

# Feature Engineering $\rightarrow$ I

Q) What is feature Engineering?

Aerofit data  $\rightarrow$  Feature

Education	Gender	Income	Fitness	usage	Product

target  $\downarrow$

Classification type of Problem

Q2  $\rightarrow$  Fitness Example  $\rightarrow$

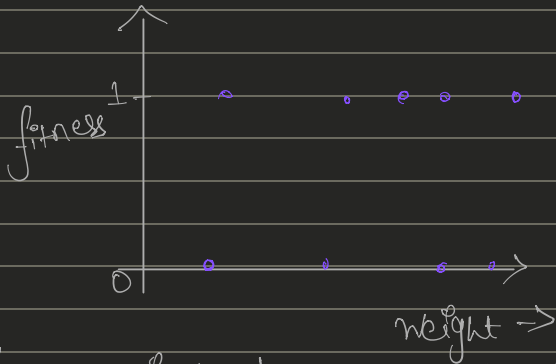
Weight	Height	Fitness
X	X	1
X	X	0
X	X	0
X	X	1
X	X	1
X	X	1

$1 \rightarrow$  Fit  
 $0 \rightarrow$  unfit

Data is labelled.

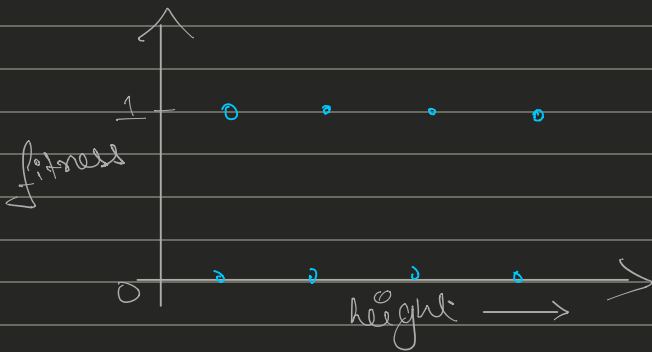
Q)  $\rightarrow$  Is fitness dependant on the weight of a person?  
 $\rightarrow$  Yes

Q2)  $\rightarrow$  Is fitness dependant on the height of a person?  
 $\rightarrow$  No/yes



$\rightarrow$  Same weight person can be fit & unfit  
with different height

fitness dependant upon  $\rightarrow$  weight & height



$\rightarrow$  Same height person can be fit & unfit  
with different Weight

fitness dependant upon  $\rightarrow$  weight & height

BMI (Body Mass Index)  $\rightarrow$

$$BMF = \frac{\text{weight}}{(\text{height})^2}$$



## Feature Engg. →

④ → $P_1 \rightarrow$ (A + CA)	Total Income 20 L Long-Term → 1.7%	Loan Amt 50 L
⑤ → $P_2 \rightarrow$ (A + CA)	50 L Loan-Term ↳ 20.7%	BCs (500 L)

$\Rightarrow \underset{\substack{\uparrow \\ \text{feature 1}}}{\text{Salary}} * \underset{\substack{\uparrow \\ \text{feature 2}}}{\text{Loan Term}} > \text{loan\_amt}$
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