

1. **'Income'** dataset is a simulated dataset used in the reference book titled '*An Introduction to Statistical Learning*'.
 - a. Draw a suitable graph to explore the relationship between **Income** and years of education, **Education**.
 - b. Fit a simple linear regression model to predict the **Income** using **Education**. Illustrate this fitted line on the graph drawn in a).
 - c. Fit a polynomial regression with order 3 to predict **Income** using **Education**. Illustrate the fitted curve on the graph drawn in a).
 - d. Which model provides a better fit to the data?
 - e. Explore whether the variable **Seniority** is related with Income.
 - f. Draw a 3D plot to visually illustrate the relationship between all three variables.
 - g. Fit a linear regression model to predict **Income** using both **Education** and **Seniority**. Represent the fitted regression plane on the graph drawn in f).