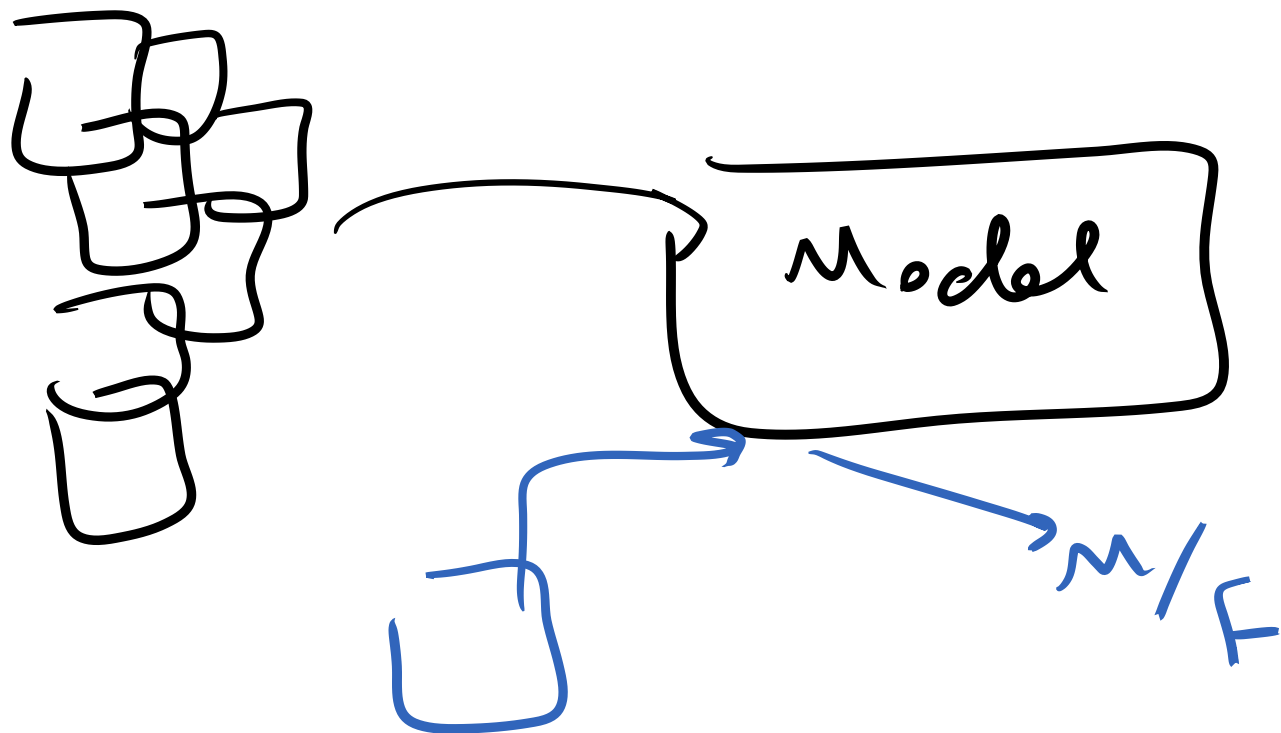
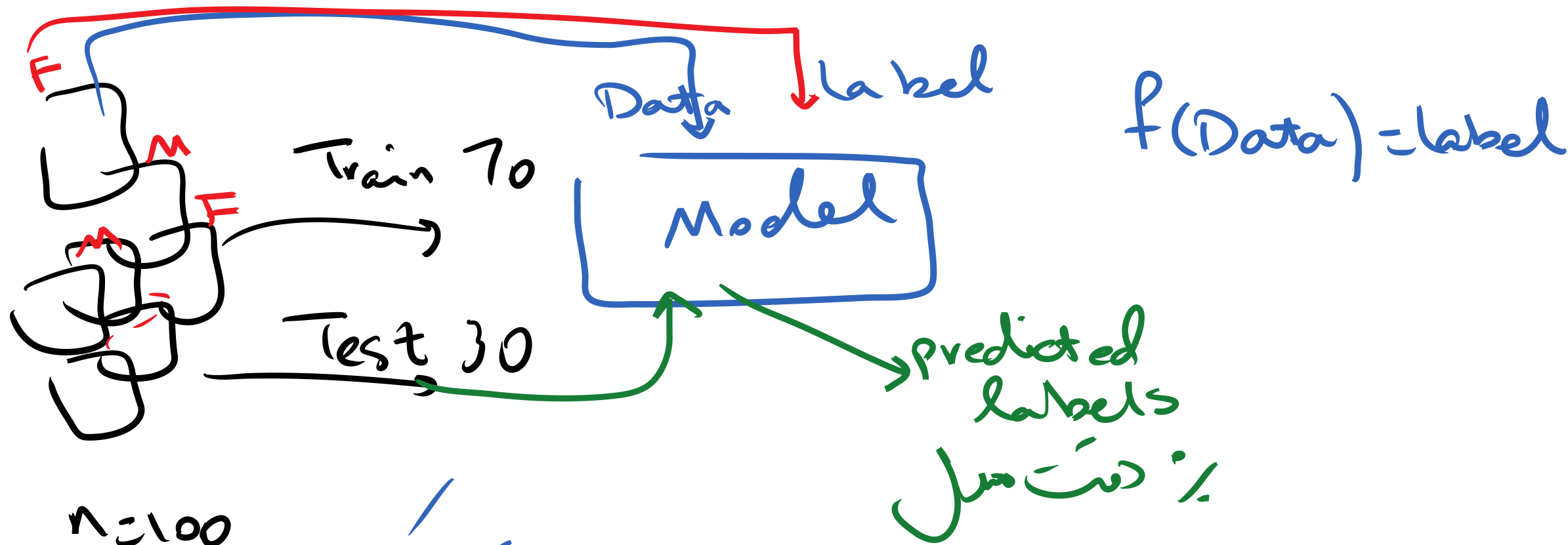


