pandas DataFrame, and extract the list of all states.**

**3. Start a loop to prompt the user for state names and keep track of the correctly guessed states.**

**4. If the user enters "Exit" instead of a state name, the loop breaks, and a new CSV file named "states\_to\_learn.csv" is created. This file contains the names of states that the user did not guess correctly.**

**5. For each correctly guessed state, its name is added to the `guessed\_states` list, and the state name is displayed on the map using Turtle Graphics.**

**6. The game continues until all 50 states are correctly guessed.**

**\*\*6. Conclusion\*\***

**The U.S. States guessing game developed using Python's Turtle Graphics and Pandas library is an interactive and educational way for users to learn the names and locations of the 50 U.S. states. The game encourages users to engage with geography and enhance their knowledge while having fun.**

**Players can challenge themselves to remember the names of all 50 states and improve their familiarity with the geography of the United States. The "states\_to\_learn.csv" file generated after the game can provide a personalized list of states that the player needs to focus on learning.**

**\*\*7. Further Improvements\*\***

**To further enhance the game, the following improvements can be considered:**

**- Visual Enhancements: Add colors to the states or use different symbols to represent correctly guessed states, making the map more visually appealing.**

**- Multiple Levels: Create different levels of difficulty with varying numbers of states to guess.**

**- Timer: Implement a time limit for each state guess to add a sense of urgency and excitement to the game.**

**- High Scores: Keep track of the fastest or most accurate players and display high scores.**