

(3) Ordinal Encoding:-

"Categories are replaced with numbers based on their rank/order."

Eg:- Size = {Small, Medium, Large}
 — Small \rightarrow 1, Medium \rightarrow 2, Large \rightarrow 3

\rightarrow Pro :- Maintains order of categories.

\rightarrow Cons:- Should only be used when data has a natural order.

* One-Hot Encoding:- (Day - 27)

"Each Category is converted into a new column with binary values (0 or 1)."

\Rightarrow Dummy Variable Trap:-

\rightarrow Here we drop one column (any one) from one of the splitted columns.

\rightarrow In one-hot encoding we only keep ~~1~~ (n-1) columns.
 bcz

We remove this column

Eg:-	Yellow	Blue	Red	
Yellow	1	0	0	\rightarrow Means Yellow
Blue	0	1	0	\rightarrow Means Blue
Blue	0	1	0	
Red	0	0	1	\rightarrow Means Red

\rightarrow ~~If~~ for blue & Red it is clearly visible bcz there is 1 for them but we can identify that if both are zero than it would be yellow.

Teacher's Signature: _____

→ So by this we can reduce the dimensions and also we can know the value.

→ This new created columns are known as dummy variables.

→ If we don't remove column then there would be ~~the multicollinearity problem~~ multicollinearity problem.

⇒ OHE using most frequent variables:-

→ We have to do this bcz agar ada pase ek column named car-brand then eme to bau badhi brands hase. So enu apde OHE karye to min. 40 jehi columns add thai. So e dimensions bau vadhavi dese so processing bau vadhi jase. So enu solution che keh apde jeh frequently used brands che ene alag alag column banaie and jeh brand amuk amuk vaar j aaie che ene apde ek column (others) ma nakhi daisu. So jeh apdi 40 columns banvani hoie 10 j banse have to apde dimensions par ocha thayi and apde kaam par thai gayu.