codegnan
IT SOLUTIONS
MACHINE LEARNING
LIVE SESSION
15 AUG,2020
10 AM : 12 PM

BOOTCAMP STRUCTURE

DAY 1 - PANDAS AND NUMPY

DAY 2 - MATPLOTLIB AND SEABORN

DAY 3 - DATA ANALYSIS / EDA

DAY 4 - MACHINE LEARNING

DAY 5 - LINEAR REGRESSION

DAY 6-POLYNOMIAL REGRESSION

DAY 7 - LOGISTIC REGRESSION

DAY 8 - DECISION TREE

DAY 9 - RANDOM FOREST

DAY 10 - XG BOOST

DAY 11 - NAIVE BAYES

DAY 12 - KNN

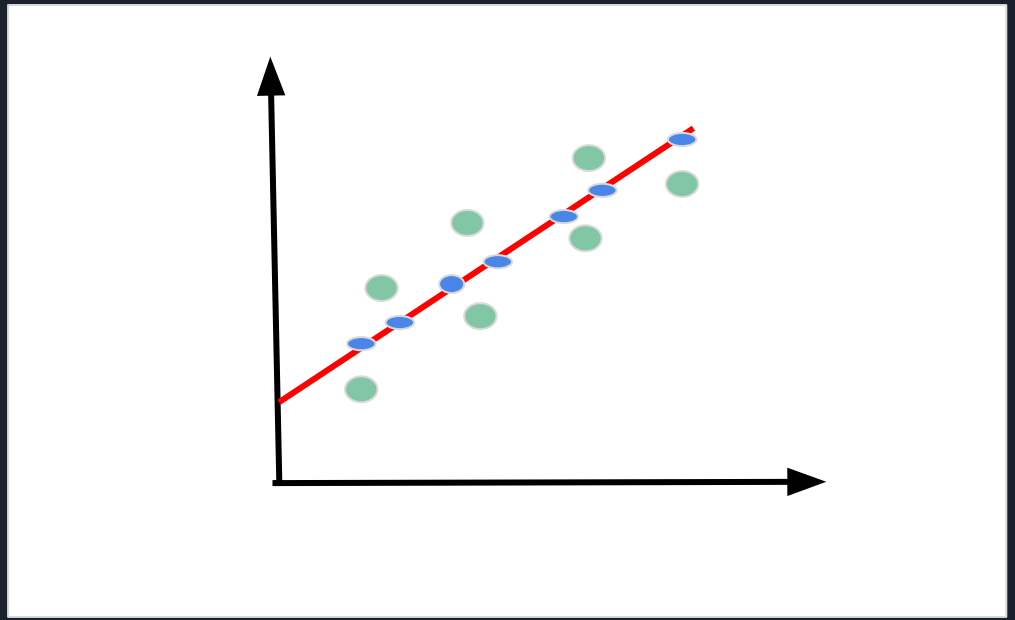
DAY 13 - SVM

DAY 14- CLUSTERING ALGORITHMS

DAY 15 - DEPLOYING MODELS

R SQUARED

$$R^2 = 1 - \frac{SS_{RES}}{SS_{TOT}} = 1 - \frac{\sum_i (y_i - \hat{y}_i)^2}{\sum_i (y_i - \overline{y})^2}$$



