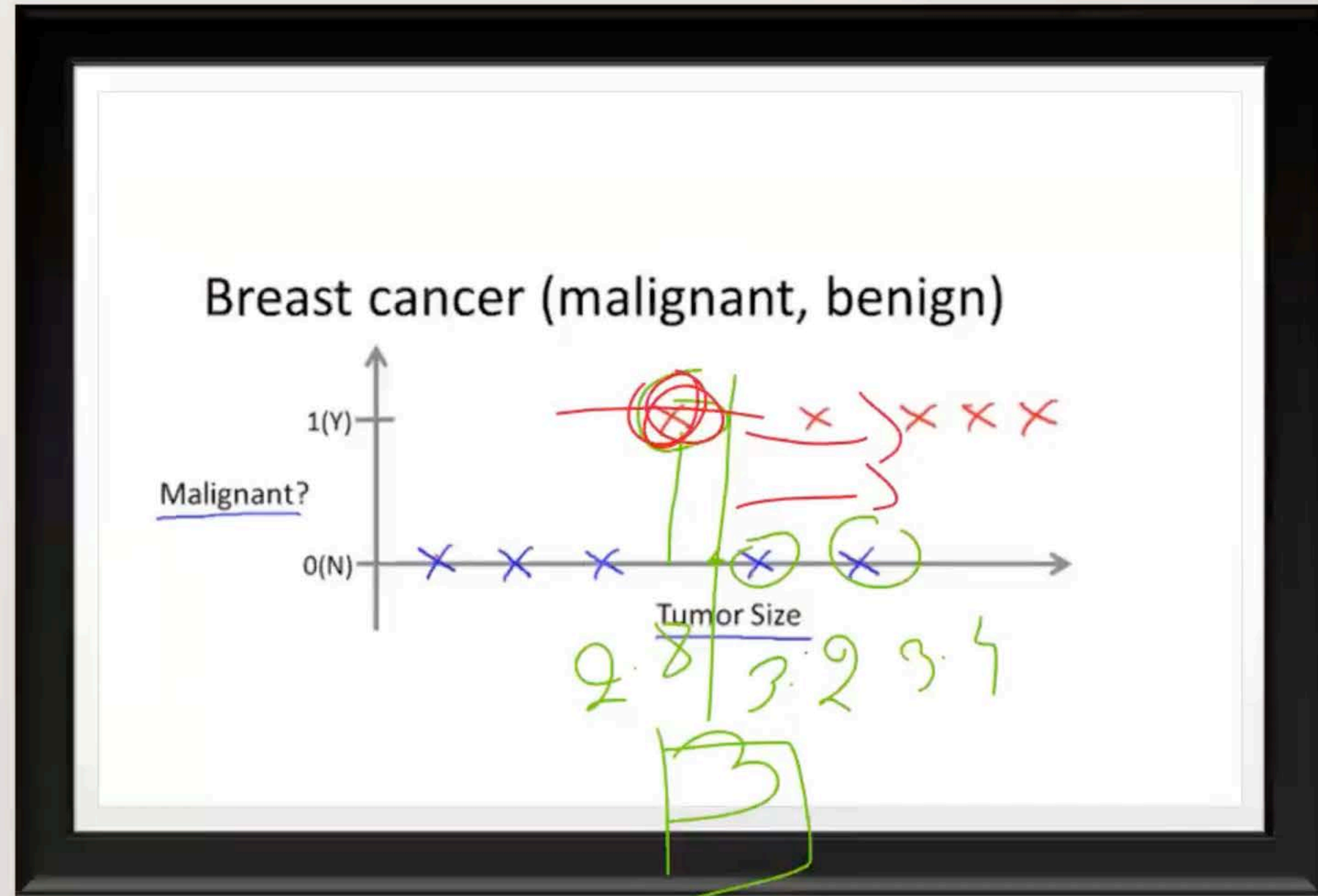


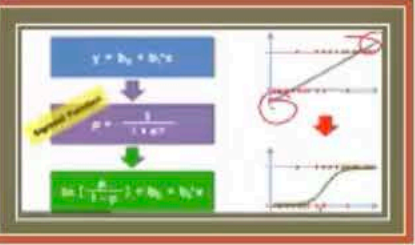
CLASSIFICATION BREAST CANCER



LINEAR REGRESSION

- STEPS
- 1. Importing the dataset
 - 2. Describing the dataset
 - 3. Splitting the dataset into Training set and Test set
 - 4. Fitting Simple Linear Regression model to the training set
 - 5. Evaluating the Test set results
 - 6. Visualizing the Training set results
 - 7. Visualizing the Test set results

