

# Logistic Regression



فصل ہفتم



شرکت فروش مصنوعي رسا

مدرس : خرید فاشمی نژاد

معرفی رگرسسیون لجستیکی



جلسه بیست و پنجم



شرکت فروش مصنوعي رسا

مدرس : فرید فاشمی نژاد

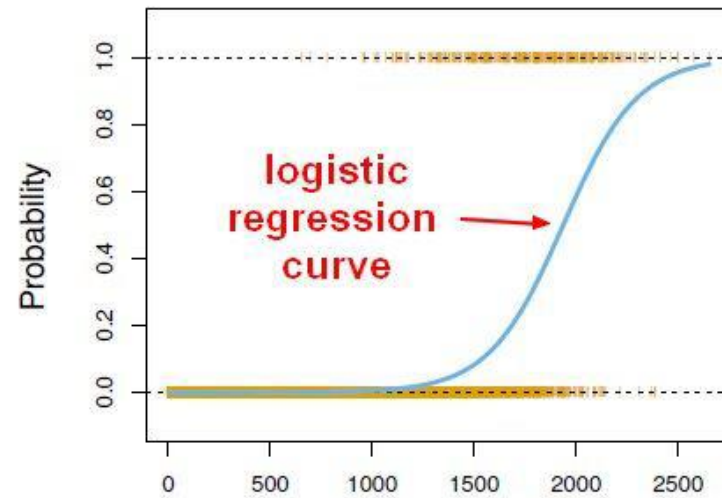
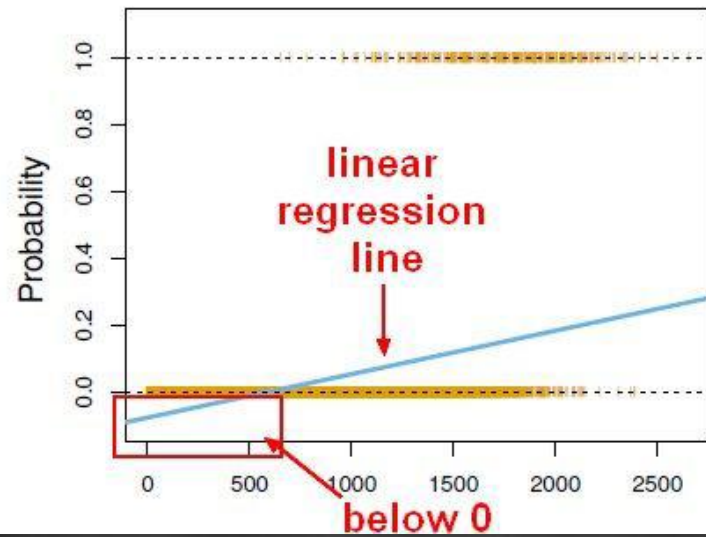
# دستہ بندی داده ها

