

# **Machine learning algorithms: Practice 3.**

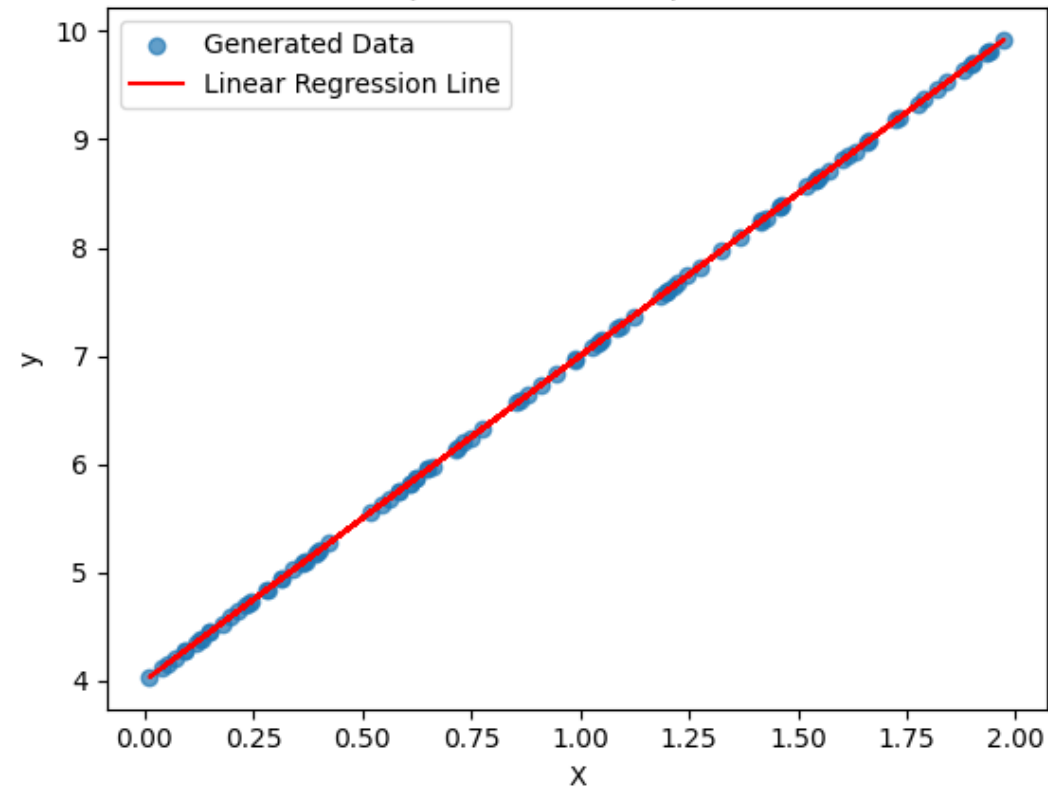
**Core methods:  
Covariance and correlation.  
Linear regression.**

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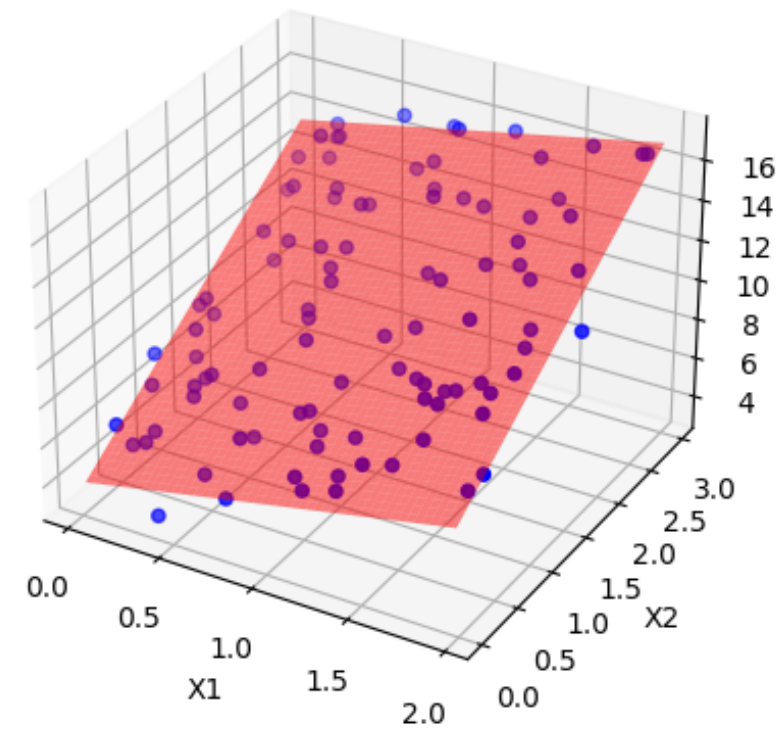
Watch the video about Linear regression