LOGISTIC REGRESSION

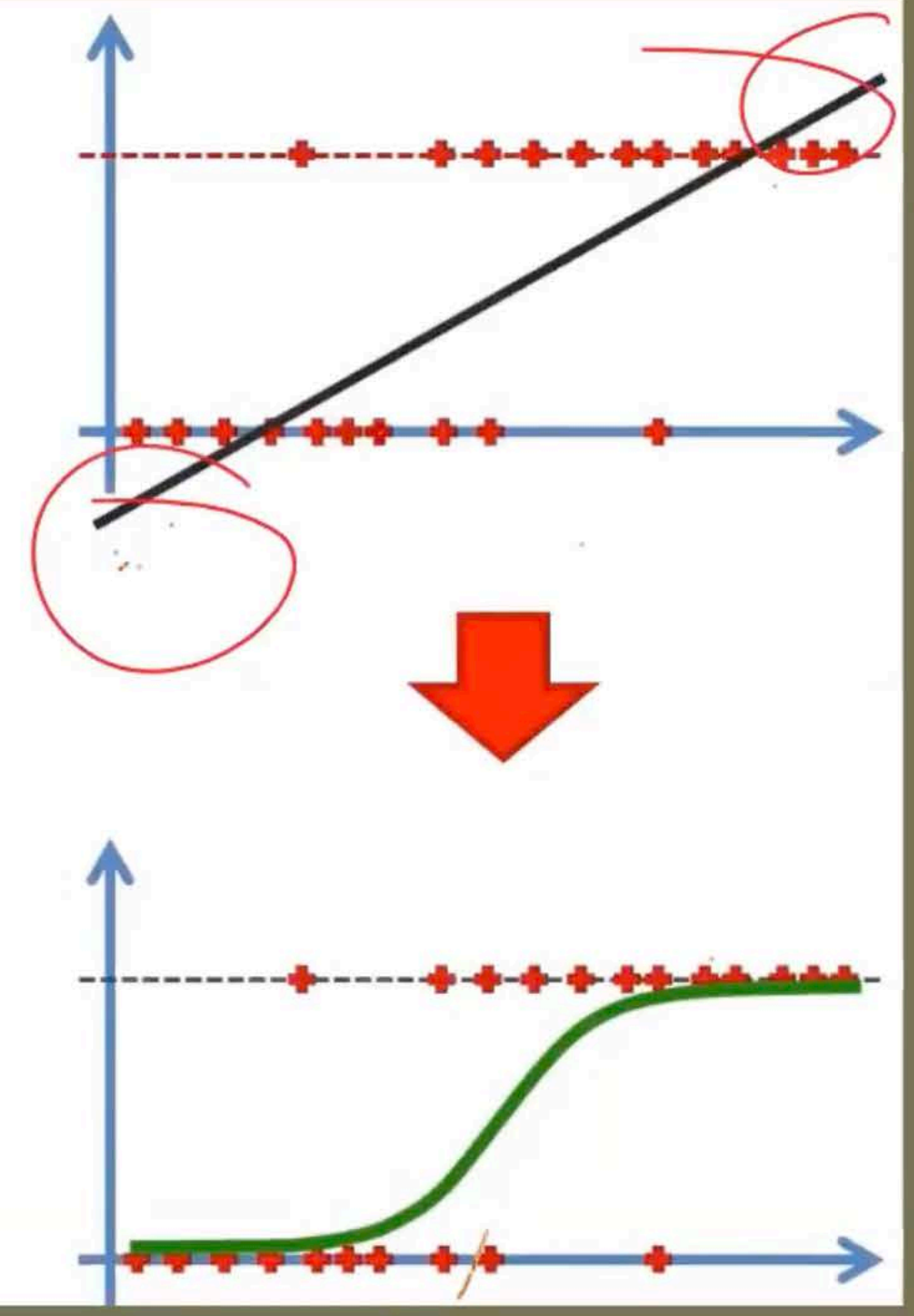


$$y = b_0 + b_1 * x$$

Sigmoid Function

$$p = \frac{1}{1 + e^{-y}}$$

$$\ln \left(\frac{p}{1-p} \right) = b_0 + b_1 * x$$



Social_Network_Ads - Excel

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POSSIBLE DATA LOSS Some features might be lost if you save this workbook in the comma-delimited (.csv) format. To preserve these features, save it in an Excel file format. [Don't show again](#) [Save As...](#)

A1 Age

	A	B	C	D	E	F	G	H	I	J	K	L
1	Age	EstimatedSalary	Purchased									
2	19	19000	0									
3	35	20000	0									
4	26	43000	0									
5	27	57000	0									
6	19	76000	0									
7	27	58000	0									
8	27	84000	0									
9	32	150000	1									
10	25	33000	0									
11	35	65000	0									
12	26	80000	0									
13	26	52000	0									
14	20	86000	0									
15	32	18000	0									
16	18	82000	0									

Social_Network_Ads

Confusion Matrix

$n = 165$

	Predicted results	
	-ve	+ve
-ve	60 TN	10 FP
+ve	5 FN	100 TP

Actual results

Accuracy
 $= \frac{TP + TN}{\text{total}}$
 $= \frac{150}{165} = 0.91$

Error rate
Misclassification Rate

$$\frac{FP + FN}{T} = \frac{15}{165} = 0.09$$

Net I/P
dataset

Preprocessing
data ✓

Train
our
Model

- ↳ Missing values ✓
- ↳ Categorical Data ✓
- ↳ Column Standardization ✓
- ↳ Column Normalization ✓

↳ SLR
↳ LR