The manual process of building the regression equation if you want to understand the steps involved. In this example, we'll use the two independent variables "time\_study" (x1) and "number\_of\_courses" (x2) to predict "marks" (y). The regression equation takes the form:

**y = b0 + b1 \* x1 + b2 \* x2**

Here's how you would manually build the regression equation:

1. **Collect Data**: Ensure you have a dataset with values for "marks," "time\_study," and "number\_of\_courses."
2. **Calculate the Mean of Variables**: Calculate the mean of "marks" (mean\_y), "time\_study" (mean\_x1), and "number\_of\_courses" (mean\_x2).
3. **Calculate the Coefficients (b1 and b2)**:
   * b1 (the coefficient for x1) is calculated as the covariance between "time\_study" and "marks" divided by the variance of "time\_study." In mathematical notation:
     + b1 = Cov(x1, y) / Var(x1)
   * b2 (the coefficient for x2) is calculated as the covariance between "number\_of\_courses" and "marks" divided by the variance of "number\_of\_courses." In mathematical notation:
     + b2 = Cov(x2, y) / Var(x2)
4. **Calculate the Intercept (b0)**:
   * b0 (the intercept) is calculated as the mean of "marks" minus b1 times the mean of "time\_study" minus b2 times the mean of "number\_of\_courses." In mathematical notation:
     + b0 = mean\_y - b1 \* mean\_x1 - b2 \* mean\_x2
5. **Construct the Regression Equation**:
   * Using the values of b0, b1, and b2, construct the regression equation:
     + **y = b0 + b1 \* x1 + b2 \* x2**

These manual calculations provide you with the coefficients and intercept for the regression equation. However, for practical purposes, especially with larger datasets, it's recommended to use statistical software or tools that can perform the regression analysis and provide these coefficients automatically, along with additional statistical metrics to assess the quality of your model.