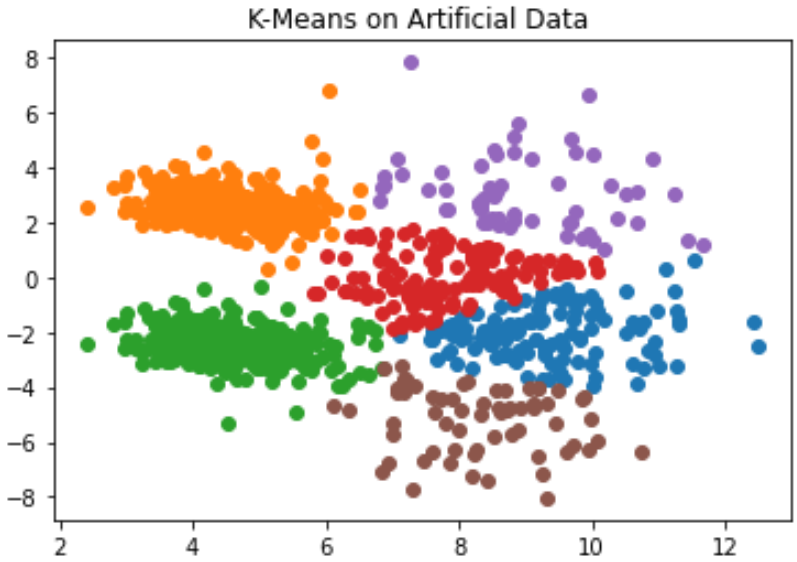
1 NAME: KHURAM SHAHZAD

Description File for input parameter.

2 TABLE OF CONTENTS

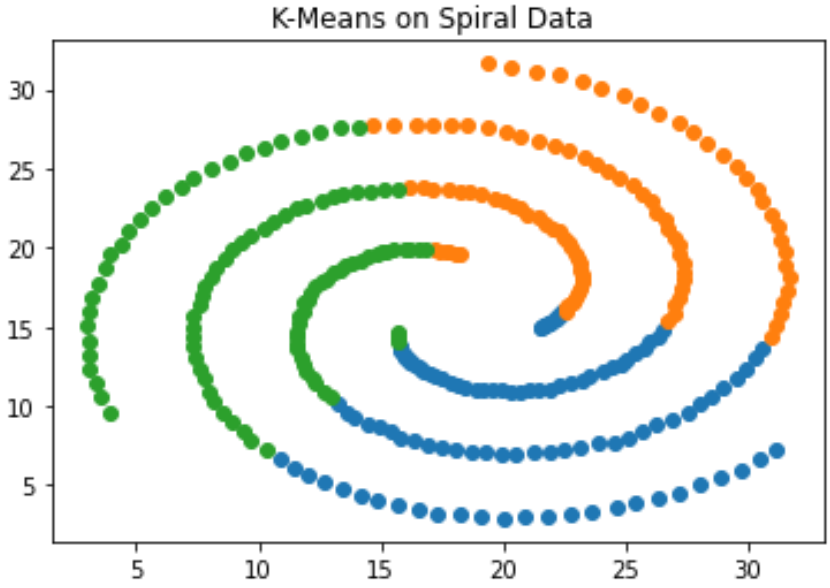
3 K-MEANS ALGORITHMS:

3.1 INPUT PARAMETER FOR ARTIFICIAL DATA



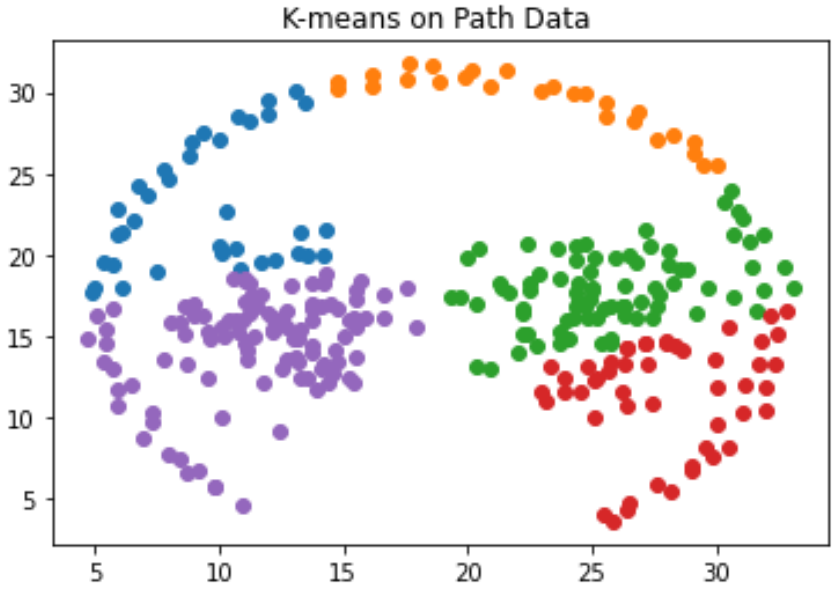
a. n_clusters=6 (After huge a number of testing K means give minimum errors on 6 cluster.)
b. max_iter=1000 (Maximum number of iterations of the k-means algorithm for a single run).

