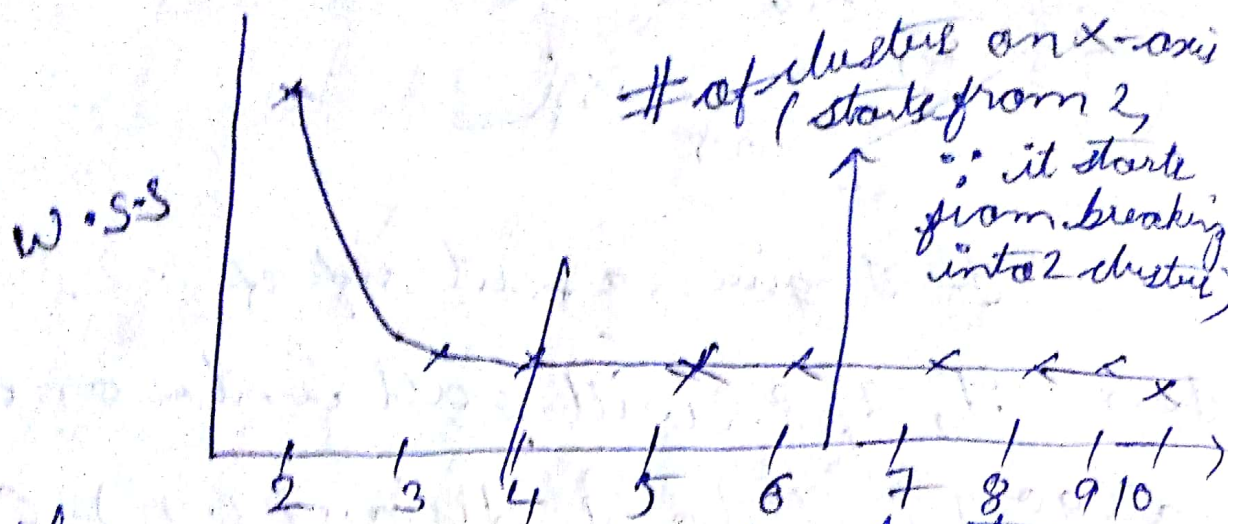


Free graph/ elbow curve:



when we are 4 clusters, there is a large decrease in sum of squares

(group) (they have to be similar)
 within cluster, they have to be homogeneous
 across group
 after cluster they have to be heterogeneous (different from each other)

[As the graph starts becoming flat that is where we have to decide to stop further clustering, in the above case it stops after 4, so we break the observations into clusters, the observations

keep getting closer to the mean
and in that way the variance
would be ~~de~~ decreasing and
WSS too.

How to decide the value of
 k ? (we look at the elbow
graph)

[In clustering, most of the times
to know similarities, distance
function is used]

[When Z score is used, the data
is broken b/w -3 to $+3$]

cutoff = 1.5