- طبقه بندی

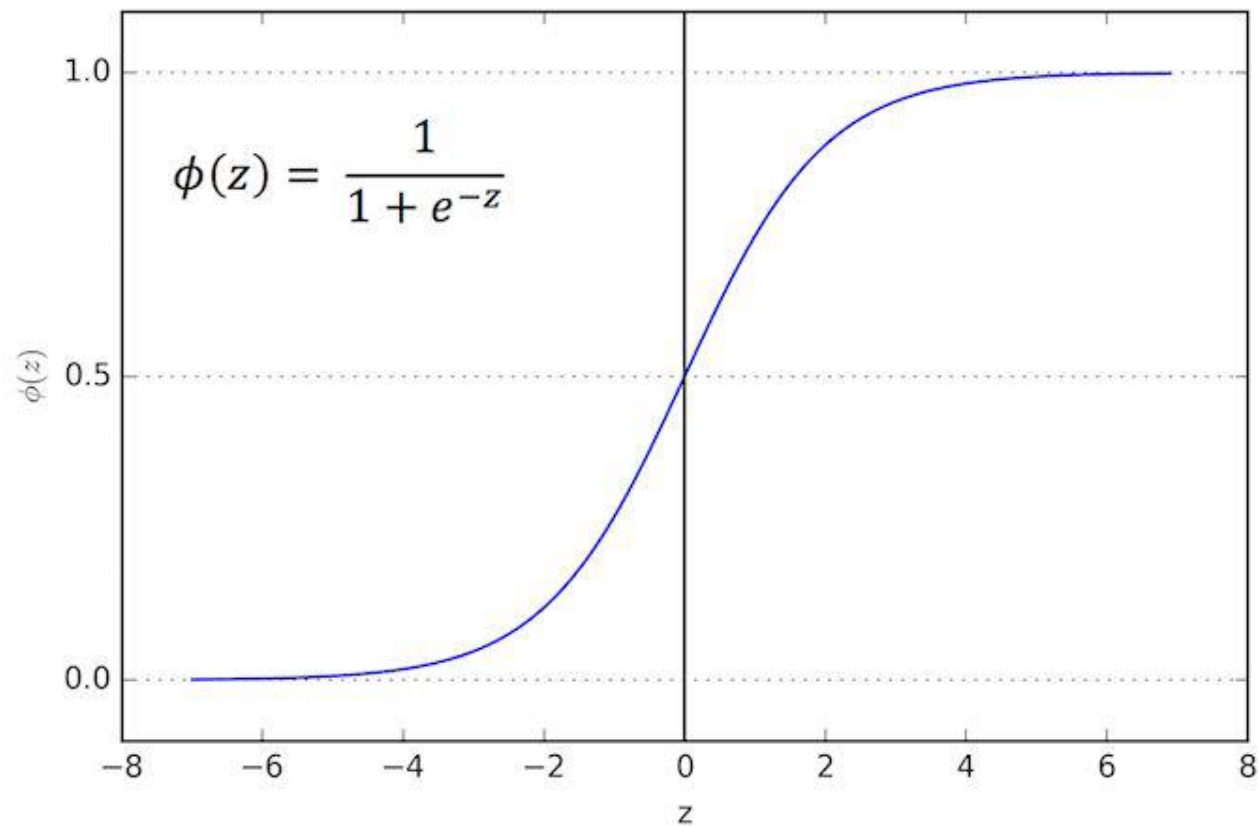
- دسته بندی

- Classification

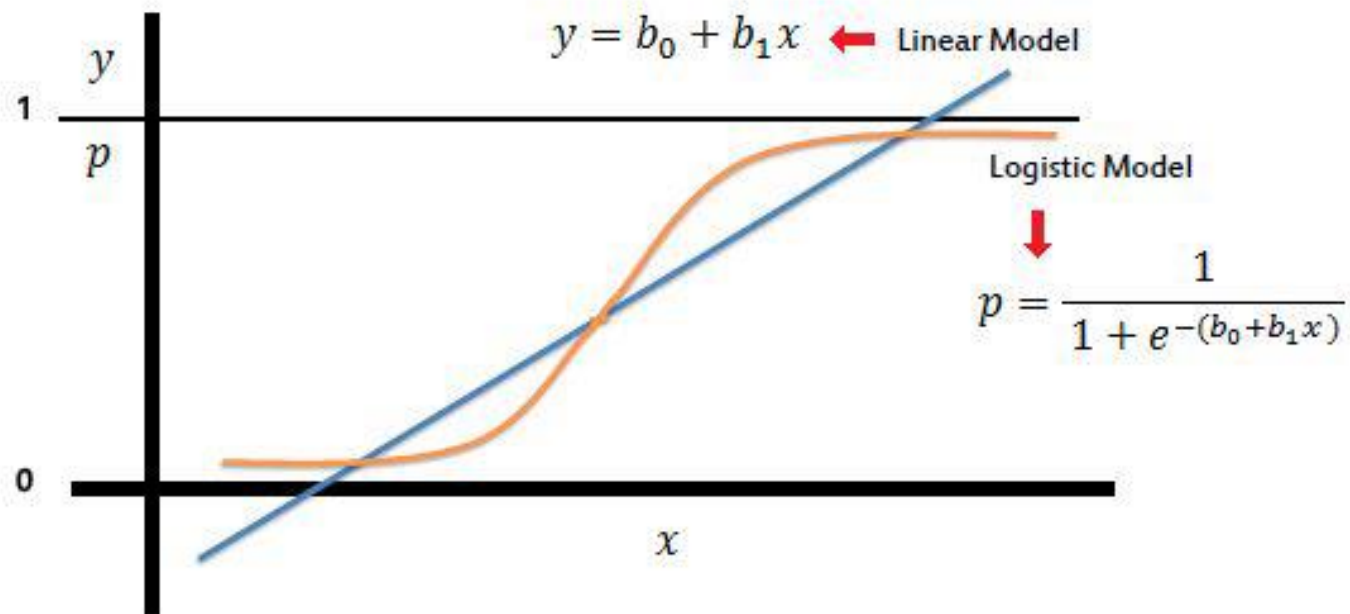
- Binary Classification

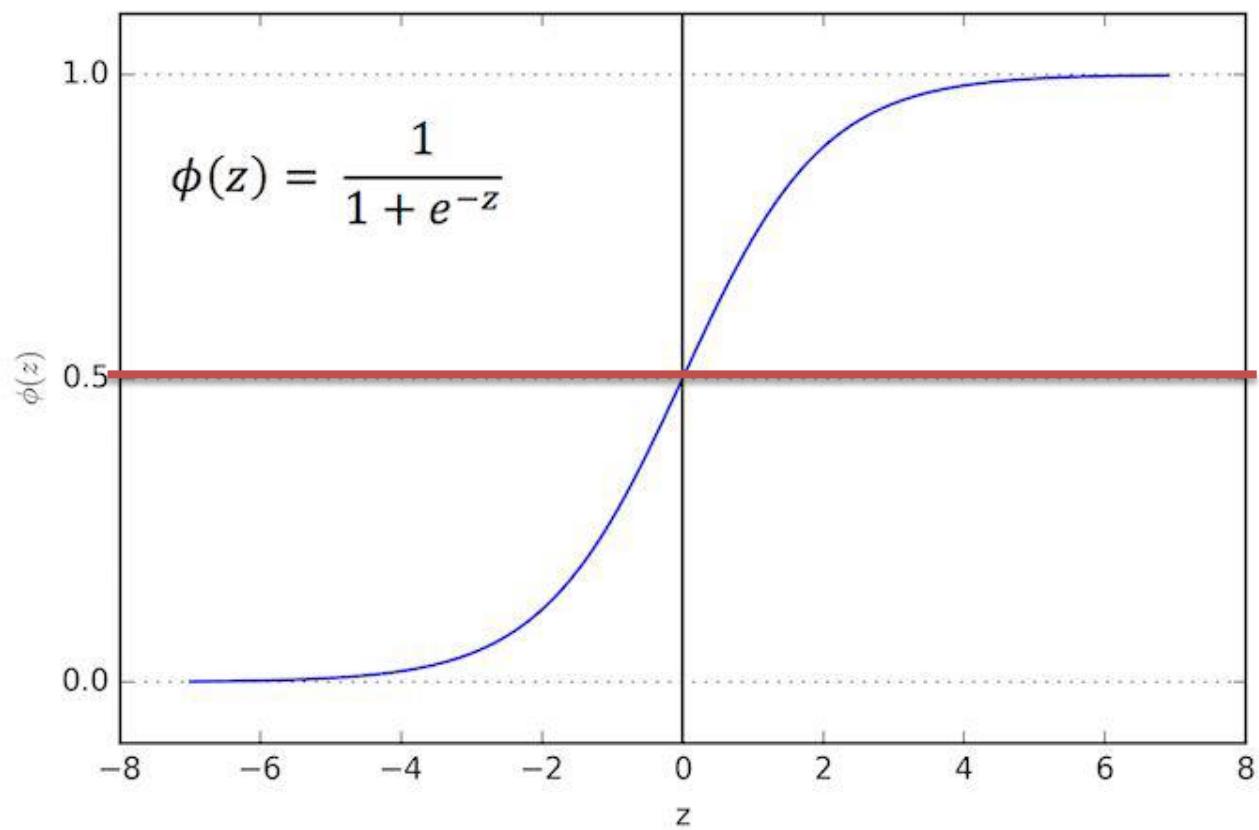


# Sigmiod









# Confusion Matrix

n=165	Predicted: NO	Predicted: YES
Actual: NO	50	10
Actual: YES	5	100



## Basic Terminology:

- True Positives (TP) • True Negatives (TN)
- False Positives (FP) • False Negatives (FN)

# Confusion Matrix

n=165	Predicted: NO	Predicted: YES	
