

## ISM 370

### Module 8 Project

<b>Project Name</b>	Group Comparisons - Consumers
<b>Project Due Date</b>	Sunday by 11:59pm
<b>Requirements</b>	
<p>In this project, you will perform group comparisons and hypothesis testing on a data set that includes data on consumers. You will use descriptive statistics, box plots, hypothesis testing, and t-tests to analyze the data.</p> <p>Requirements:</p> <ol style="list-style-type: none"><li>1. Read in the consumer_income.csv file into your Python project. This file includes data about consumers.</li><li>2. Remove the records with missing data by using a drop method.</li><li>3. Create two subsets of data, one that includes married consumers and one that includes single consumers. (Don't include the other marital status categories in either subset.)</li><li>4. Generate descriptive statistics of the two types of consumers.</li><li>5. Generate box plots showing the comparison of income for married vs. single consumers.</li><li>6. Formulate a hypothesis based on the research question of whether there is a significant difference between the incomes, number of children at home, and numbers of teens at home for married consumers compared to single consumers. Use a significance level of 0.05. Print and label your hypotheses using print functions so they display in the output window.</li><li>7. Conduct t-tests to determine whether the means of the two groups (income, kids at home, teens at home) are significantly different.</li><li>8. Interpret the results of the t-tests, including the p-values, and draw conclusions about whether the hypotheses are supported or rejected. Print your interpretations and conclusions as output.</li></ol>	
<b>Completion</b>	
<p>Only successful completion of this program and all the requirements will result in high marks. You are welcome to add additional functionality and to utilize your creativity in making the program even better.</p>	
<b>Deliverable</b>	
<p>Submit your Python file to Canvas.</p>	