3.2 INPUT PARAMETER FOR SPIRAL DATA



c. n_clusters=3 (Its seems in data that there are 3 cluster so we give it three cluster
d. max_iter=1000 (Maximum number of iterations of the k-means algorithm for a single run)

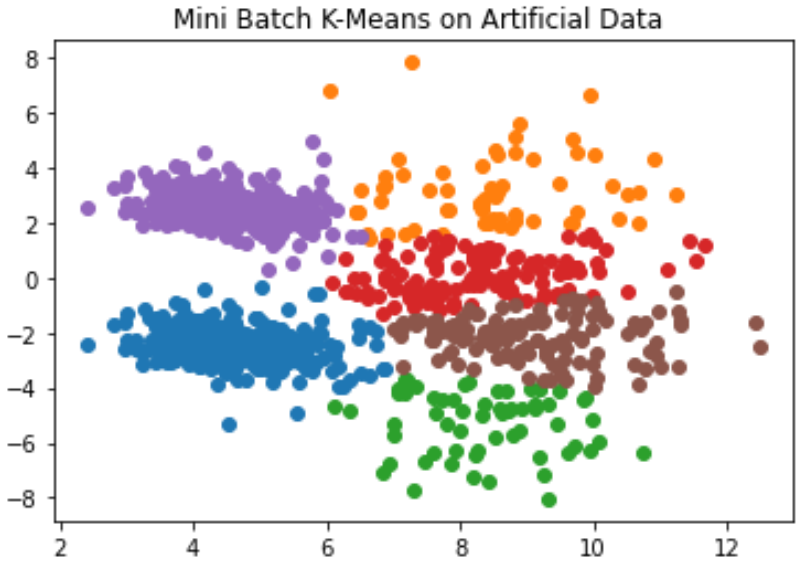
3.3 Input parameter for Path Data



e. **n_clusters=5** (After huge a number of testing we have decided to take 5 cluster because on 5 cluster K means producing the best evaluation scores).
f. **max_iter=1000** (Maximum number of iterations of the k-means algorithm for a single run)

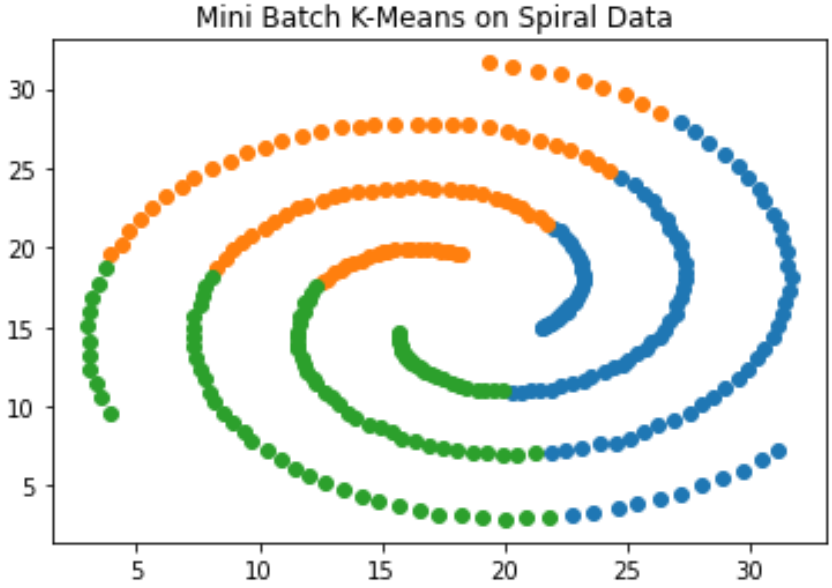
4 MINI-BATCH K-MEANS:

4.1 INPUT PARAMETER FOR ARTIFICIAL DATA



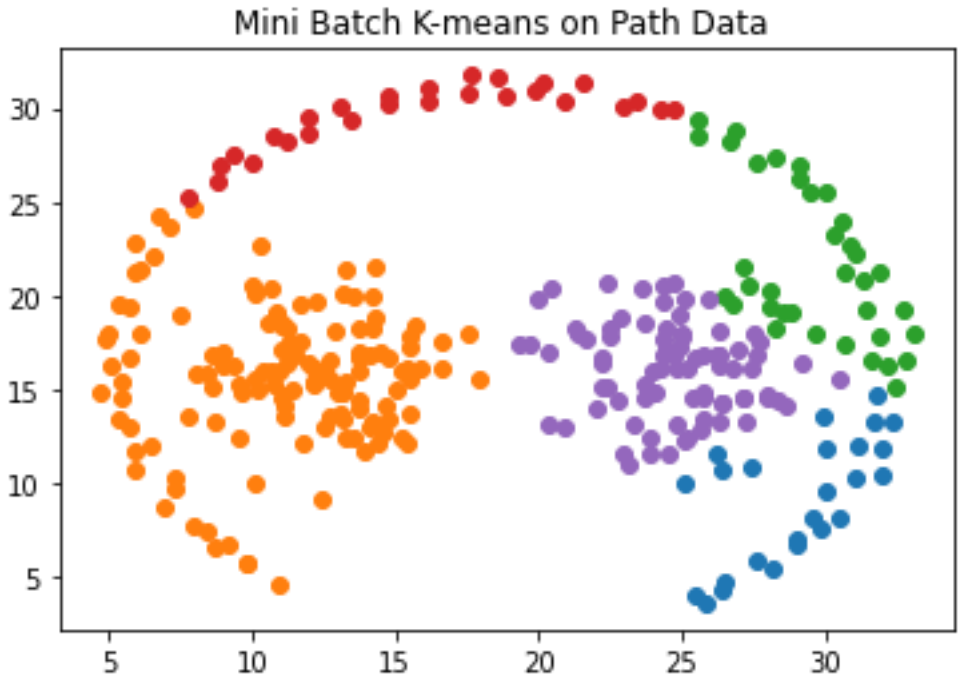
g. **n_clusters=6** (After huge a number of testing Mini-Batch K means give minimum errors on 6 cluster.)
h. **max_iter=1000** (Maximum number of iterations of the Mini-Batch k-means algorithm for a single run).

4.2 INPUT PARAMETER FOR SPIRAL DATA



i. **n_clusters=3** (Its seems in data that there are 3 cluster so we give it three cluster
j. **max_iter=1000** (Maximum number of iterations of the Mini-Batch k-means algorithm for a single run)

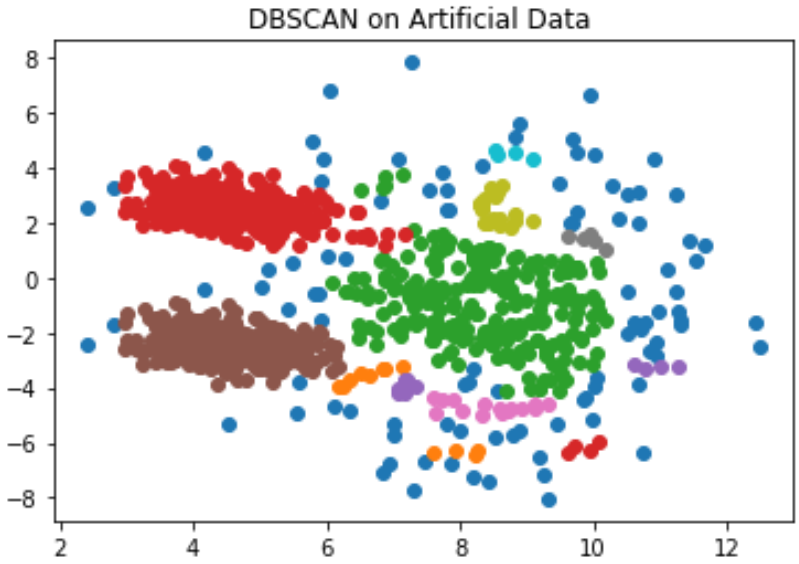
4.3 Input parameter for Path Data



k. **n_clusters=5** (After huge a number of testing we have decided to take 5 cluster because on 5 cluster Mini-Batch K means produce minimum cost.
l. **max_iter=1000** (Maximum number of iterations of the Mini-Batch k-means algorithm for a single run)