دست‌ن اول :

مبانی ML

سحر صید در صاویزه





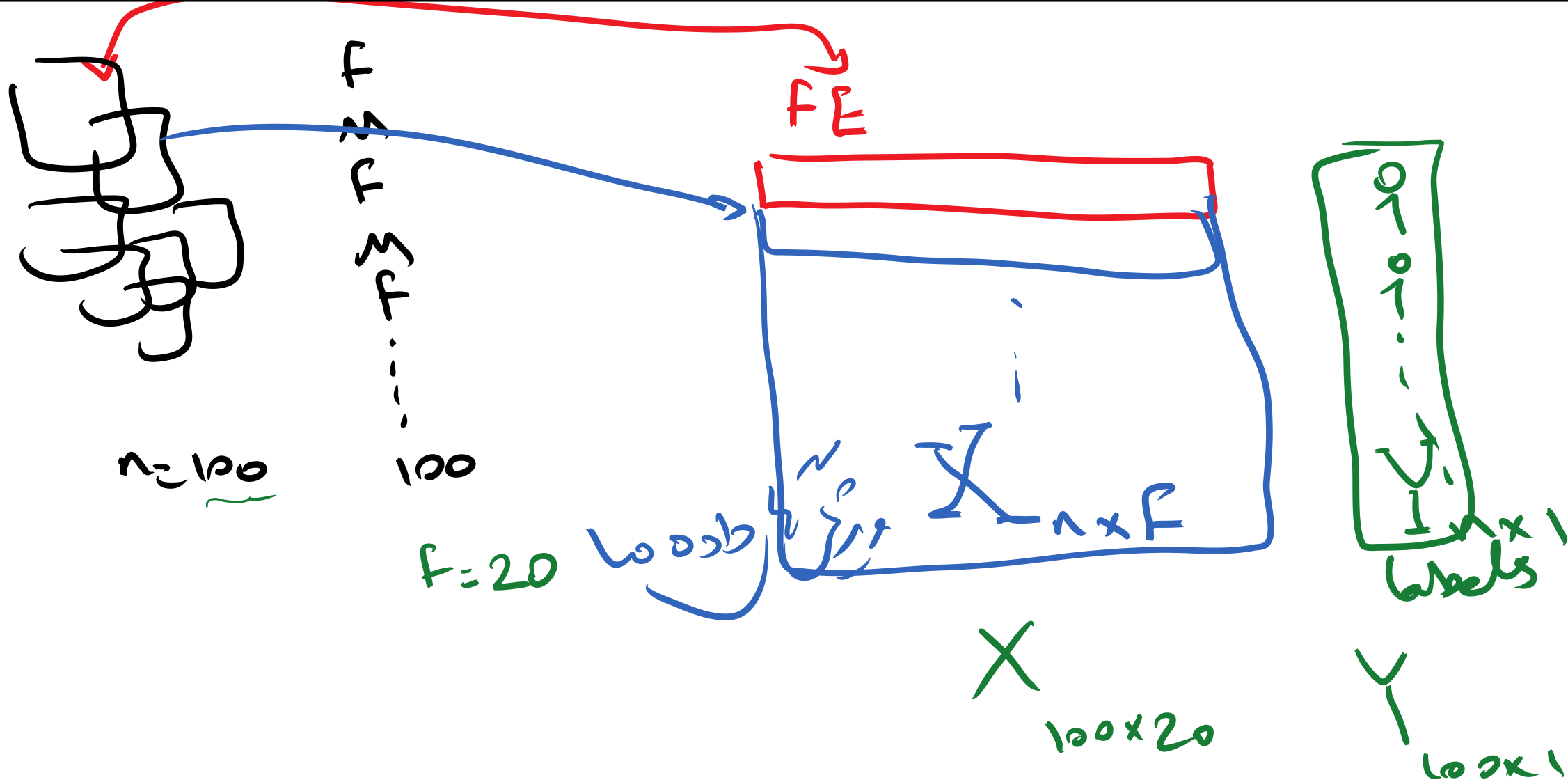
$n=100$

