**Assignment 2**

**Q1. Run descriptive analysis for Promotion, GPA, Sex, School, and Salary. Report only the meaningful analysis and explain why you think it is meaningful.**

The variables with Promotion, Sex, and School are Nominal/Ordinal types of data measurements, and from the learned scripts, we can only perform counting or ordering operations based on the requirement for doing quantitative operations, which will not make much difference for the statistical studies.

GPA is an Interval type of data measurement and Salary is a Ratio data type measurement where we can perform central tendency with all arithmetic operations to know the characteristics of the data for analysis.



1. **Use the dataset for Case 1 and perform an adequate test for each hypothesis. Interpret the results.**

**H1: Salaries of female employees is significantly more than male employees.**

The p-value tested with Z-test is 0.13, at the 95% confidence interval, the p-value is more than the alpha value, and the test is statistically insignificant. This is a z-right tail test and the value of z-critical is 1.64 and z=-1.12, which is under the acceptance range and we fail to reject the null hypothesis. H1 is not supported.



**H2: Salaries of employees graduating from different universities are significantly different.**

Yes, the salaries vary differently depending on the University. From the below table, the p-value is 0.73 at a 95% confidence interval which is statistically insignificant. Since the p-value is more than the alpha value and also the F-critical value compared with the F-value. Therefore, the null hypothesis is rejected, hence H2 is supported.

