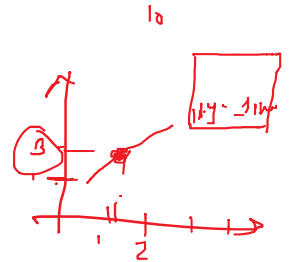


scaling  $\rightarrow$  Normalization  
 $\rightarrow$  standardization.

Normalization :  $\frac{x_i - x_{\min}}{x_{\max} - x_{\min}}$   
0 to 1



- ① array = [20, 25, 30, 10]  
 Normalization  $\rightarrow$  [0  $\longleftrightarrow$  1]  
 ||  
 ② MinmaxScaler  $\rightarrow$  [ ]  
 ③ array = [20, 1, 30, 50, 500]  
 manually  $\rightarrow$   
 minmax.  $\rightarrow$

Standardization: — [ ]  
 Manual  $\rightarrow$   $\frac{x_i - \bar{x}}{\text{std.}} = \underline{\underline{Z\text{-Score}}}$

$\frac{x_{\text{mean}}}{\text{std.}}$

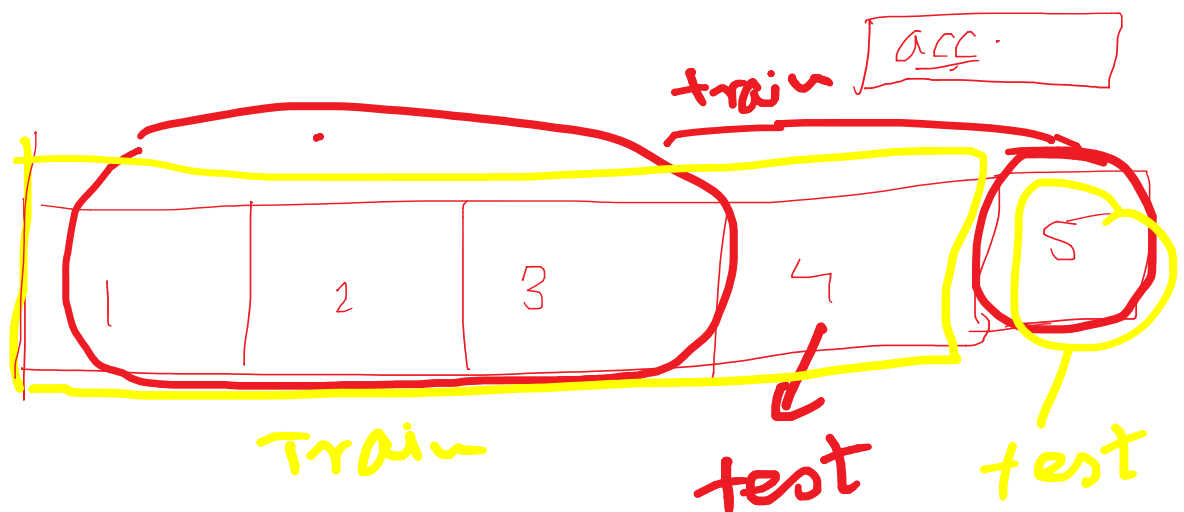
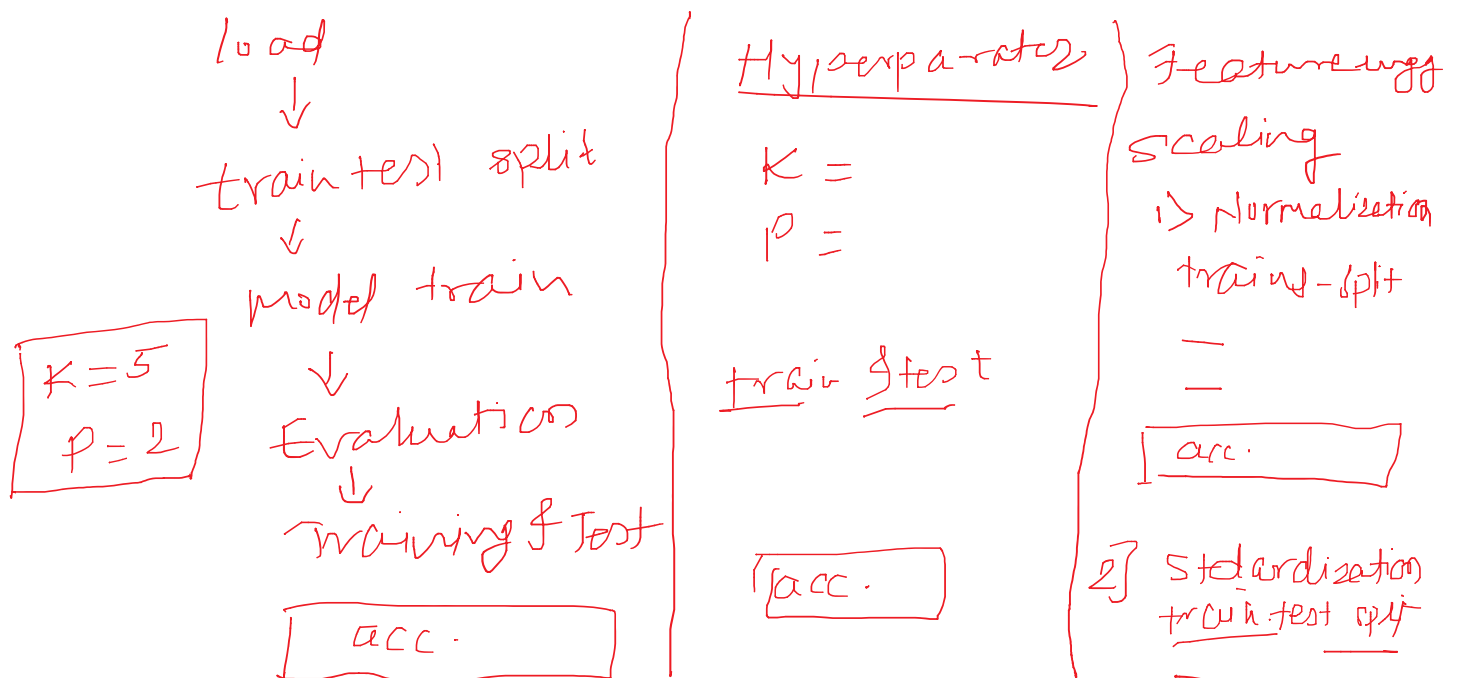
[ ]  $\leftarrow$

