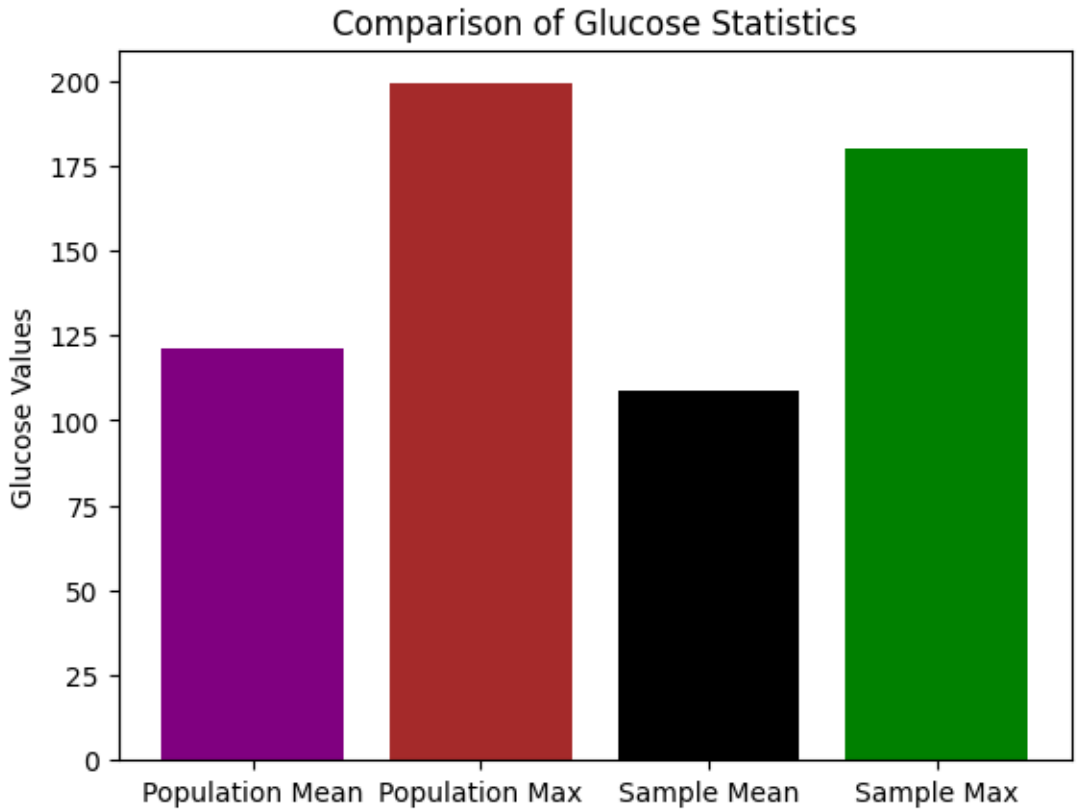
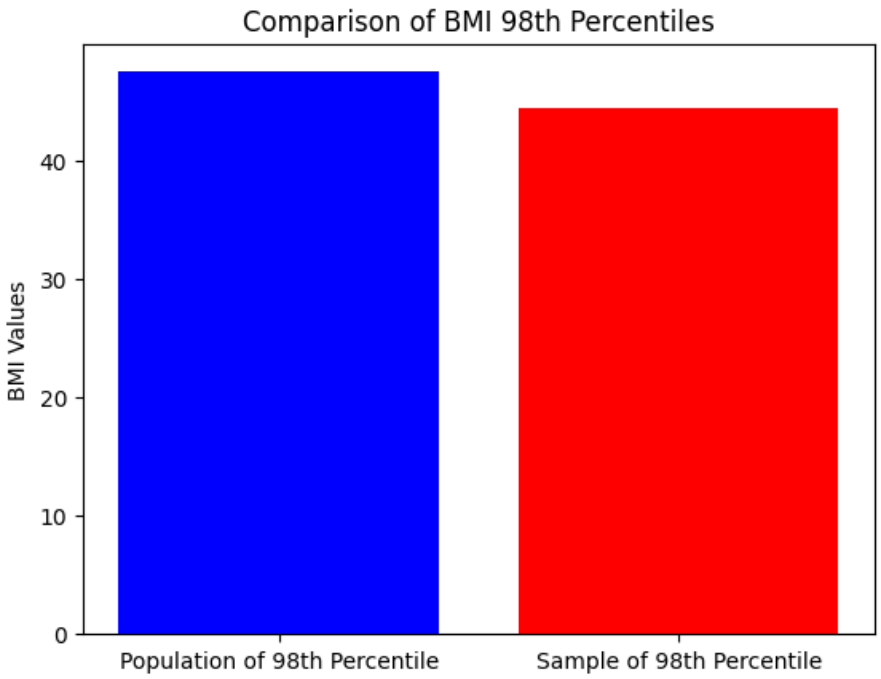
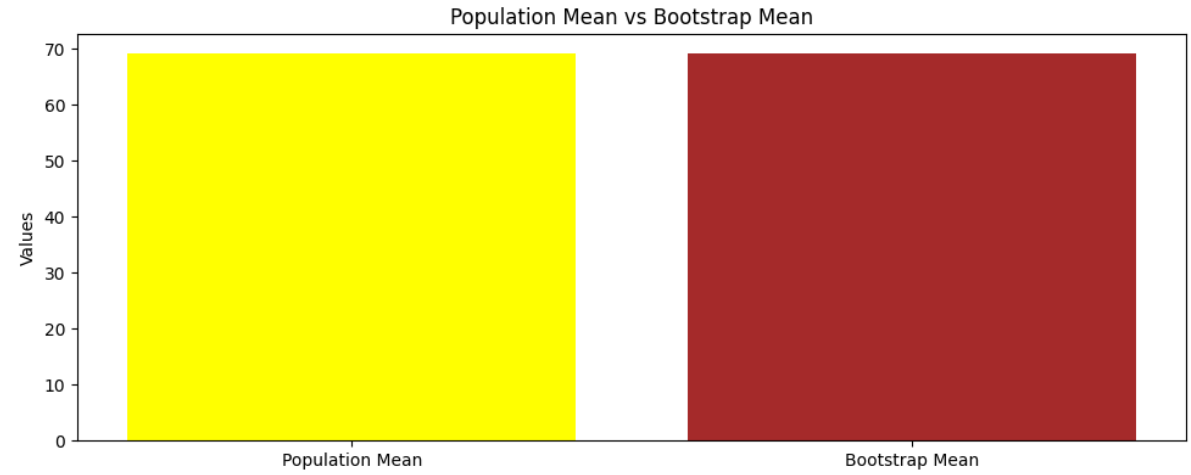
Assignment 4
16345434
Naga Venkata Manoj Chirravuri

