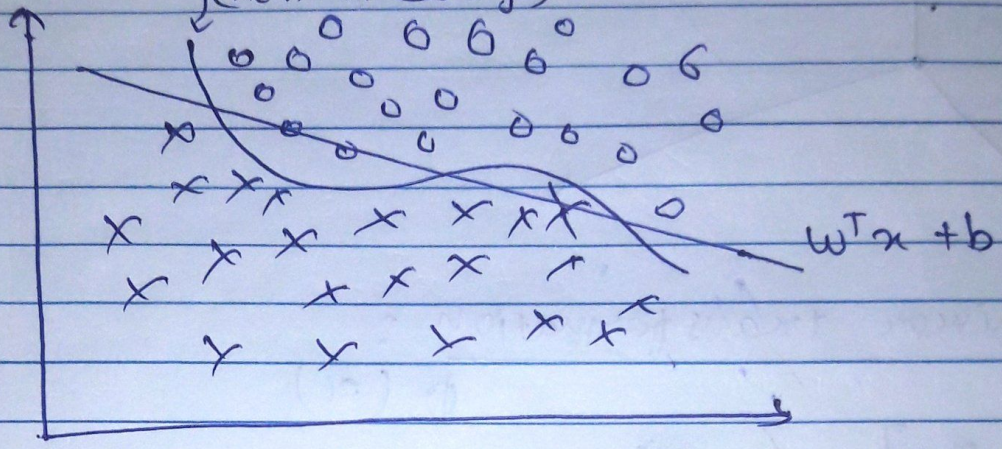
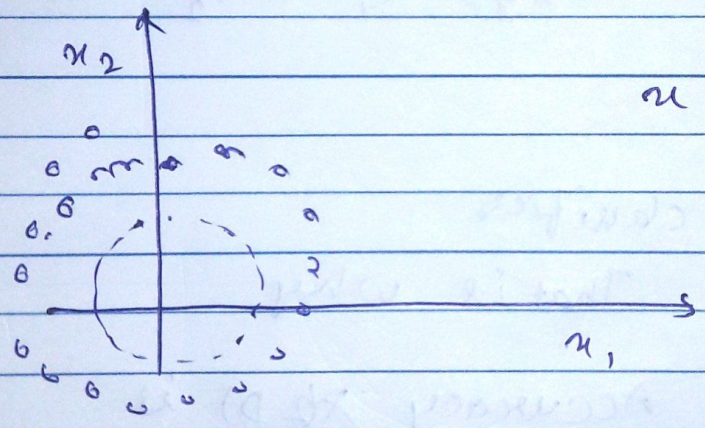
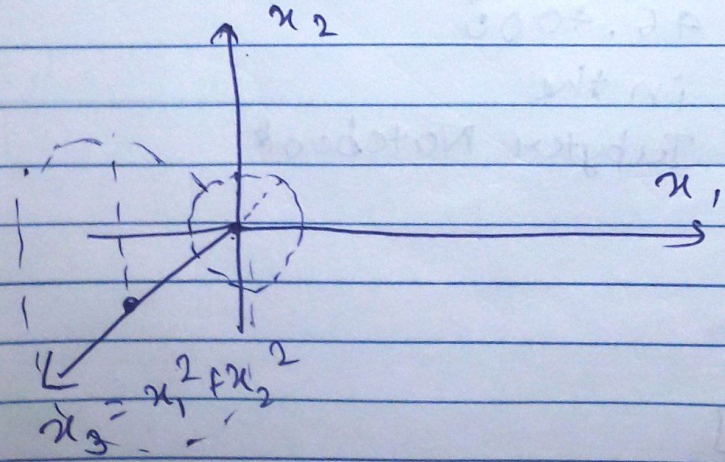
## (10) Handling Non-Linearly Seperable Data :

Non Linear classification
(Non Linearly)

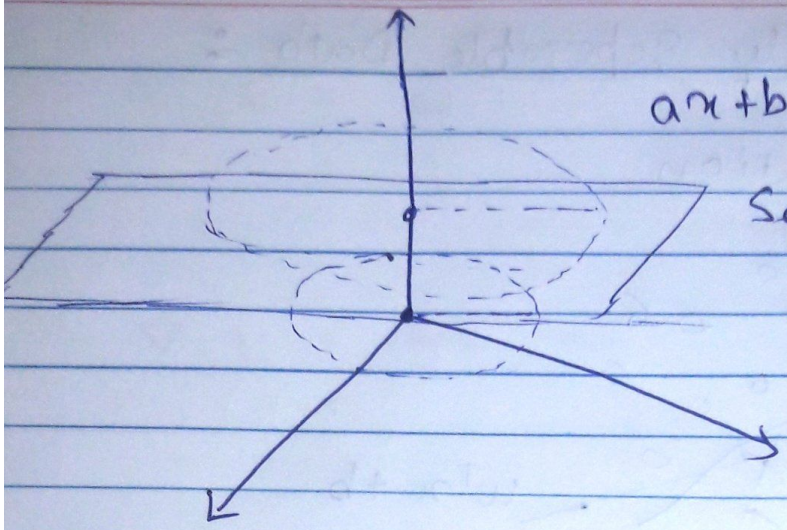



Key Idea :
Higher Dimension



$$z = -\left(\frac{ax + by + d}{c}\right)$$



$ax + by + cz + d = 0$

Seperating plane

Non linear transformation :

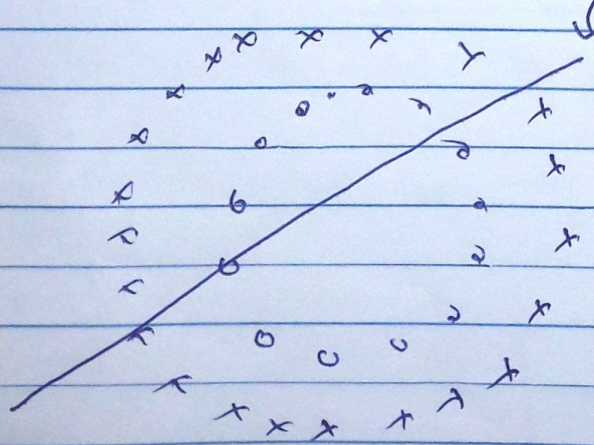
$x$ $\quad\quad$ $\phi(x)$

$[x_1, x_2] \rightarrow [x_1, x_2, x_3]$

for all examples

$x_3 = x_1^2 + x_2^2$

- Logistic Classifier



classifier

That is why Accuracy (2D) is 46.4000 in the Jupyter Notebook

$a : w[0]$

$b = w[1]$

$c : w[2]$