# Different examples of regression

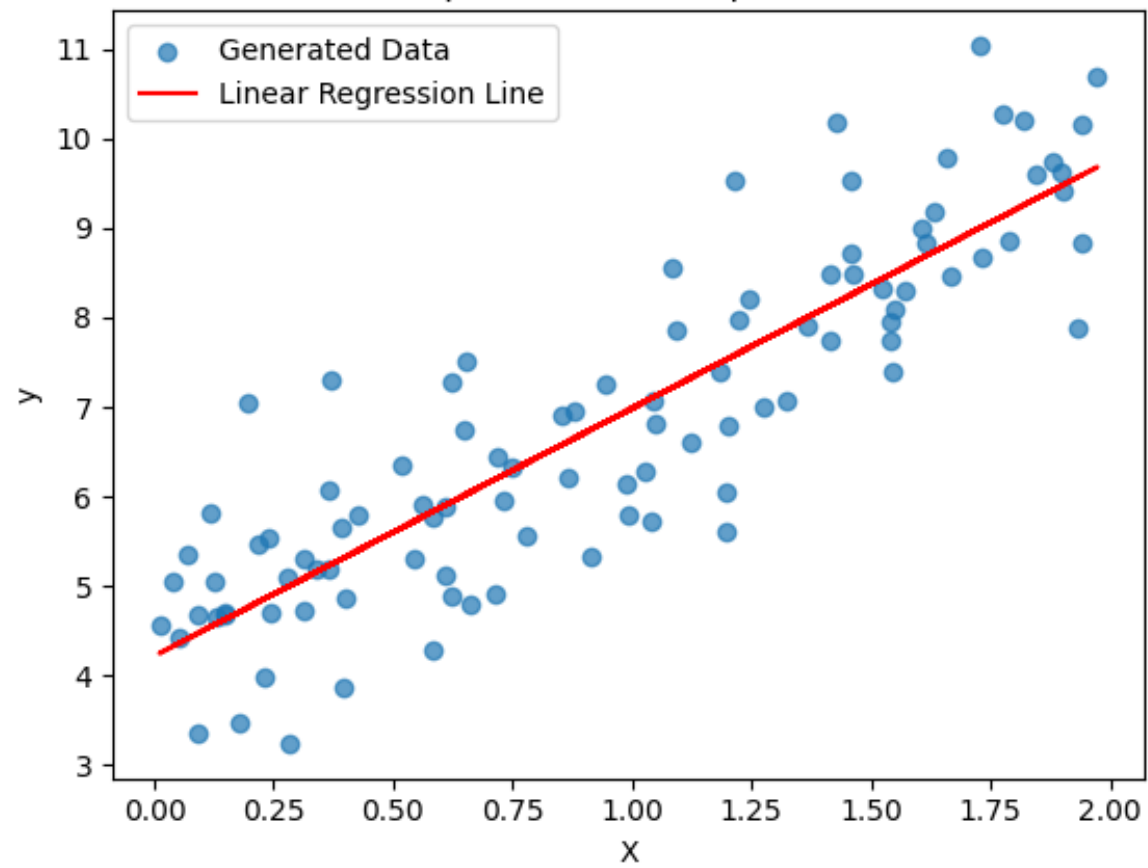
Linear Regression (Perfect Correlation)  
Slope: 3.00, Intercept: 4.00