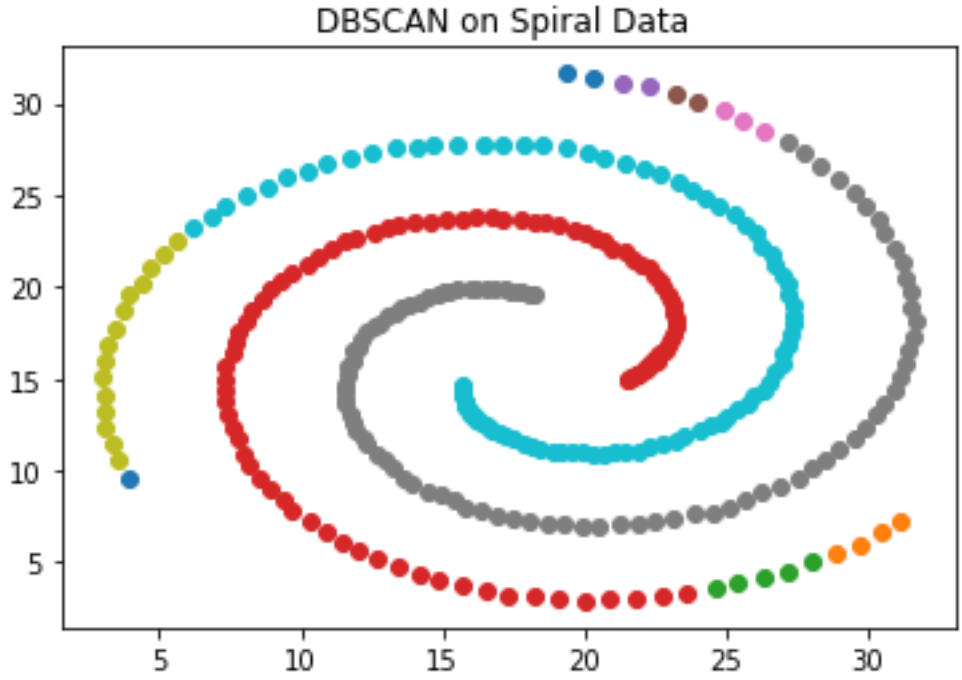
5 DBSCAN:

5.1 Input parameter for Artificial Data



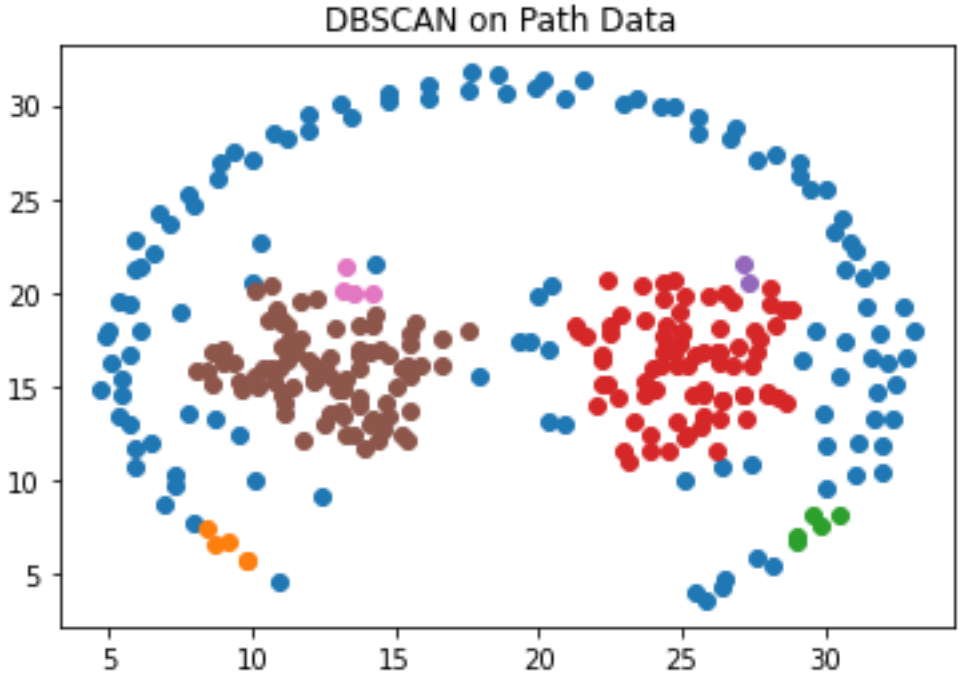
m. **eps=0.4** (Here eps means threshold / radius or window size.)
n. **min_samples=4** (sample means how much minimum sample can be in our eps).

