**Group 1: Regular Data Science Questions**

1. What is the average age of candidates from each political party?

Democrat: Approximately 39.63 years; Independent: Approximately 41.88 years; Republican: Approximately 47.24 years

1. Calculate the median income of candidates who have a 'College' education.

$60,000

1. What percentage of candidates have an approval rating higher than 70%?

20%

**Group 2: Multistep Hard Data Science Questions**

1. Group the dataset based on 'Education' level. Within each group, what is the difference between the maximum and minimum approval rating?

College: 30%; High School: 33%; Some College: 22%

1. For candidates aged between 30 and 50, find the average income for those who won and those who lost the election.

Won: $52,857; Lost: $49,357

1. Identify the education level that has the highest average income among candidates who lost the election.

Some College

1. Calculate the standard deviation of the age for each party. Which party shows the highest variability in age?

Republican Party

1. Find the correlation between 'Age' and 'Approval Rating' for candidates with an income higher than $70,000.

-0.19

1. What is the average approval rating for candidates who have an 'High School' education and have won the election?

51.29%

**Group 3: Multistep Data Analysis and Machine Learning Questions**

1. Use linear regression to predict 'Approval Rating' based on 'Age' and 'Income'. What is the predicted approval rating for the individual with ID 10?

0.526

1. Utilize the Gaussian Naive Bayes algorithm to predict the political 'Party' based on 'Age', 'Income', and 'Approval Rating'. What is the predicted party for the individual with ID 20?

Republican

1. Classify individuals into two income groups: above and below the median income. Use the K-Nearest Neighbors algorithm with 'Age' and 'Approval Rating' as features. What income group does the individual with ID 3 belong to?

The group below the median income group

1. Perform PCA on the dataset to reduce it to 2 principal components. What are the values of the first two principal components for the individual with ID 5?

-2.725 and 0.141

1. Implement a k-nearest neighbors (KNN) algorithm to predict 'Income' using 'Age' and 'Approval Rating'. What is the predicted income for a 30-year-old with an approval rating of 80?

$51,800

1. Use a ridge regression model to predict 'Approval Rating' based on 'Age', 'Income', and 'Education'. For a candidate aged 55 with an income of $80,000 and a 'High School' education, what is the predicted approval rating?

56.57%