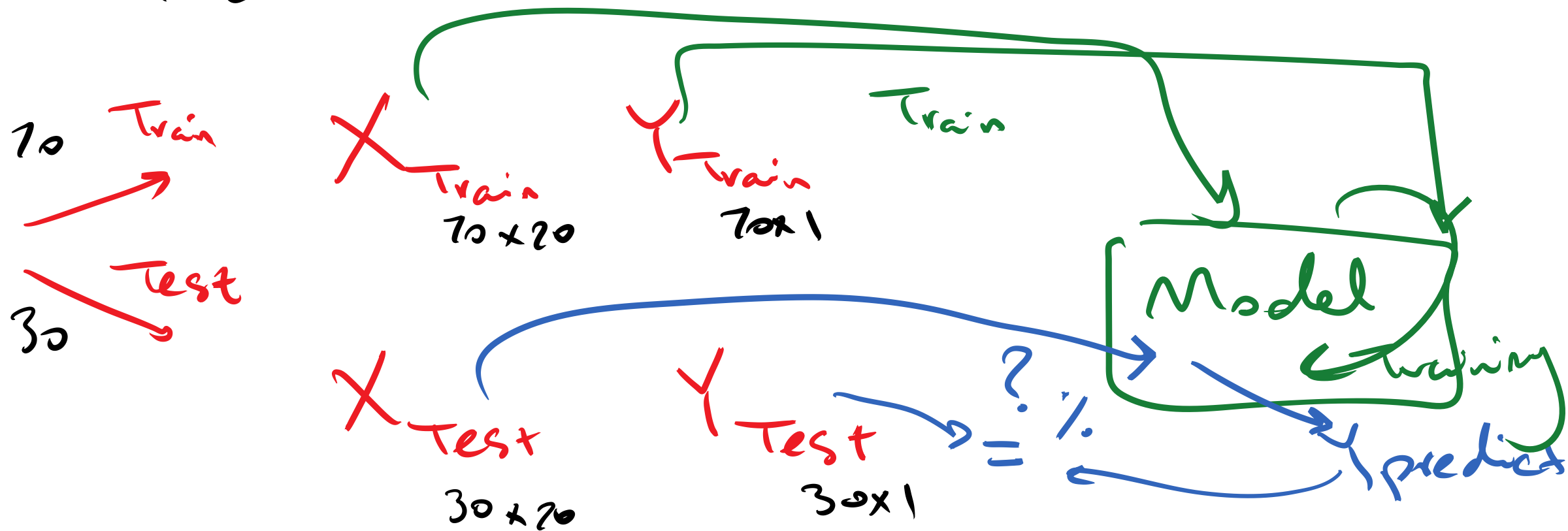
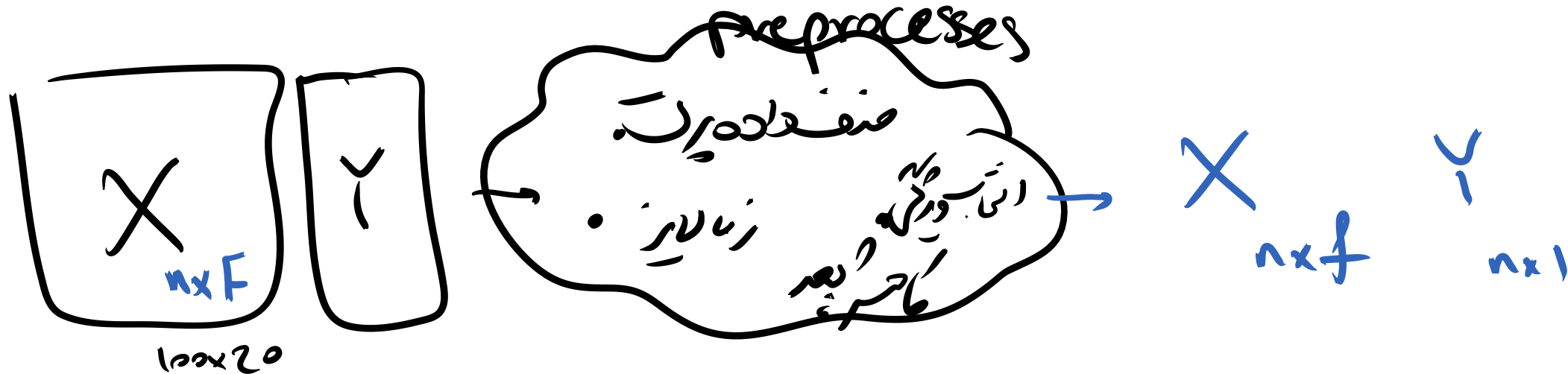
تو جمع عام برطولا
 Train
 Test
 bias
 Train
 Test