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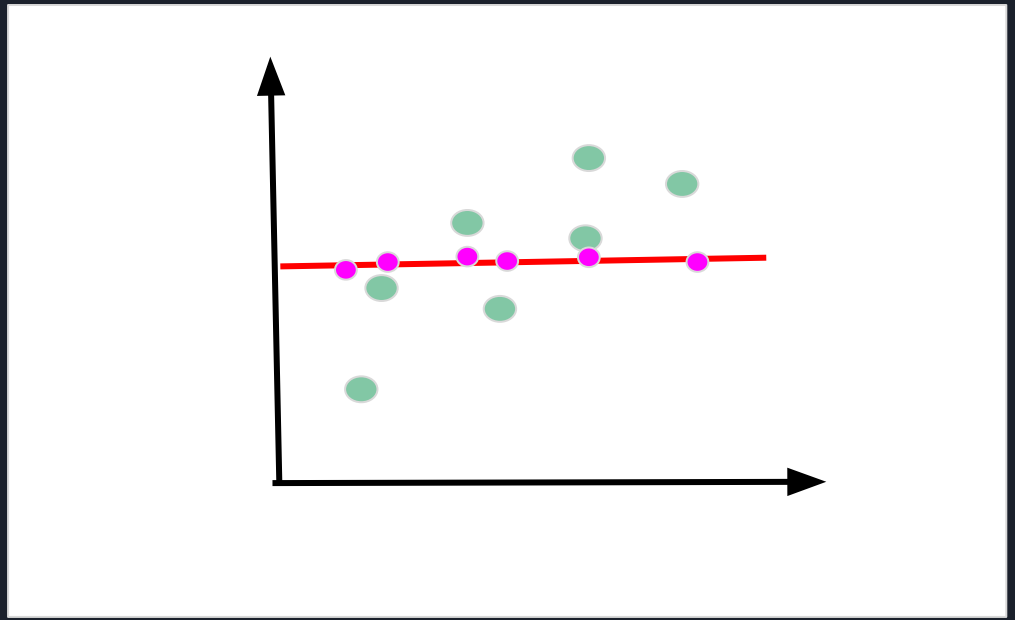
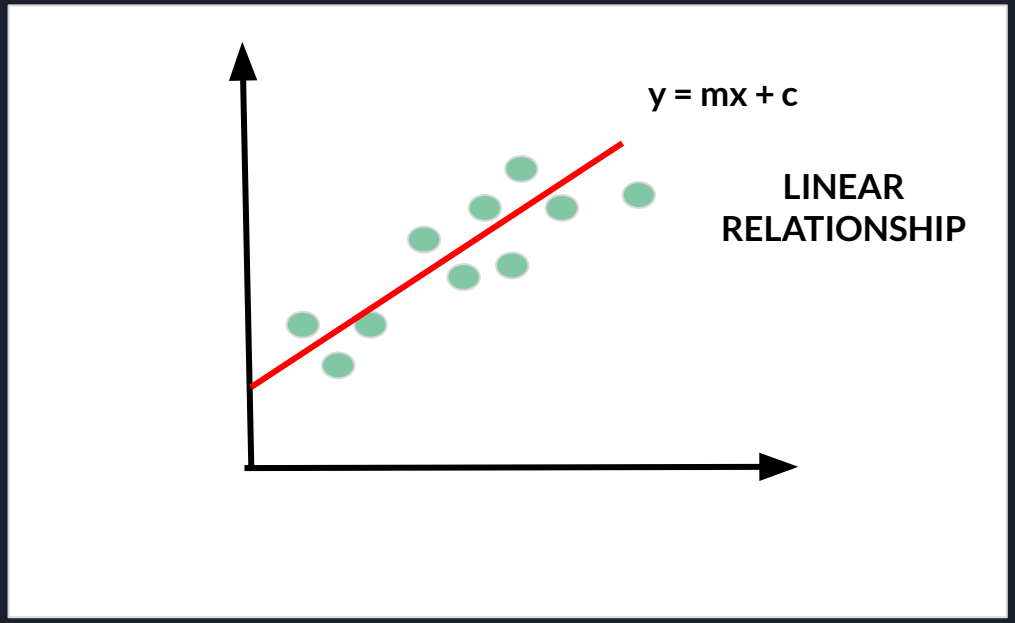
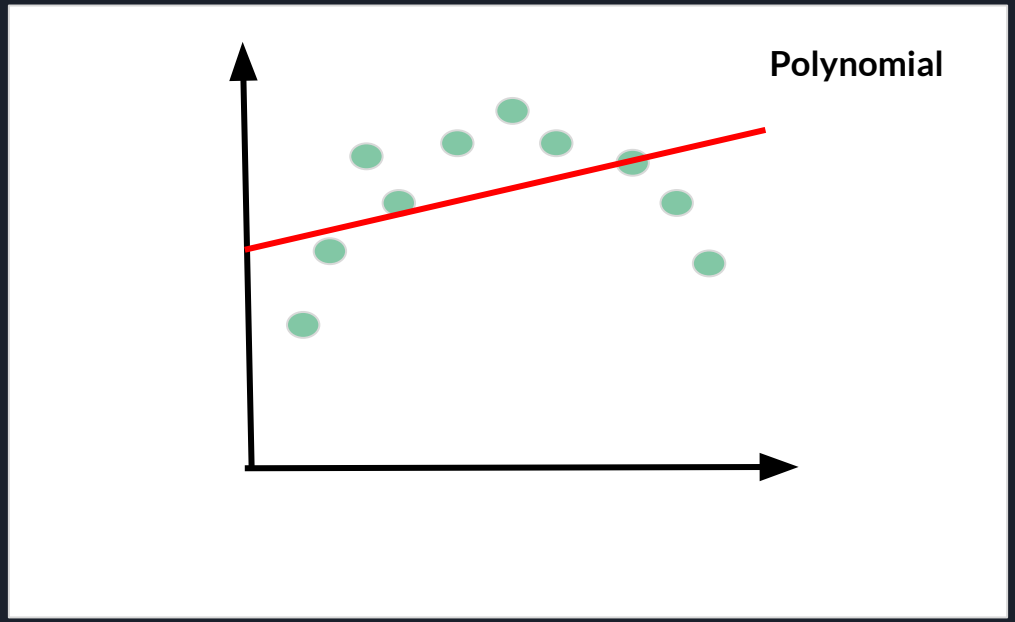