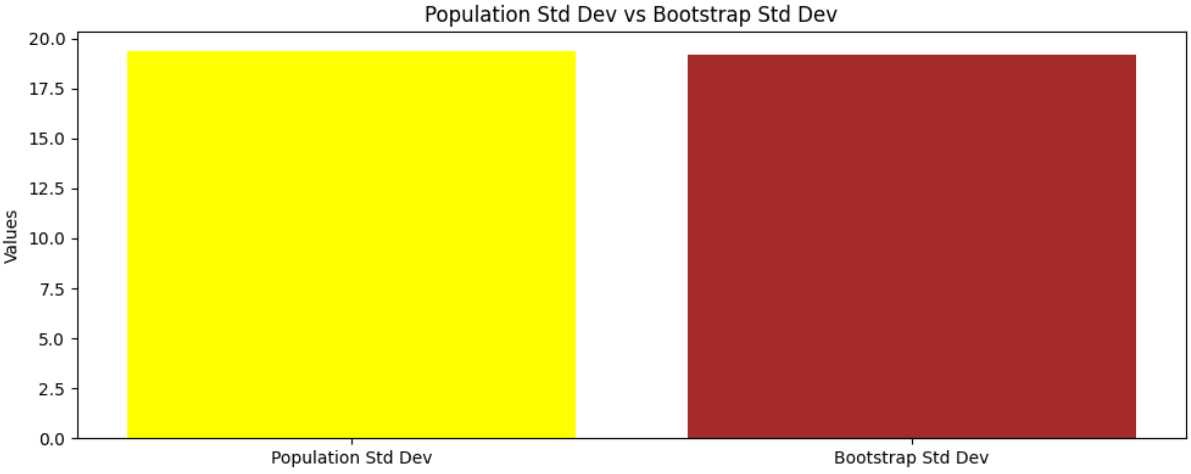


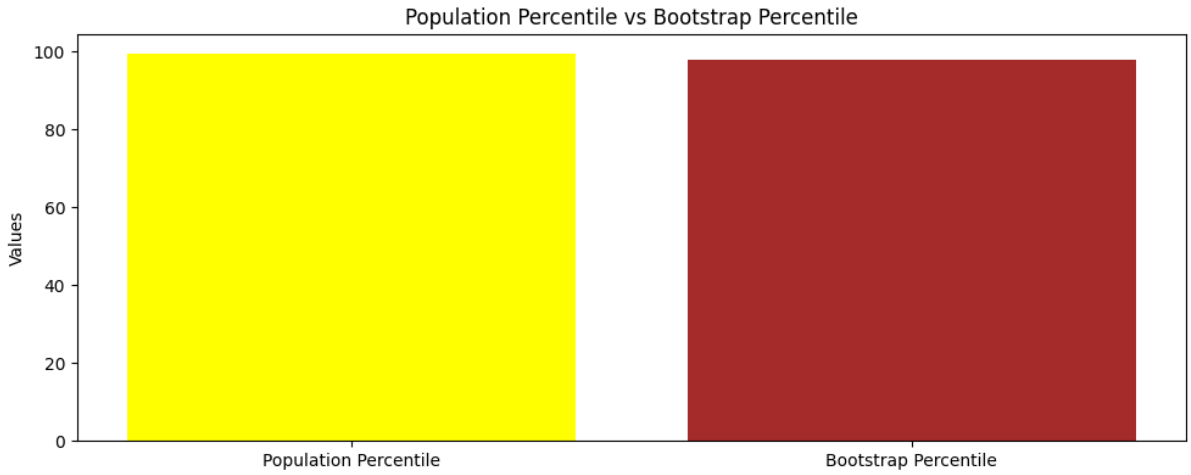
• **Calculating statistics:** Determines mean and maximum glucose levels for the full dataset and sample.
• Uses a bar chart to visually compare statistics.



- **Calculating percentiles**: Determines the 98th percentile of BMI for both the full dataset and the sample.
- **Bar chart for BMI percentiles**: Shows these values in a bar chart, facilitating a visual comparison.







- **Bootstrap Sampling**: This statistical technique involves repeatedly sampling with replacement to estimate the distribution of an estimator.
- **Calculating bootstrap statistics**: Computes the mean, standard deviation, and 98th percentile for 500 bootstrap samples.
- **Comparing population and bootstrap statistics**: Visualizes these comparisons in a series of bar charts, showing how well the bootstrap samples represent the entire population.
- **Subplots for visualization**: Displays three separate bar charts in one figure, each comparing population values against bootstrap estimates (mean, standard deviation, and 98th percentile).

- **Layout adjustments**: `plt.tight_layout()` improves the spacing between the plots to prevent overlap.