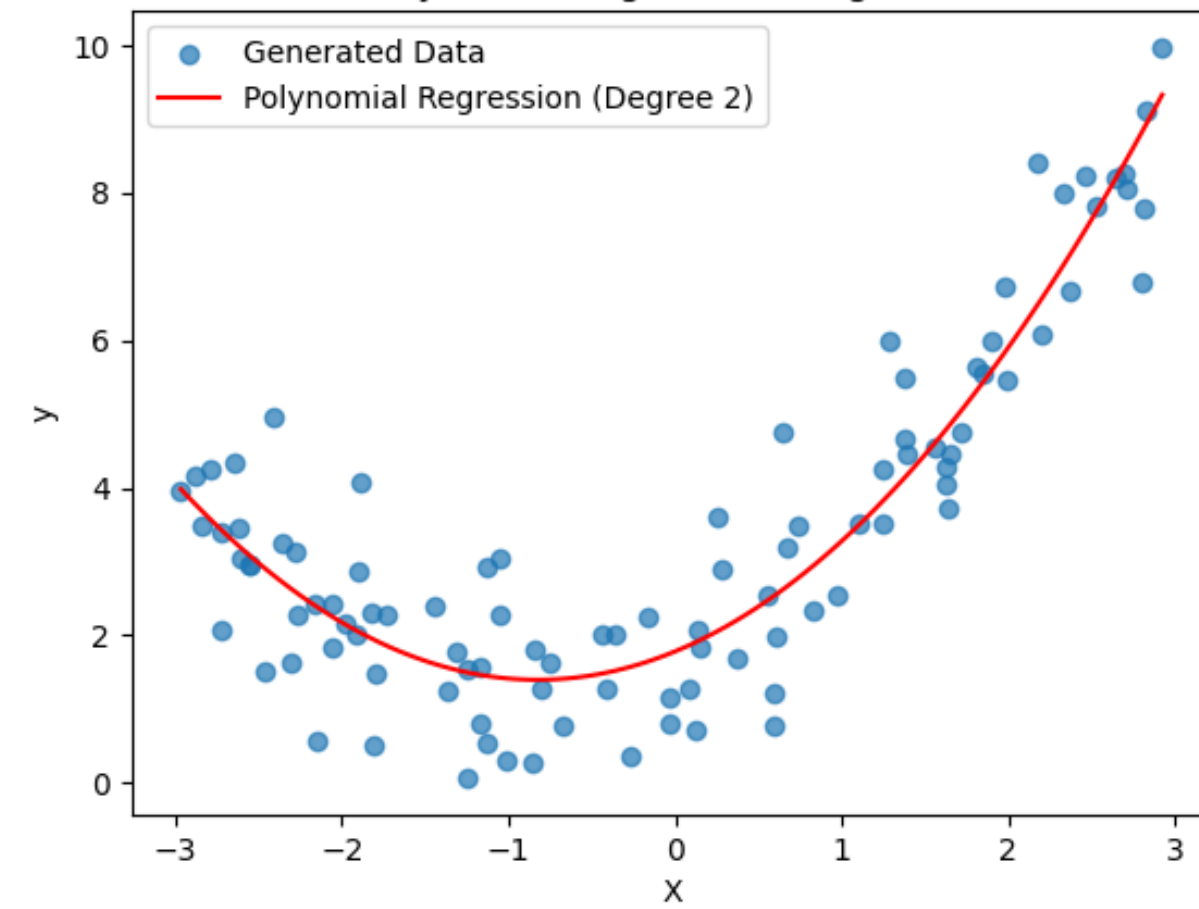
3D Linear Regression  
Intercept: 3.91, Coeff1: 1.83, Coeff2: 3.24



Linear Regression  
Slope: 2.77, Intercept: 4.22



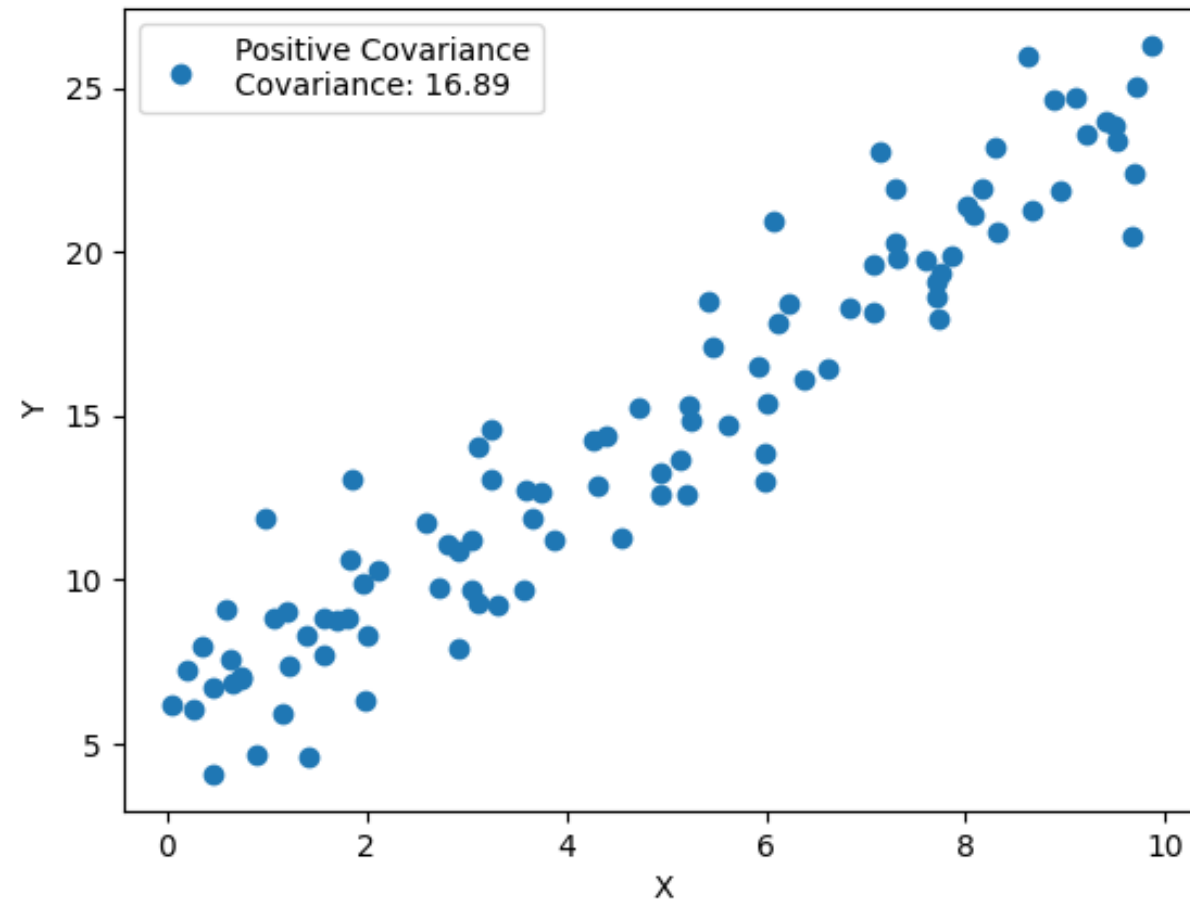
Polynomial Regression (Degree 2)



