**A medical doctor wants to reduce blood sugar level of all his patients by altering their diet. He finds that the mean sugar level of all patients is 180 with a standard deviation of 18. Nine of his patients start dieting and the mean of the sample is observed to 175. Now, he is considering to recommend all his patients to go on a diet.**

**Note: He calculates 99% confidence interval.**

**1. What is the standard error of the mean?**

**2. What is the probability of getting a mean of 175 or less after all the patients start dieting?**

**3. Read the dataset from the below path:**

[**https://raw.githubusercontent.com/sushma-projects/ML-Projects/master/Datasets/cities.csv**](https://raw.githubusercontent.com/sushma-projects/ML-Projects/master/Datasets/cities.csv)

1. **Analyze the top 5 cities with highest number of female graduates**
2. **Find the 5 cities with lowest number of female graduates and concatenate the two dataframes of top 5 cities with bottom 5 cities**
3. **Display only the rows which belong to Kerala, Bihar and Maharashtra.**
4. **Find the top 10 cities with highest total graduation rate**
5. **Calculate the average child sex ratio of the Kerala State.**