Actual: NO	TN = 50	FP = 10	60
Actual: YES	FN = 5	TP = 100	105
	55	110	

Accuracy:

Overall, how often is it correct?

$$(TP + TN) / \text{total} = 150/165 = 0.91$$

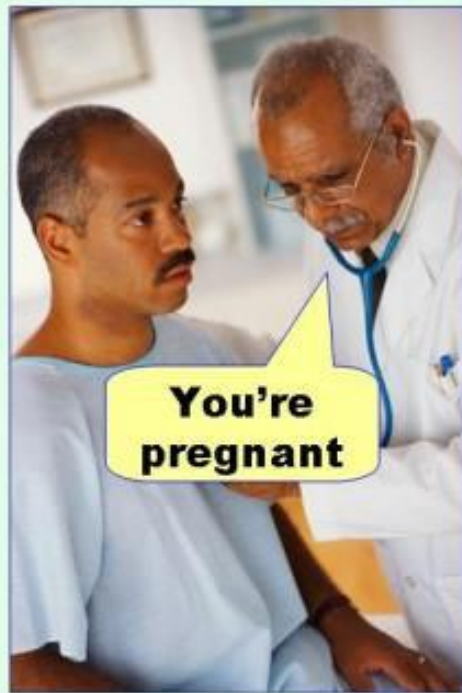
## Misclassification Rate (Error Rate):

Overall, how often is it wrong?

$$(FP + FN) / \text{total} = 15/165 = 0.09$$

# Confusion Matrix

**Type I error**  
(false positive)



**Type II error**  
(false negative)

