Documentation:

The purpose of this project is to create a medical residency lottery program for UCR. The program aims to help users determine their chances of securing their preferred medical specialization and country for residency based on their language fluency and country preference. To achieve this, the program interacts with the user by prompting them to select their desired medical specialization, language of communication, and preferred country. It then calculates the probabilities of securing the desired specialization and country based on the chosen options .The calculations in the program are implemented using conditional statements. The program assigns specific probabilities to language fluency, country preference, and specialization selection. These probabilities are then adjusted using language fluency weight and country language match weight. Finally, the program generates a random lottery number and compares it with the calculated probabilities to determine the outcome. It's important to note that the program has certain limitations.. Additionally, expanding the options for specializations, languages, and countries would provide users with a wider range of choices and more accurate results.

Pseudo code

. Display program title and instructions

2. Prompt user to select their desired medical specialization

3. Read user input for specialization

4. Prompt user to select their preferred language of communication

5. Read user input for language

6. Prompt user to select their preferred country for medical residency

7. Read user input for country

8. Generate a random lottery number between 1 and 100

9. Assign the lottery number to a variable (lotteryNumber)

10. Calculate probabilities based on language fluency and country preference

11. Assign the corresponding probabilities to variables (countryProbability, specializationProbability)

12. Display the lottery result:

if lotteryNumber <= 70 then

Display "Congratulations! You have secured your preferred country."

if lotteryNumber <= 40 then

Display "You have also obtained your desired specialization."

else

Display "However, you did not obtain your desired specialization."

end if

else

Display "Unfortunately, you did not secure your preferred country and specialization."

end if

13. Display lottery information:

Display "Your lottery number: " + lotteryNumber

14. Display calculated probabilities:

Display "Probability of securing your preferred country: " + (countryProbability \* 100) + "%"

Display "Probability of securing your desired specialization: " + (specializationProbability \* 100) + "%"

15. Display additional information based on language selection:

if language == "1" then

Display "English is widely spoken in medical institutions around the world."

else if language == "2" then

Display "Spanish is commonly spoken in medical institutions in Latin America and Spain."

else if language == "3" then

Display "French is commonly spoken in medical institutions in France and some African countries."

else if language == "4" then

Display "Arabic is commonly spoken in medical institutions in the Middle East."

end if

16. Display additional information based on specialization selection:

if specialization == "1" then

Display "Cardiology focuses on the diagnosis and treatment of heart-related diseases."

else if specialization == "2" then

Display "Dermatology deals with the diagnosis and treatment of skin-related conditions."

else if specialization == "3" then

Display "Neurology specializes in the diagnosis and treatment of disorders of the nervous system."

end if

17. Display program conclusion message