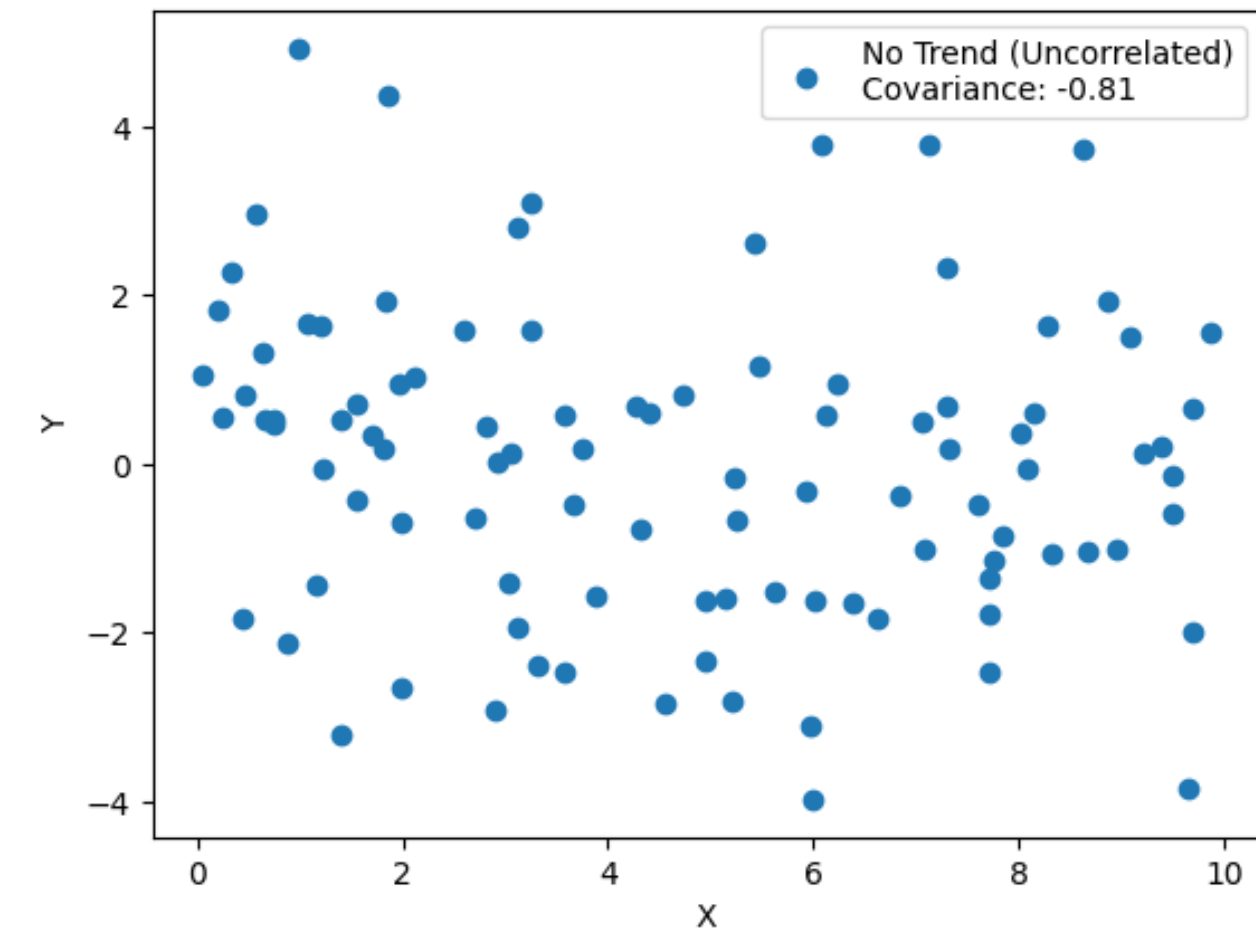
Watch the video about Covariance

# Different examples of covariance trends