LINEAR REGRESSION



POLYNOMIAL REGRESSION



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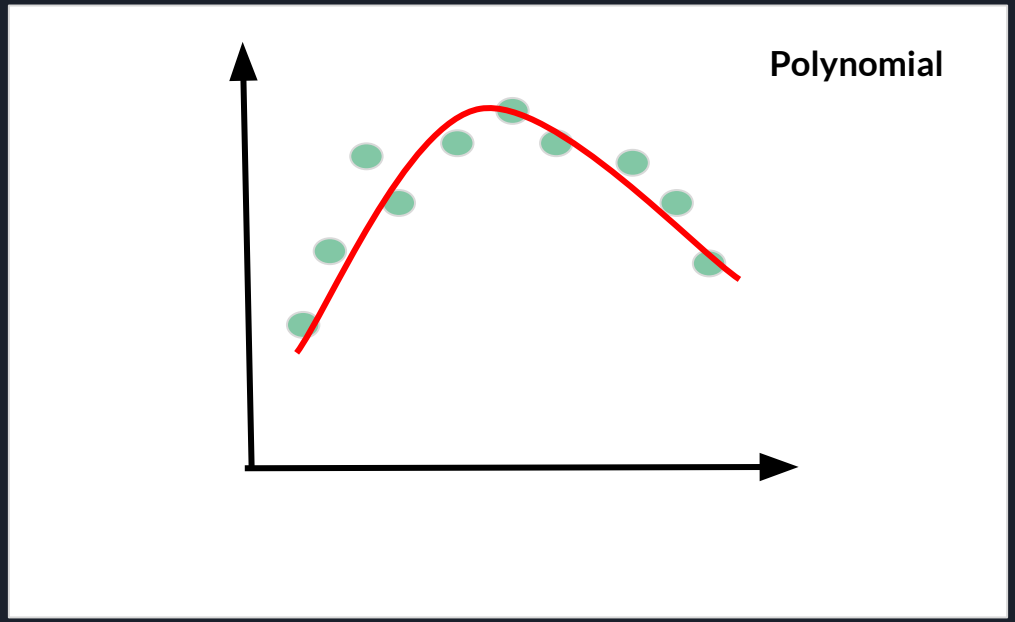
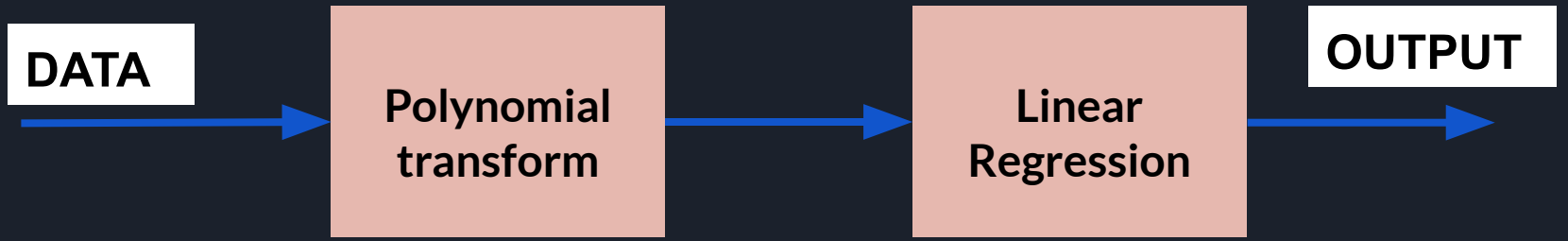


STEPS IN POLYNOMIAL REGRESSION

Polynomial regression is a two step process



ASSUMPTIONS OF REGRESSION

LINEARITY

There should be linear relationship between dependent and independent variables

How to check ?

By looking at the residuals vs fitted plot.

ASSUMPTIONS OF REGRESSION

Normality of residuals	Residuals must be normally distributed.
How to check ?	By plotting histogram and qq plot.

ASSUMPTIONS OF REGRESSION

No Multicollinearity

There should be no or little collinearity between independent variables.

How to check ?

By checking correlation,scatterplot or by checking the vif value.

ASSUMPTIONS OF REGRESSION

Homoscedasticity

Equal variance in residuals. There shouldn't be any pattern in residuals vs fitted plots

How to check ?

Residuals vs fitted plots.

ASSUMPTIONS OF REGRESSION

No Autocorrelation

There shouldn’t be any autocorrelation in residuals. Autocorrelation means future values should not be correlated with past values

How to check ?

Residuals vs time plots with different lags