1. **In a graph, explain the terms rise, run, and slope.**

* Rise: In a graph, the "rise" refers to the vertical distance between two points, typically measured along the y-axis. It represents the difference in the y-coordinates of the two points.
* Run: The "run" in a graph refers to the horizontal distance between two points, usually measured along the x-axis. It represents the difference in the x-coordinates of the two points.
* Slope: The "slope" of a line on a graph is the ratio of the rise to the run, which indicates how steep or shallow the line is. It is calculated as (change in y) / (change in x) and describes the rate of change between two variables.

1. **Use a graph to demonstrate curve linear negative slope and curve linear positive slope.**

* Curved Linear Negative Slope: In this case, the relationship between the variables is nonlinear, and as the x-values increase, the y-values decrease. The line or curve formed will slope downward from left to right. The rate of decrease may vary, indicating a curved, negative slope.
* Curved Linear Positive Slope: This represents a nonlinear relationship where, as the x-values increase, the y-values also increase. The line or curve formed slopes upward from left to right. The rate of increase may vary, showing a curved, positive slope.

1. **Use a graph to show the maximum and low points of curves.**

* Maximum Point (Maxima): In a graph, the maximum point is the highest point on a curve. It's the peak or summit of the curve and represents the maximum value of the function at that point.
* Minimum Point (Minima): The minimum point is the lowest point on a curve. It's the valley or trough of the curve and represents the minimum value of the function at that point.

1. **How can the linear regression model's accuracy be improved?**

* Feature Selection: Choose relevant and significant independent variables while removing irrelevant ones.
* Data Preprocessing: Clean and transform data to handle missing values and outliers.
* Polynomial Regression: Consider polynomial features for nonlinear relationships.
* Regularization: Use techniques like Ridge or Lasso regression to reduce overfitting.
* Residual Analysis: Examine model residuals for patterns and potential improvements.
* Feature Engineering: Create new features or interactions that better explain the relationship.
* Outlier Handling: Detect and address outliers that can distort the model.
* Cross-Validation: Use cross-validation to assess model performance and choose the best hyperparameters.
* Ensemble Methods: Combine multiple linear regression models using ensemble techniques for increased accuracy.
* Collect More Data: In some cases, collecting more data can lead to better model performance.