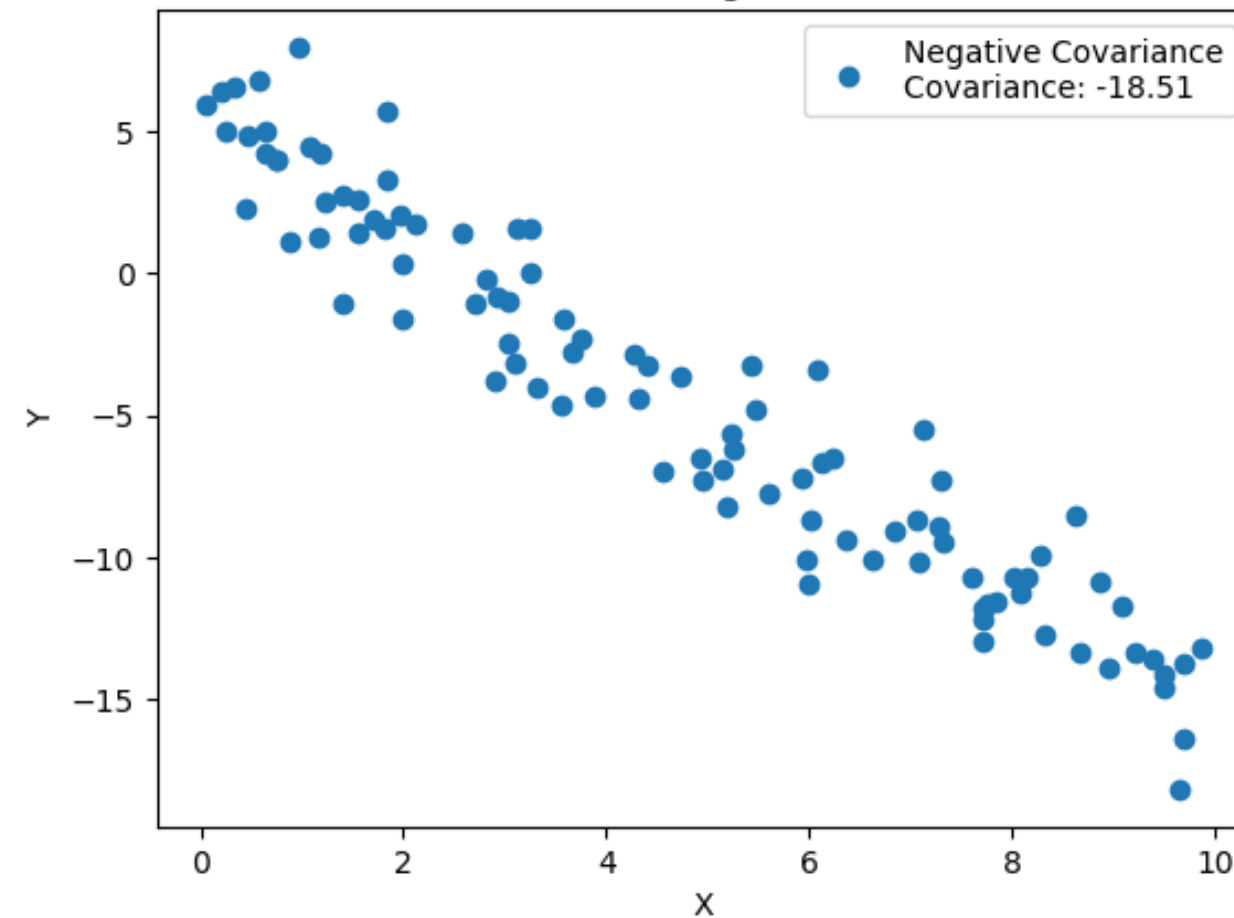
Scatter Plot with Positive Covariance



Scatter Plot with No Trend

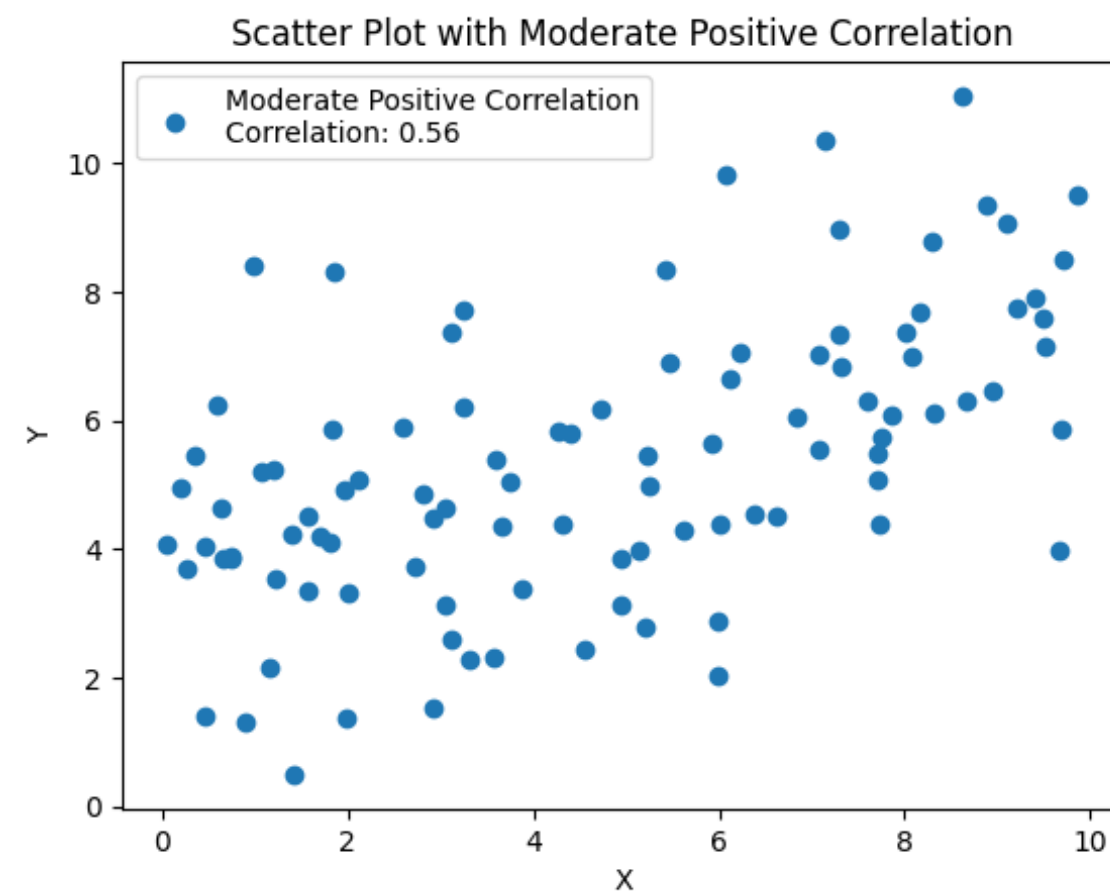