گٹھانے

سنور دیا

سنور طومب





97

95% → ✓

93

~~95%~~
~~95%~~

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

• نَارِ طه

70%

—

• دَارِ طه

صل

Classification

X Y
فئات محدود

ا. ص

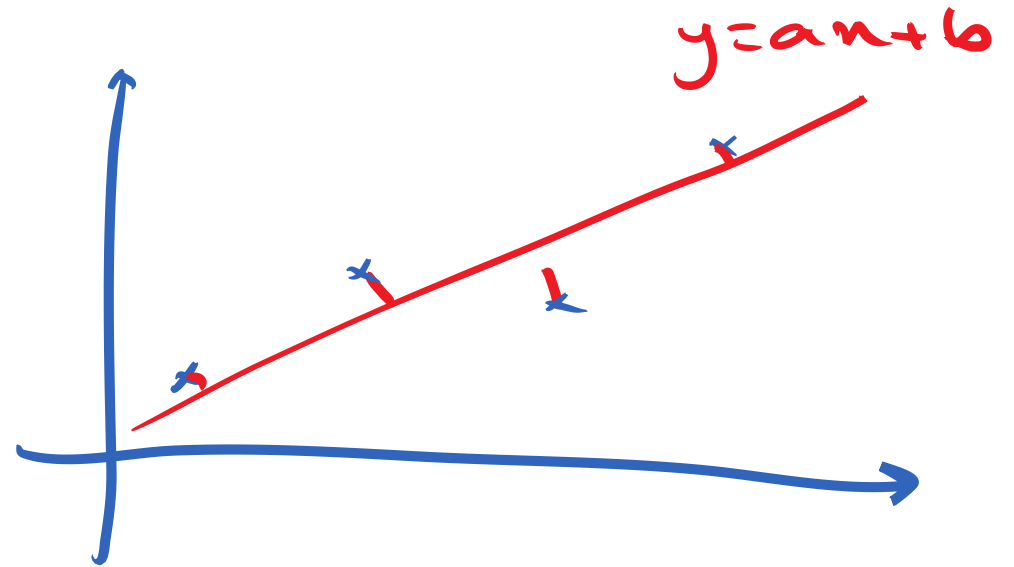
ب. ص

Regression

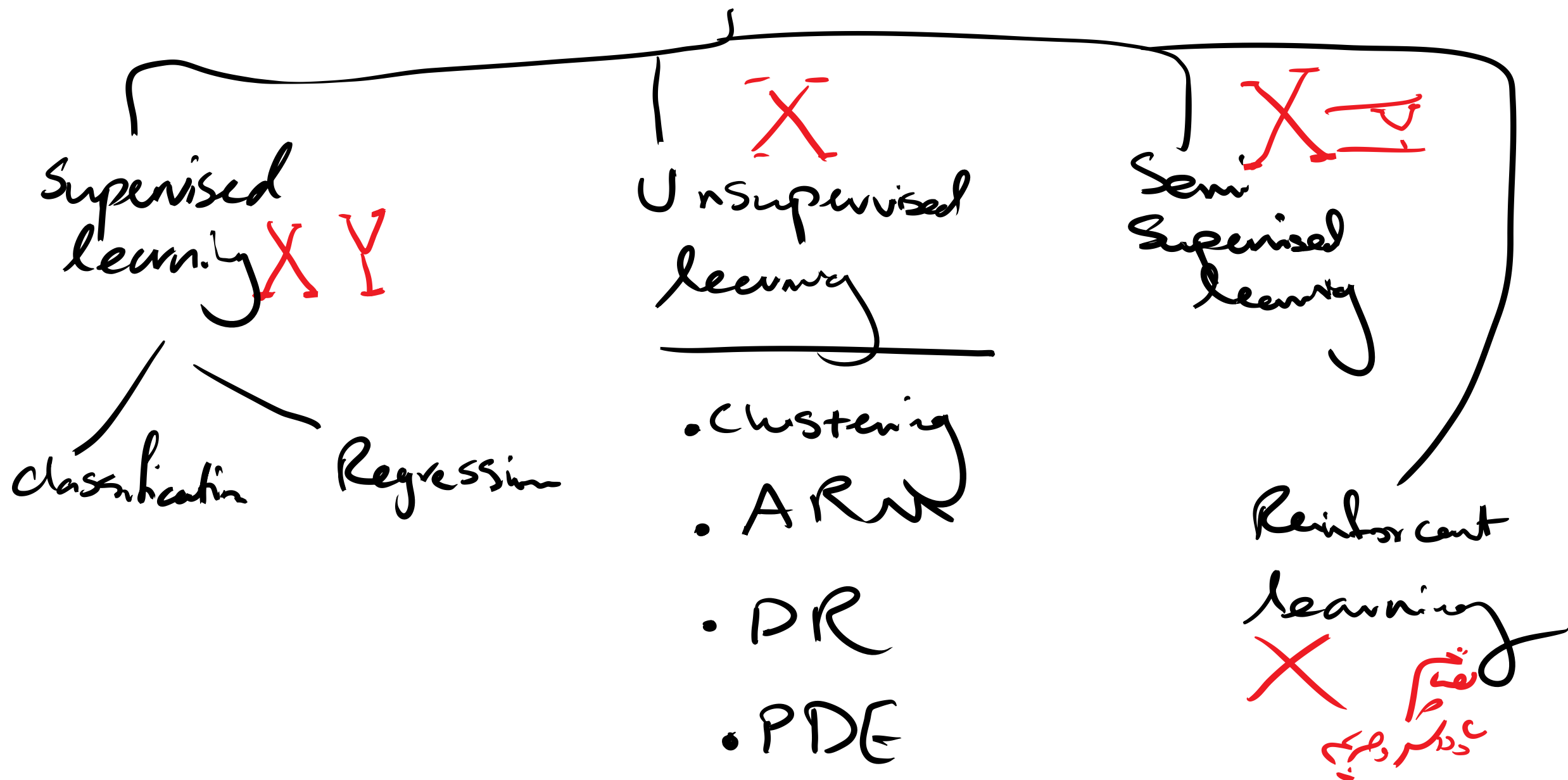
X Y
مستمر

R مربع

مقاييس: MSE, MAE, RMSE



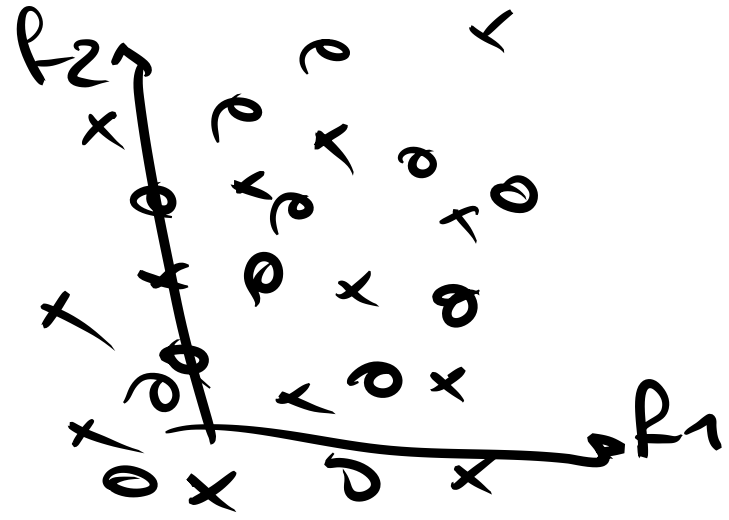
