1. **Analyze the demographic profiles of three counties:** Evaluate and visualize the demographic characteristics (race, gender, and education) for each county using pivot tables (Excel) or Pandas (Python).
   * **Deliverable:** A summary of demographic data visualized through pie or bar charts, including a comparison of racial and gender distributions across the three counties.

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1. **Evaluate risk scores across demographic groups:** Analyze the distribution of risk scores by race and gender within each county.
   * **Deliverable:** A summary table showing average risk scores for each demographic group, with accompanying visualizations (e.g., bar charts). Include an analysis of how risk scores vary across the counties and demographic groups.

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1. **Compare judges’ bail decisions to AI risk scores:** Investigate the alignment between judges’ bail decisions and AI-generated risk scores across different racial and gender groups.
   * **Deliverable:** Cross-tabulate risk scores and judges’ decisions (e.g., using stacked bar charts) to evaluate consistency. Discuss any patterns of bias in decision-making, highlighting discrepancies between groups.

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A graph of a judge decision

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1. **Analyze re-offense rates and fairness metrics:** Calculate re-offense rates and key fairness metrics, including False Positive Rate (FPR) and False Negative Rate (FNR), for each racial group.
   * **Deliverable:** Bar charts comparing FPR and FNR across racial groups, accompanied by an interpretation of any disparities observed.

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