Lesson Summary

In this lesson, you have learned how to:

**Define the explanatory variable and the response variable:** Define the response variable (y) as the focus of the experiment and the explanatory variable (x) as a variable used to explain the change of the response variable. Understand the differences between Simple Linear Regression because it concerns the study of only one explanatory variable and Multiple Linear Regression because it concerns the study of two or more explanatory variables.

**Evaluate the model using Visualization:** By visually representing the errors of a variable using scatterplots and interpreting the results of the model.

**Identify alternative regression approaches:** Use a Polynomial Regression when the Linear regression does not capture the curvilinear relationship between variables and how to pick the optimal order to use in a model.

**Interpret the R-square and the Mean Square Error:** Interpret R-square (x 100) as the percentage of the variation in the response variable *y*  that is explained by the variation in explanatory variable(s) *x.* The Mean Squared Error tells you how close a regression line is to a set of points. It does this by taking the average distances from the actual points to the predicted points and squaring them.