# Categorized Players into 3 Positions – Defensive, Offensive and Special

# Multiple IF Condition is used to create the 4 Categories mentioned above

Clean\_Data$FieldPosition <- ifelse(Clean\_Data$pos\_combine=='C'| Clean\_Data$pos\_combine=='OG'| Clean\_Data$pos\_combine=='OT'|Clean\_Data$pos\_combine=='OL'|Clean\_Data$pos\_combine=='QB'|Clean\_Data$pos\_combine=='TE'|Clean\_Data$pos\_combine=='WR','Offensive',

ifelse(Clean\_Data$pos\_combine=='CB'| Clean\_Data$pos\_combine=='DE'| Clean\_Data$pos\_combine=='DL'|Clean\_Data$pos\_combine=='DT'|Clean\_Data$pos\_combine=='EDGE'|Clean\_Data$pos\_combine=='FB'|Clean\_Data$pos\_combine=='ILB'|Clean\_Data$pos\_combine=='LB'|Clean\_Data$pos\_combine=='OLB'|Clean\_Data$pos\_combine=='RB'|Clean\_Data$pos\_combine=='S','Defense','Special'))

# Ran K – Means Clustering with 3 Clusters

set.seed(20)

fviz\_nbclust(cluster\_data, kmeans, method = "wss") # Graph whih shows the bend

Fifa\_Cluster <- kmeans(scale(cluster\_data[,1:8]), 3, nstart = 20) # Specifying column 13 and 29 with 8 groups

Vector<-Fifa\_Cluster$cluster

# Cluster Results

|  |  |  |  |
| --- | --- | --- | --- |
| Cluster | Defense | Offensive | Special |
| 1 | 575 | 203 | 2 |
| 2 | 204 | 488 | 0 |
| 3 | 699 | 278 | 0 |

Continued Below

![Chart, scatter chart

Description automatically generated]()

# Conclusion

The playing position are well defined based on the following player attributes

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | | Ht | Wt | X40yd | Vertical | Bench | Broad\_Jump | X3Cone | Shuttle |  |  | |  |  |  |  | X3Cone | Shuttle |

Cluster 1: Typically, Defensive Position

Cluster 2: Offensive Players

Cluster 3 : Defensive Players