5.2 Input parameter for Spiral Data



a. **eps=0.9999999** (Here eps mean threshold / radius or window size.)
b. **min_samples=1.5** (sample means how much minimum sample can be in our eps).

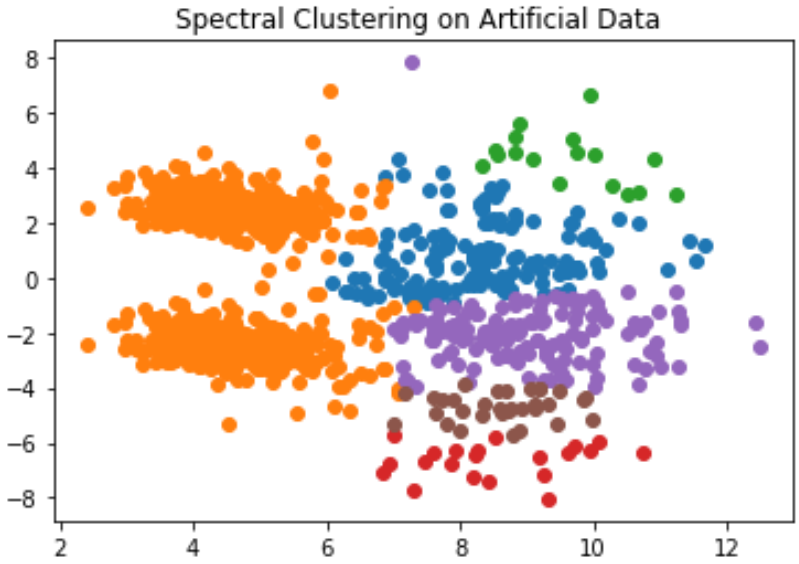
5.3 Input parameter for Path Data



c. **eps= 1.333** (Here eps means threshold / radius or window size.)
d. **min_samples=4.1** (sample means how much minimum sample can be in our eps).

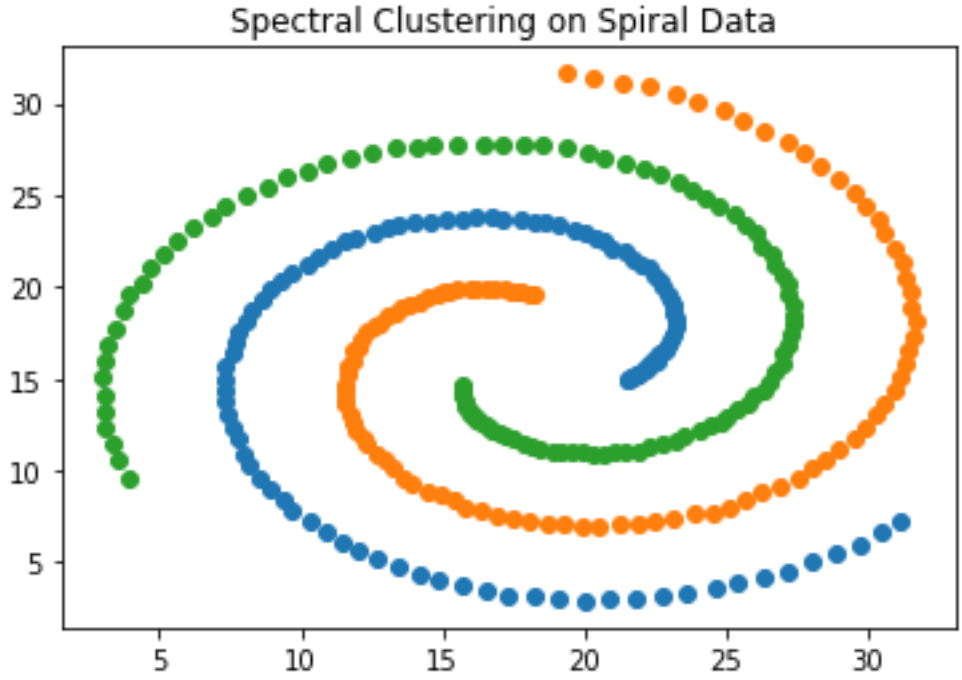
6 SPECTRAL CLUSTERING:

