1. **Number of clusters (K):** This is the most important hyperparameter in K-means. It determines the number of centroids to be created, which in turn determines the number of clusters the algorithm will attempt to find.
2. **Initialization Method:** K-means requires an initial guess for the cluster centers. There are different methods to initialize these centroids, such as:
   * Random initialization: Centroids are randomly chosen from the data points.
   * K-means++ initialization: Centroids are chosen such that they are distant from each other.
   * Custom initialization: Centroids are initialized based on some domain-specific knowledge.
3. **Maximum Number of Iterations:** This hyperparameter specifies the maximum number of iterations the algorithm will run before converging. If the algorithm doesn't converge within this limit, it stops.
4. **Convergence Criteria:** This determines when to stop the iterations. The algorithm can stop when either:
   * Centroids do not change significantly between iterations.
   * The total distance between points and centroids does not change significantly between iterations.
5. **Initialization Parameters:** If using specific initialization methods like K-means++, there might be additional parameters to specify, such as the number of initialization attempts.
6. **Tolerance:** This hyperparameter determines the tolerance to declare convergence. If the change in centroids between consecutive iterations is less than this value, the algorithm is considered to have converged.