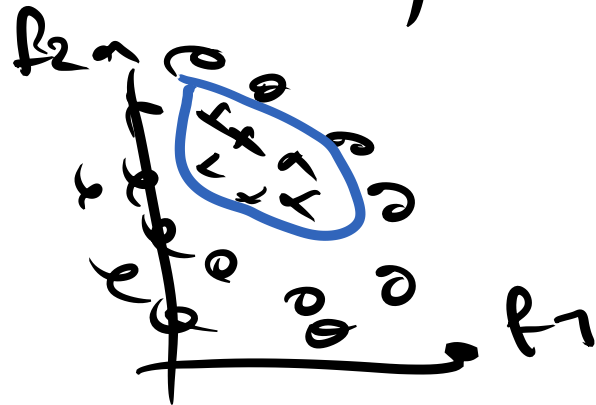
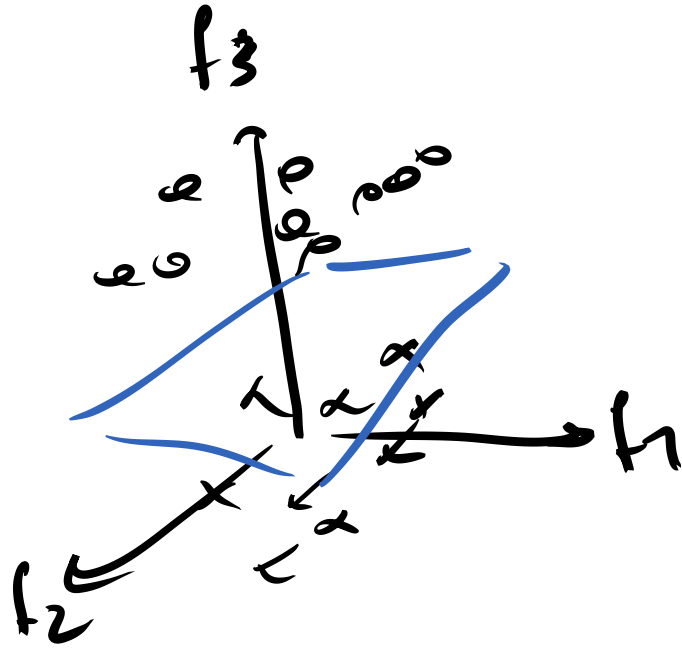
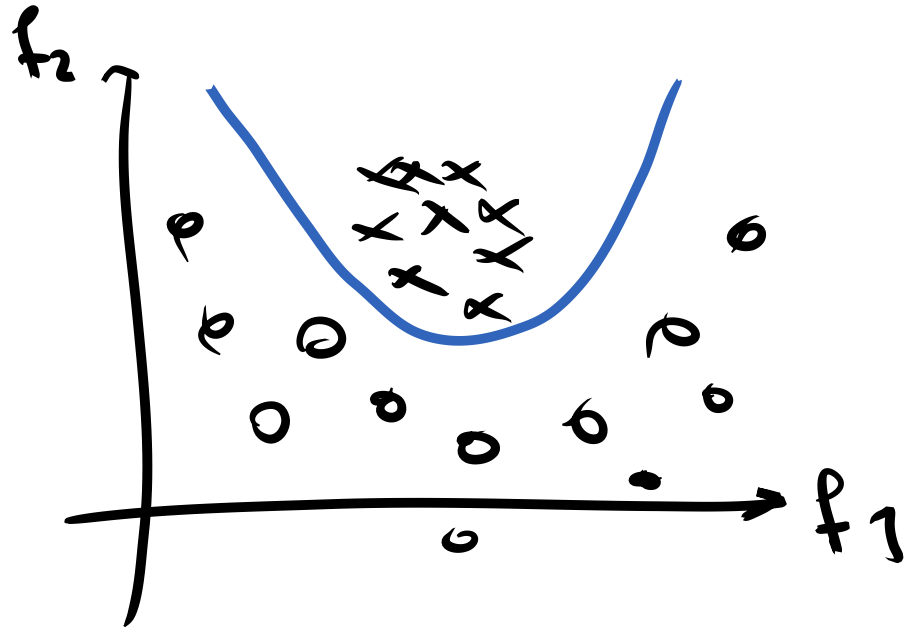
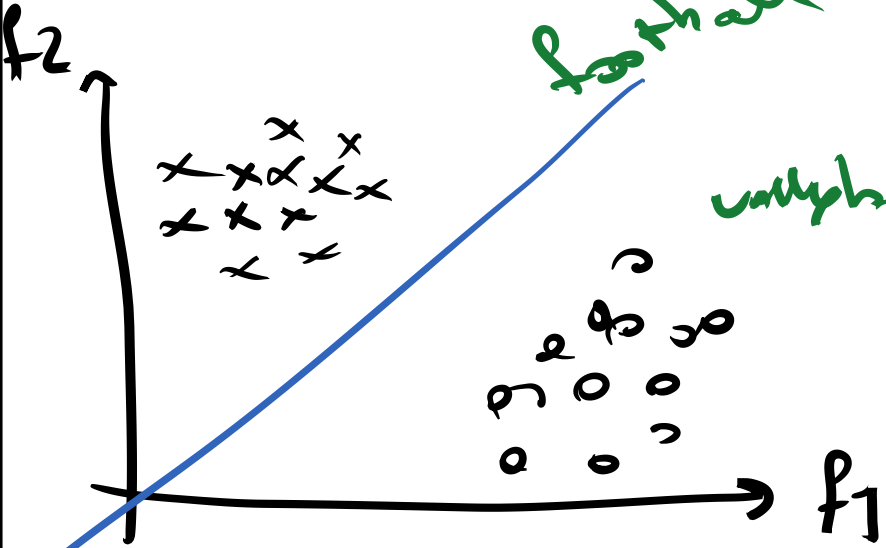
ML