$$\frac{\text{Std}}{\text{Std}} = [ ] \leftarrow =$$

② StandardScaler → [ ]

③ outlier add - [ 20, 25, 31, 400, 600 ]

$$\text{std.} = [ ] \leftarrow$$

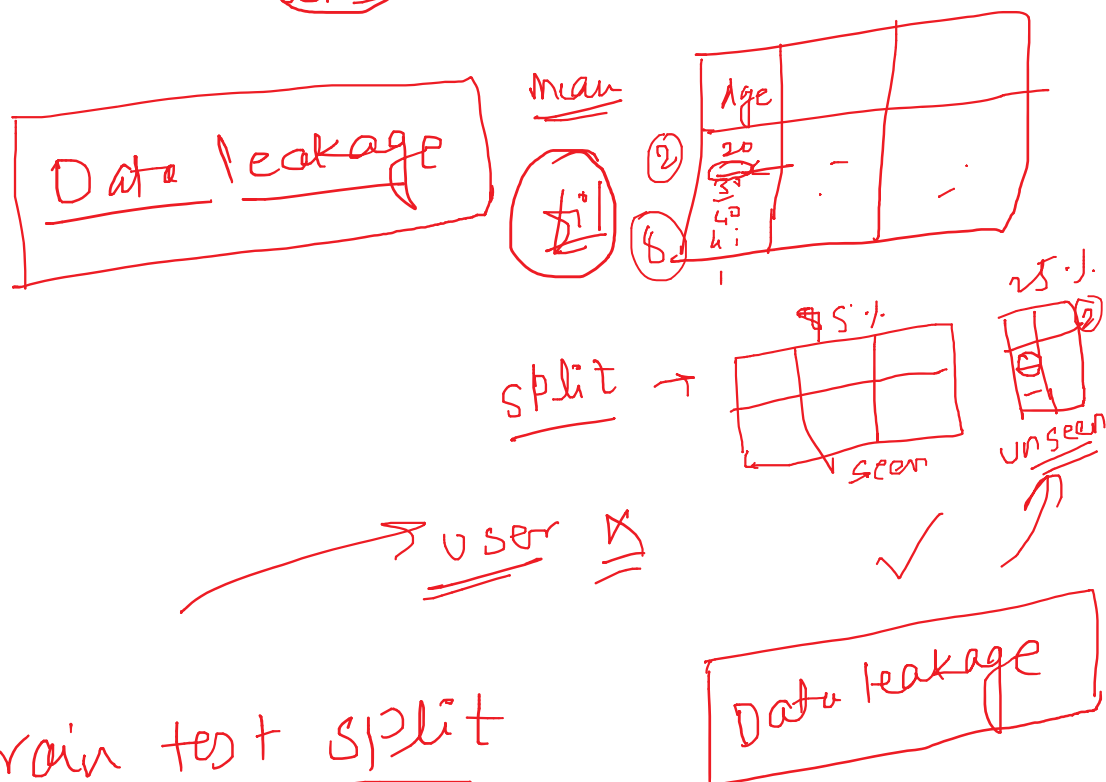


original df → actual values

Normalization → X-df (target remove)

array = [ [ ] ]

↓  
df → scaled df



Train test split

Train  
EDA  
↓

Test  
↓  
EDA

→ Normalization ↓