## **Part 4 – Feature Engineering**

**Examples:**

* Create a new feature: Programming Average = (Python + DB)/2.
* Create a binary feature: isAdult = 1 if Age >= 25, else 0.
* Transform studyHOURS into categories (Low / Medium / High).

**Question:** Which engineered feature do you think would add the most predictive power to the model?

## **Part 5 – Feature Scaling**

* **Detect Numeric Columns**
* **Apply Scaling**
  + **Option 1:** StandardScaler (mean=0, std=1) → good for SVM, Logistic Regression.
  + **Option 2:** MinMaxScaler (range 0–1) → good for Neural Networks, KNN.

## **Part 6 – Encoding Categorical Data**

* Detect Categorical Columns
* Handle Encoding