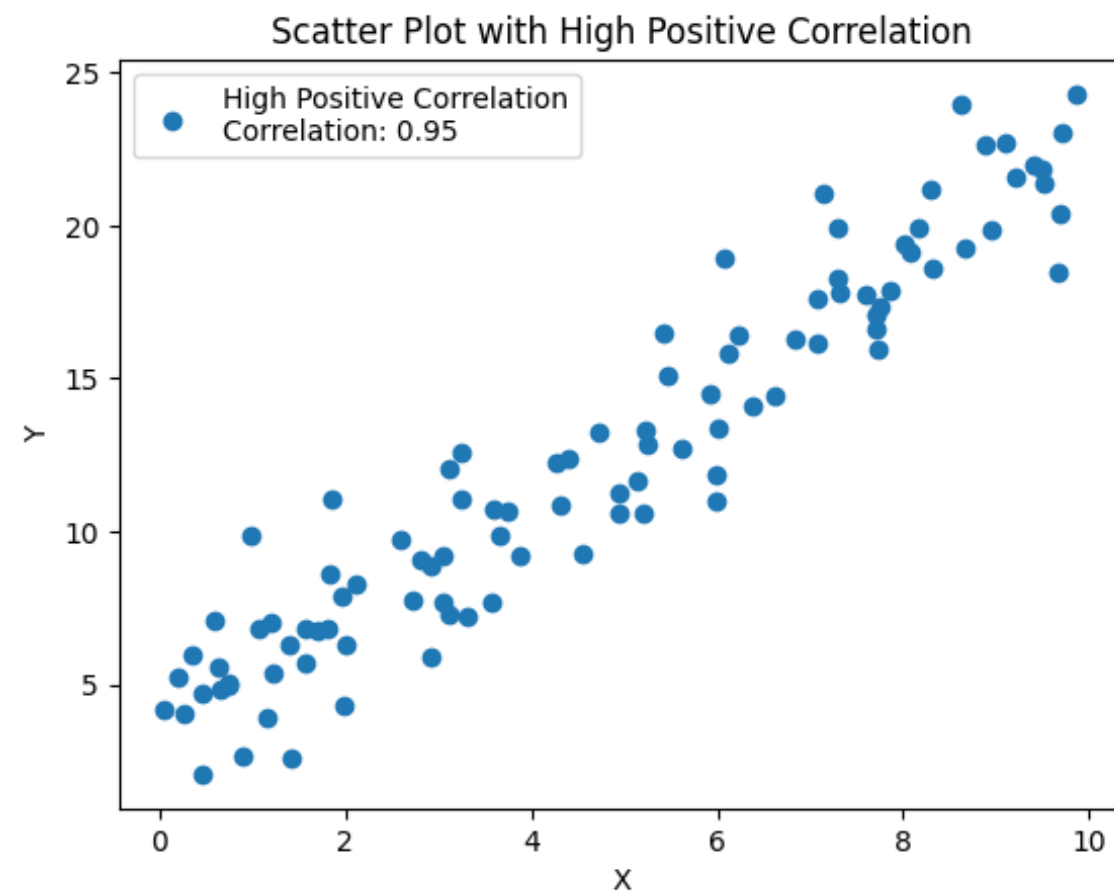
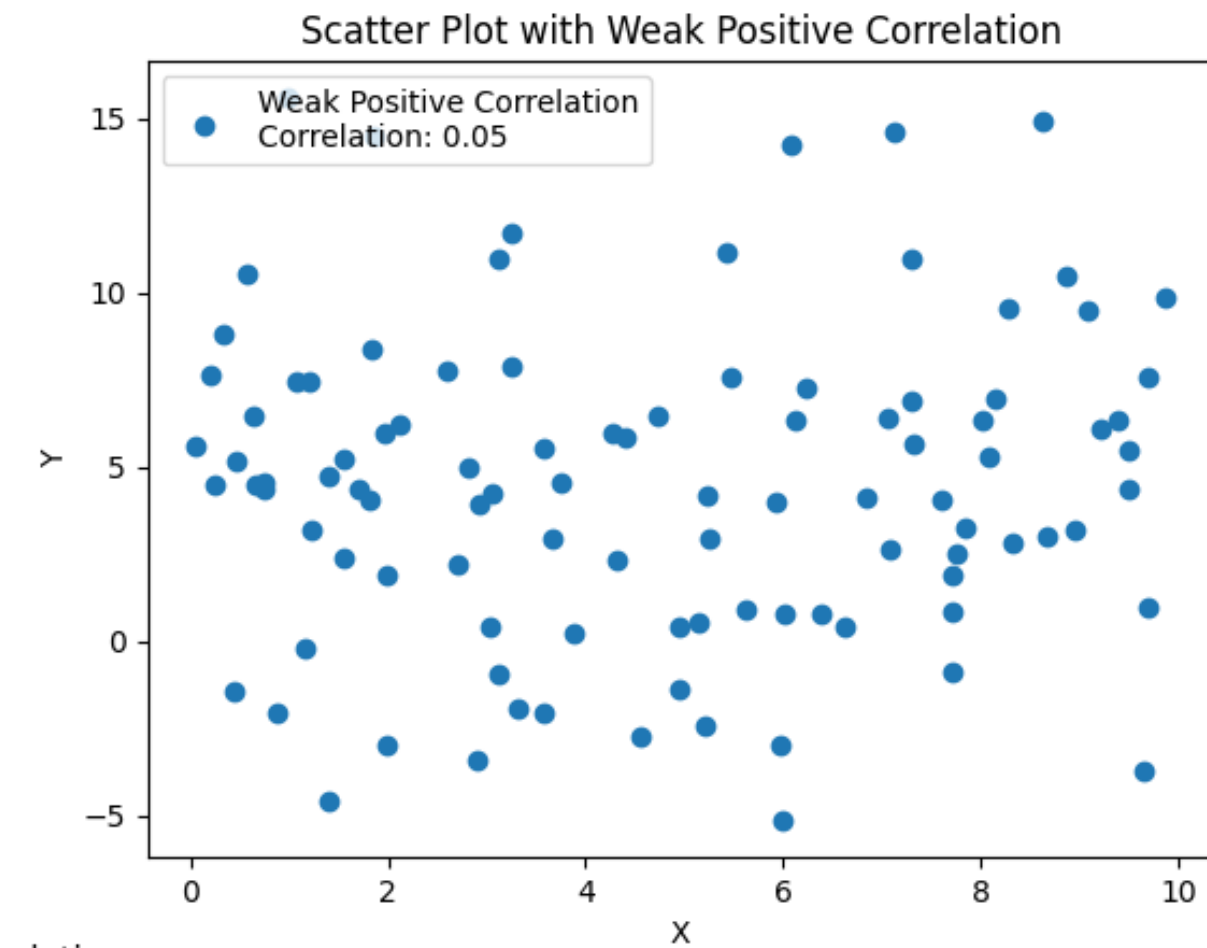
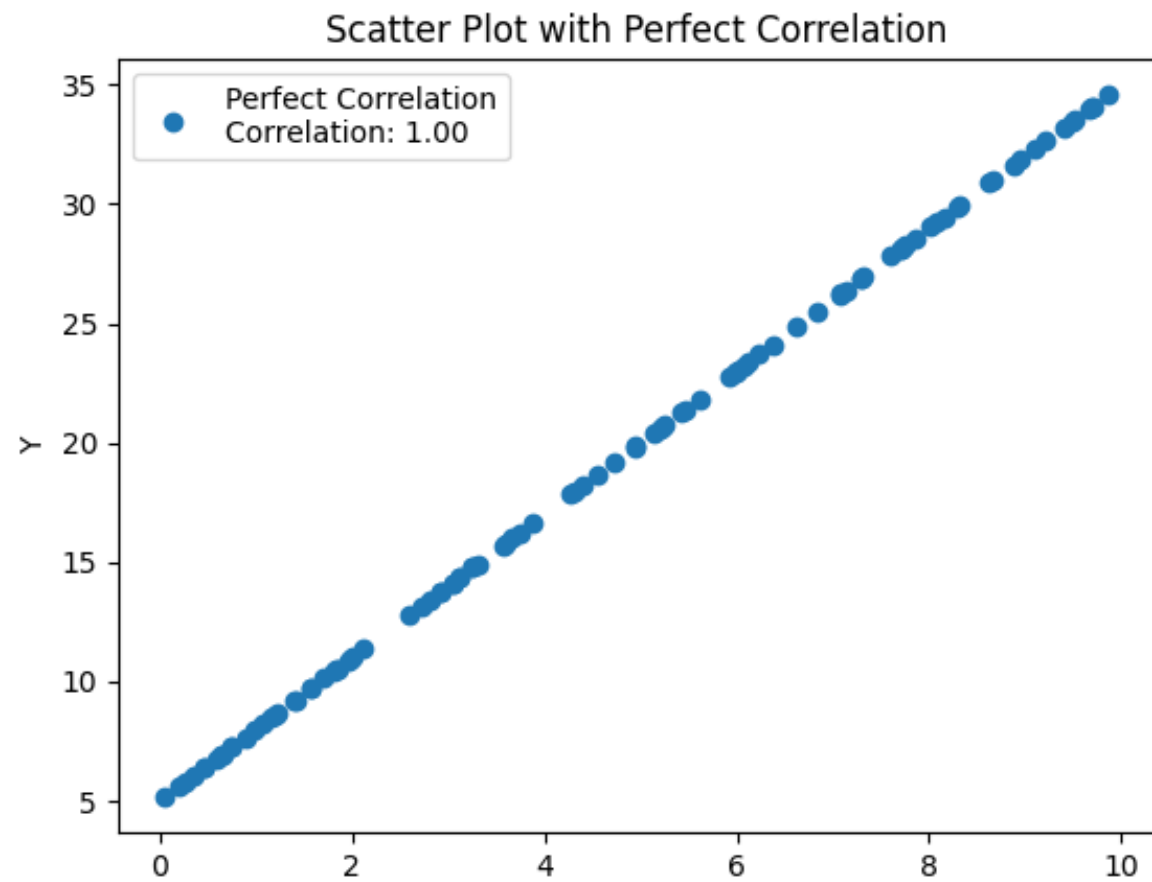


Scatter Plot with Negative Covariance



Watch the video about Correlation

# Different examples of correlation estimation



# More practical example of correlation estimation between each pair of attributes in dataset - Correlation Matrix Heatmap

