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Visualizing the clusters.

Iris-setosa Iris-versicolor Iris-virginica Centroids

7.5

7.0

Petal length in cm

5.5

5.0

In [20]: plt.figure(figsize=(9,9))
 plt.scatter(x[Kmeans==0,0],x[Kmeans==0,1],s=100,color='yellow',label='Iris-setosa')
 plt.scatter(x[Kmeans==1,0],x[Kmeans==1,1],s=100,color='black',label='Iris-versicolor')
 plt.scatter(x[Kmeans==2,0],x[Kmeans==2,1],s=100,color='blue',label='Iris-virginica')
 plt.scatter(kmeans.cluster_centers_[:,0],kmeans.cluster_centers_[:,1],color='red',label='Centroids')
 plt.xlabel("Sepal length in cm")
 plt.ylabel("Petal length in cm")
 plt.title("Iris Flower Cluster")
 plt.legend()
 plt.show()

Iris Flower Cluster

60 80

Sepal length in cm

120

140

Task-2: Prediction using Unsupervised ML

In [21]: #In this task I am going to predict the optimum number of clusters and represent it visually.

Author: Rudra Pratap Singh

#I am going to use python language for this task.

Importing Required Libraries

#From the given iris dataset.

import matplotlib.pyplot as plt

from sklearn.cluster import KMeans

from sklearn import datasets

import numpy as np
import pandas as pd

%matplotlib inline

import seaborn as sns