

Normalization :

→ manages data redundancy

→ making data into same scale.

$$\text{Normalized}_a b = a + \frac{(X - \min)(b - a)}{(\text{Max} - \min)}$$

Here,

$a = \begin{matrix} \nearrow \text{min} \\ \text{normalizing scale} \\ \nwarrow \text{max} \end{matrix}$

Max = Max of original data

Min = Min of " "

X = what value we are normalizing.

Example : There was an exam where Anik got 85 out of 100. Normalize anik's score between 1 to 10.

Here, $a = 1, b = 10$
 $\min = 0, \text{Max} = 100$
 $X = 85.$

$$\begin{aligned} \text{Normalize} &= 1 + \frac{(85 - 0)(10 - 1)}{(100 - 0)} \\ &= 1 + \frac{85 \times 9}{100} = 1 + \frac{765}{100} \\ &= \boxed{8.65} \end{aligned}$$

wow! you did it 😊