6.1 INPUT PARAMETER FOR ARTIFICIAL DATA



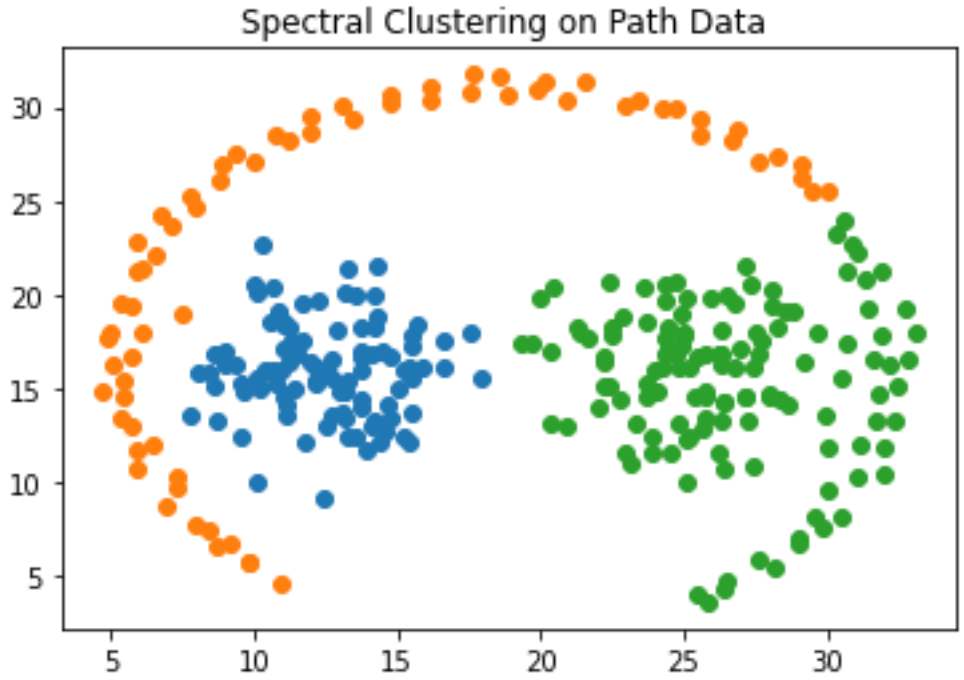
a. **n_clusters=6** (After huge a number of testing spectral clustering give minimum cost on 6 cluster in Evaluation Metrics.)

6.2 INPUT PARAMETER FOR SPIRAL DATA



e. **n_clusters=3** (Its seems in data that there are 3 cluster so we give it three cluster)

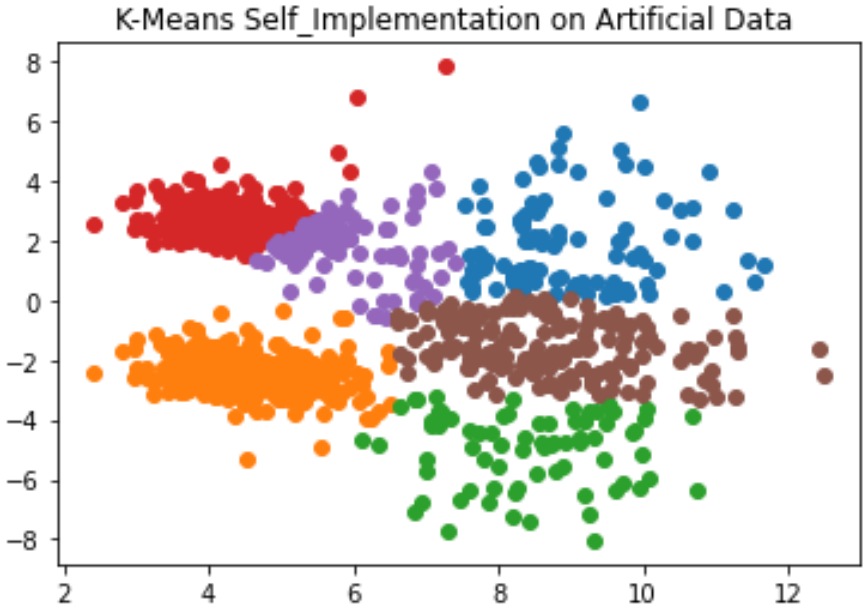
6.3 Input parameter for Path Data



a. **n_clusters=3** (After huge a number of testing spectral clustering give minimum cost on 3 cluster in Evaluation Metrics.)