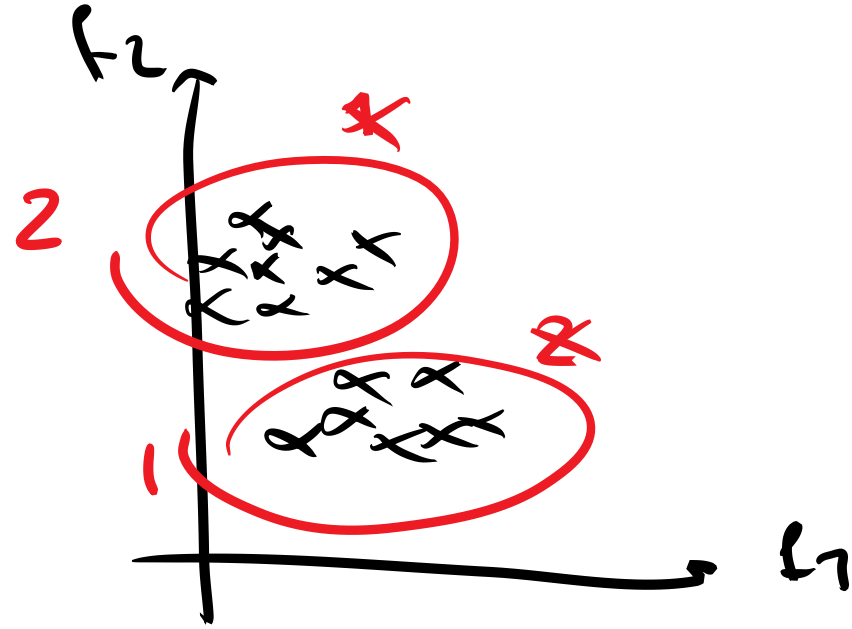
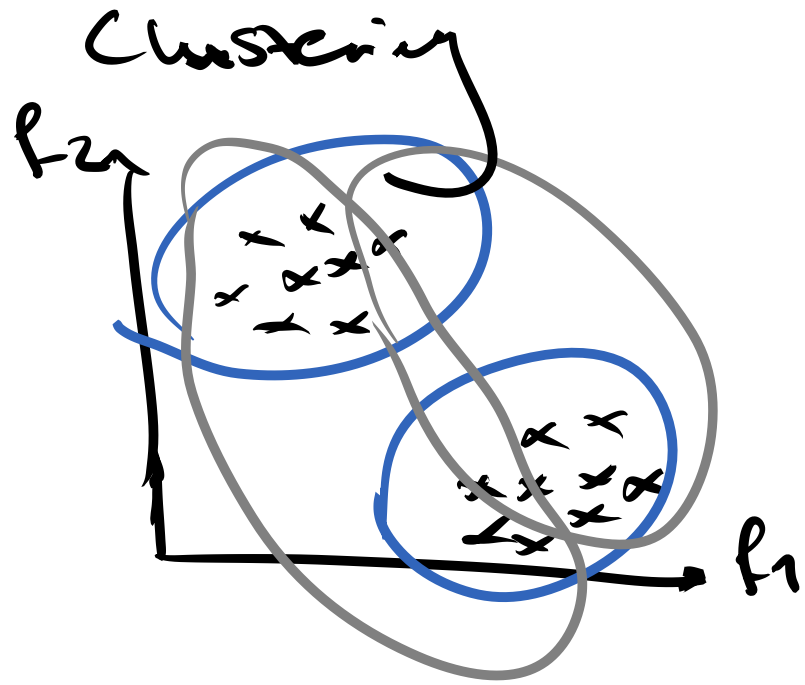


