IDC4251C Module 8 Project: Linear Regression with PowerBI

For this assignment we will work with linear regression using Power BI.

Follow the steps in the "How to do Simple Linear Regression in Power BI" tutorial provided in this module. This document and the associated data file "salary_data.xlsx" can be found in the GitHub Classroom repo. You can also use the simplified instructions included below.

Submit your completed Power BI workbook to the repo.

Simplified Instructions

- Create a new workbook page.
- Load the salary data from the CSV file. No transformation is necessary.
- Create a scatter plot of the data with YearsExperience on the x-axis and Salary on the y-axis.
- Add a trend line to the scatter plot using the “Add further analyses” tool (the magnifying glass while the scatter plot visual is selected).
- Select the Modeling tab (or select the table in the Data pane and then select Table Tools) and add the following columns and measures:
    - **Columns:**
      xsq = Salary_Data[YearsExperience]^2
      xy = Salary_Data[YearsExperience]*Salary_Data[Salary]
    - **Measures:**
      n = COUNTROWS(Salary_Data)
      xysum = SUM(Salary_Data[xy])
      xsum = SUM(Salary_Data[YearsExperience])
      ysum = SUM(Salary_Data[Salary])
      xsqrsum = SUM(Salary_Data[xsq])
      m = DIVIDE([n]*[xysum]-[xsum]*[ysum], [n]*[xsqrsum]-[xsum]^2, 0)
      b = DIVIDE([ysum]*[xsqrsum]-[xsum]*[xysum], [n]*[xsqrsum]-[xsum]^2, 0)
- Create the What-If parameter with the following fields using the Modeling/New Parameter menu:
    - Numeric Range
    - Name: x (Years of Experience)
    - Data Type: Whole number
    - Minimum: 0
    - Increment: 1
    - Maximum: 30
    - Default: leave blank

  This will add a Slicer to the page.

- Create the Predicted Salary Measure:
    - Predicted Salary = ([m]* 'x (Years of Experience)'[x (Years of Experience) Value] + [b])
- Insert a Card visual which includes this measure
- Verify correct operation by manipulating the years of experience slider on the slicer to modify the predicted salary.