

Task 2 : From the given 'Iris' dataset, predict the optimum number of clusters and represent it visually.

```
# Importing the required libraries
import pandas as pd
```

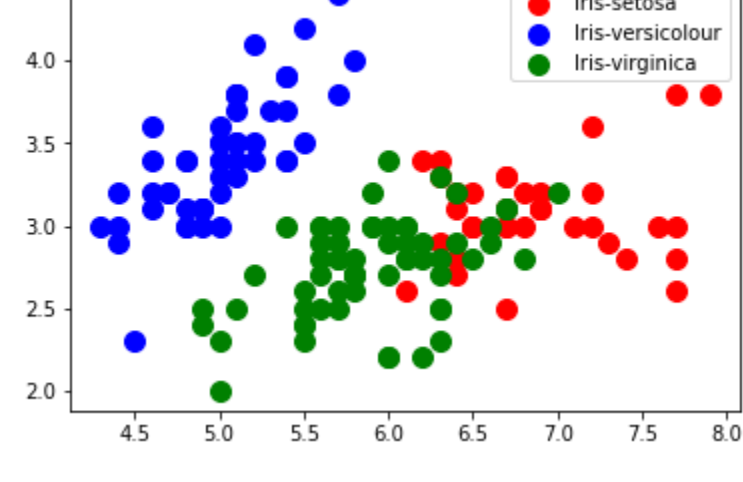
```
<bound method DataFrame.
etailLengthCm: RetailWidthb
```

Out[7]:

	SepalLengthCm	SepalWidthCm	PetalLengthCm	PetalWidthCm
0	5.1	3.5	1.4	0.2
1	4.9	3.0	1.4	0.2
2	4.7	3.2	1.3	0.2
3	4.6	3.1	1.5	0.2
4	5.0	3.6	1.4	0.2

Finding the optimal number of clusters for K-

The Elbow Method



Now combining both the above information, the following data set

A scatter plot showing the relationship between Sepal.Length (x-axis) and Petal.Length (y-axis) for three species of Iris flowers: Iris-setosa (red), Iris-versicolour (blue), and Iris-virginica (green). The plot also includes a legend for the centroid (yellow). The x-axis ranges from 4.5 to 8.0, and the y-axis ranges from 2.0 to 4.5. The data points are clustered by species, with Iris-setosa generally having higher Petal.Length values for a given Sepal.Length compared to the other two species.

Therefore the optimum number of clusters is 3.