standardization :-

→ preprocessing techinque used to rescale feature to get mean of new data 0 & S·D as 1.

→ Many ML algo that are distance based or gradient based are sensitive to data scale (input data) for eg K means, SVM, logistic regression, Gradient descent etc.

without standardization features with large magnitude can skew data

formula = $x' = \dfrac{x - \mu}{\sigma}$

<u>Note</u> :-

It only scales the data. Shape of data remains unchanged.