**PDS Assignment 3**

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**Task 1:** Seed setting to ensure the work reproducibility. Which means it always takes the same random values while running the analysis.

I have set seed value 144. This means, whenever I run the analysis, the samples are always taken from 144. In task 1, I have taken 25 observations and find the glucose mean value and the high value. I have also found the mean and highest values of glucose for overall population as well using inbuilt functions. Bar chart is used to compare the two results. The mean value in sample data is little higher compared to the overall data but the highest glucose value is almost same in both datasets.

**Task 2:** It is to find the 98 percentiles of (BMI) body mass index which means we need to analyze and find the represents a BMI value below which 98% of the data falls. There is a substantial

Difference between the BMI of sample and overall population. Overall stands at 47.5 while the sample BMI falls at 41.6. Bar chart is used for the comparison.

**Task 3:** 500 samples with 150 samples each, which means 500 sample datasets with 150 observations each. I am finding the mean, standard deviation, and percentile of blood pressure of these samples and compare these statistics with the overall population.

Task 3 results are almost similar with a difference in decimal values because of bootstrap.

Population Mean BloodPressure: 69.10546875

Population Standard Deviation BloodPressure: 19.343201628981696

Population Median BloodPressure: 72.0

Average Bootstrap Mean BloodPressure: 69.07224000000001

Average Bootstrap Standard Deviation BloodPressure: 19.212853353133614

Average Bootstrap Median BloodPressure: 71.479