**HUYNH DO**

**Module 4C, Part 2/2**

1. **State the purpose of the exercise**

The purpose of this exercise is to determine there is a relationship between “**Age**” and “**Weeks Worked Last Year**” using Pearson and graph techniques. Specifically, the following objectives are covered:

1. Examine the Linear Relationship:
* To determine whether both “Age” and “Weeks Worked Last Week” qualify for linear association. If yes, then what how workforce is impacted by age.
1. The magnitude and direction of Correlation:
* Calculate and understand the relationship's strength and direction (**negative** or **positive**) via the **Pearson correlation coefficient**.
1. Data Patterns Visualization:
* Create scatterplots with regression line and histograms, visually representing the relationship between age and weeks worked by identifying the trends, clusters, and potential outliers. More importantly, ensure that the observation should agree with the confirmed hypothesis.
1. **Interpret the findings**
* The findings highlight a **moderate negative implication** between age and weeks worked, confirming that when people get older, they tend to work less.
* The data patterns, such as the clusters at 0 and whole year (52 weeks), indicate common workforce behaviors, with younger and middle-aged people more likely to work full-time and older individuals.
* These insights are valuable for understanding workforce trends and can guide policies to support various age groups in the labor market, from facilitating younger individuals’ entry to offering flexible options for older workers.