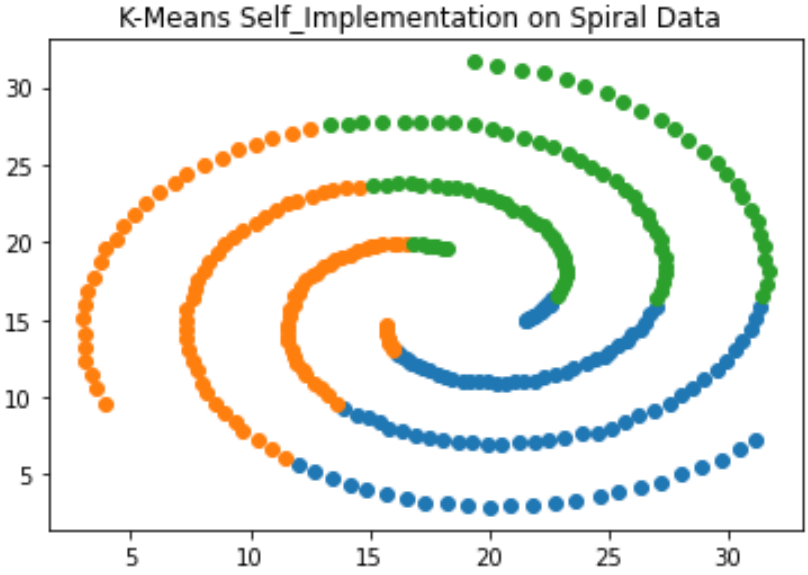
7 K-MEANS SELF IMPLEMENTATION:

7.1 INPUT PARAMETER FOR ARTIFICIAL DATA



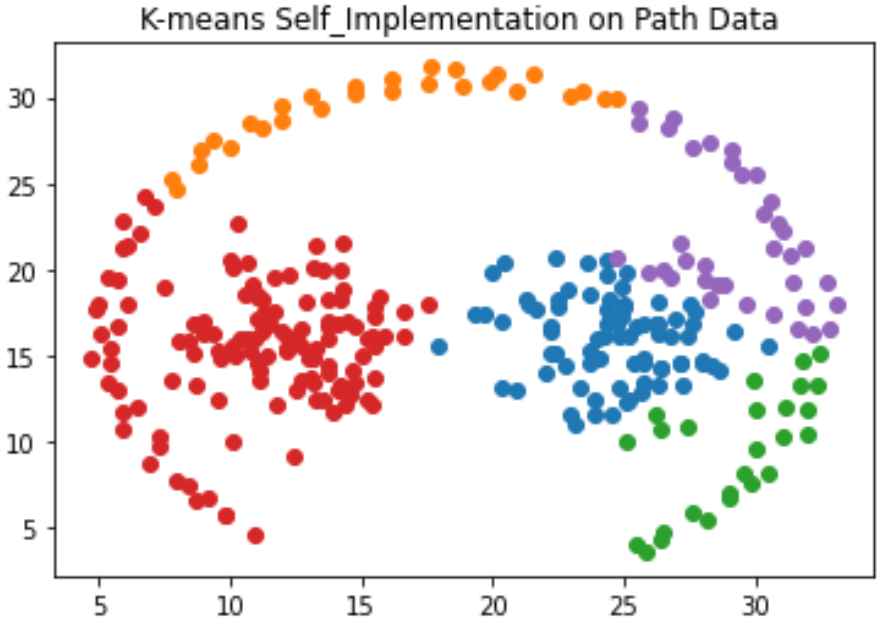
b. **n_clusters=6** (After huge a number of testing K-Means Self Implementation give minimum cost on 6 cluster in Evaluation Metrics.)

7.2 INPUT PARAMETER FOR SPIRAL DATA



f. **n_clusters=3** (Its seems in data that there are 3 cluster so we give it three cluster)

7.3 Input parameter for Path Data



b. **n_clusters=5** (After huge a number of testing K-Means Self Implementation give minimum cost on 3 cluster in Evaluation Metrics.)