C classification

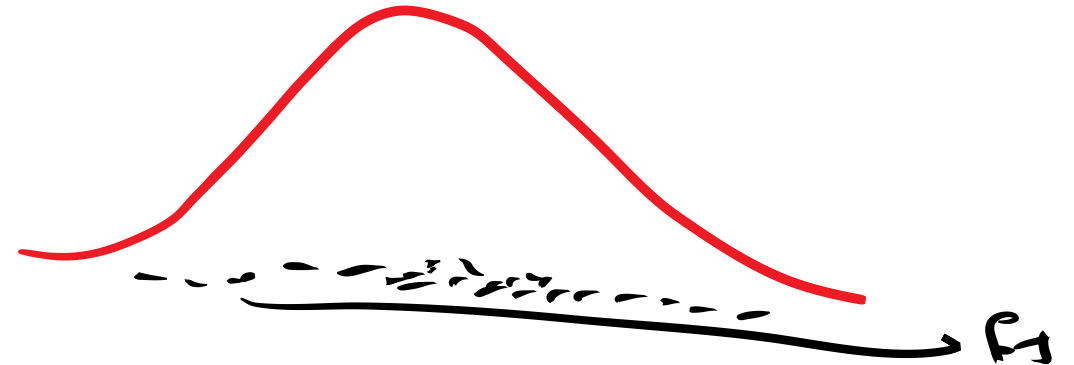
foothall

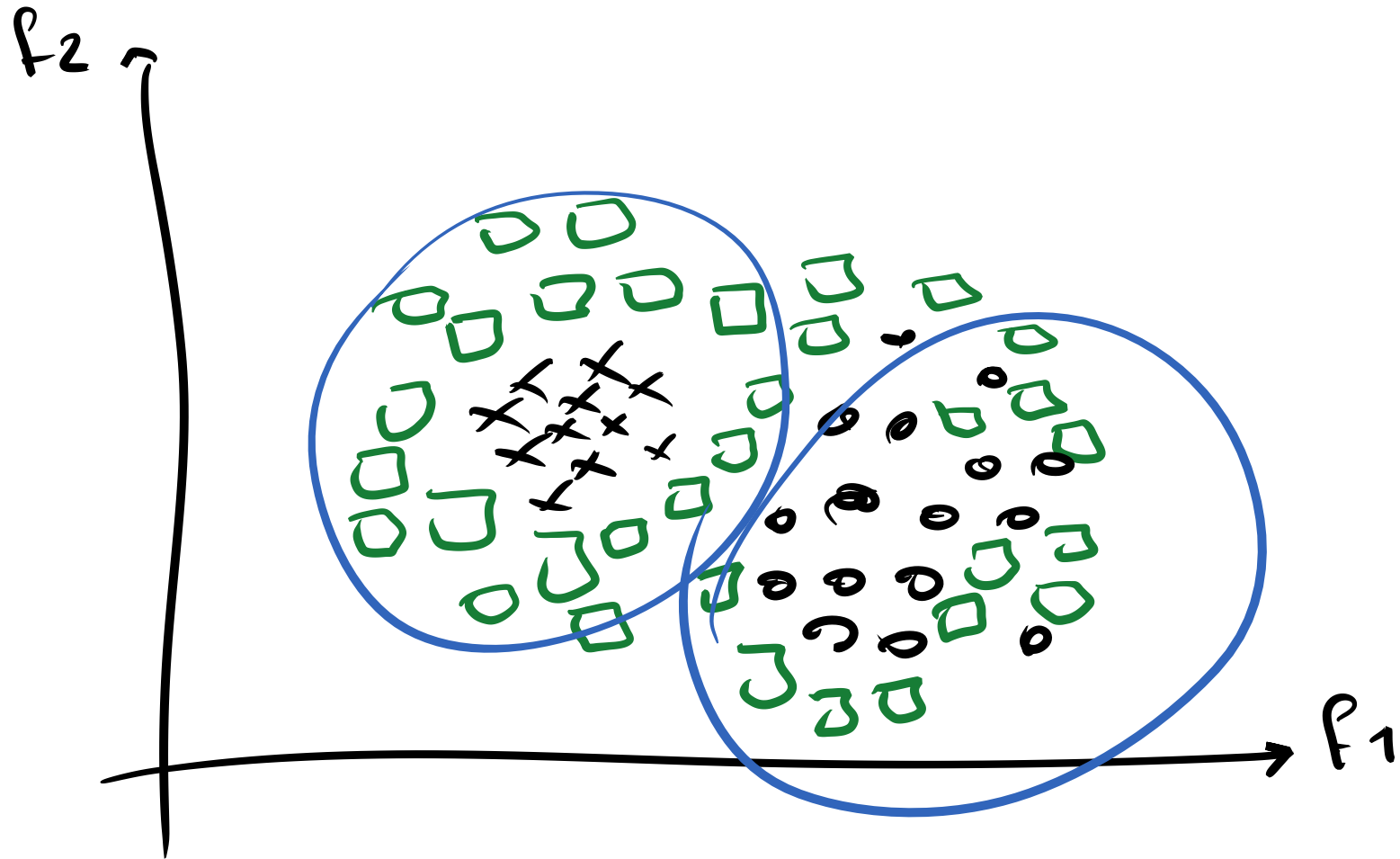
uniphall





↓
 ← μ در بین کلاسها
 ↑
 ← σ بین کلاسها





Classifier

~~3~~ m1

90

1 m2

95 ✓

2 m3

7 → 93% ✓

✓ تعداد مدل Test, Train ← ویژگی

✓ X

✓ feature

✓ هزینه
(مستقیم)

✓ تعداد داده

balance? ✓

✓ تعداد طبقه

c=2

Confusion Matrix

حالت واقعی

	+	-	
+	8 TP	6 FP	14
-	2 FN	84 TN	86
	10	90	

نتیجه پیش‌بینی

$$Acc : \frac{TP + TN}{N}$$

92% دقت

8% خطا

$$Precision : \frac{TP}{TP + FP} = \frac{8}{14}$$

$$Sensitivity, Recall : \frac{TP}{TP + FN} = \frac{8}{10}$$

$$F-score : \frac{2 \times precision \times Recall}{precision + Recall}$$

