The salary data frame contains information about 474 employees hired by a Midwestern bank between 1969 and 1971. It was created for an Equal Employment Opportunity (EEO) court case involving wage discrimination. The file contains beginning salary (SALBEG), salary now (SALNOW), age of respondent (AGE), seniority (TIME), gender (SEX coded 1 = female, 0 = male) among other variables.

1. Read the dataset "salary.sav" as a data frame and use the function str() to understand its structure.

2. Get that summary statistics of the numerical variables in the dataset and visualize their distribution (e.g. use histograms etc). Which variables appear to be normally distributed? Why?

3. Use the appropriate test to examine whether the beginning salary of a typical employee can be considered to be equal to 1000 dollars. How do you interpret the results? What is the justification for using this particular test instead of some other? Explain.

4. Consider the difference between the beginning salary (salbeg) and the current salary (salnow). Test if the there is any significant difference between the beginning salary and current salary.(Hint: Construct a new variable for the difference (salnow – salbeg) and test if, on average, it is equal to zero.). Make sure that the choice of the test is well justified.

5. Is there any difference on the beginning salary (salbeg) between the two genders? Give a brief justification of the test used to assess this hypothesis and interpret the results.

6. Cut the AGE variable into three categories so that the observations are evenly distributed across categories. Assign the cut version of AGE into a new variable called age_cut. Investigate if, on average, the beginning salary (salbeg) is the same for all age groups. If there are significant differences, identify the groups that differ by making pairwise comparisons. Interpret your findings and justify the choice of the test that you used by paying particular attention on the assumptions.

7. By making use of the factor variable minority, investigate if the proportion of white male employees is equal to the proportion of white female employees.