```
ClusterStructure
                                                  dim cols: int
                                                  dim rows: int
                                                  clusters: list
                                                  clusters number: int
                                                  data: np.array
                                                  labels: np.array
                                                    _init__(data : np.array)
                                                  add all clusters (set of clusters : set)
                                                  add cluster(cluster : Cluster)
                                                  clear()
                                                  current labels()
                                                  del cluster(cluster : Cluster)
                                                  release new batch(indices batch: list)
                                                  release new cluster(points indices: np.array)
                                                                   <<abstract>>
                                                         AgglomerativeClusterStructure
                                           dist cluster to cluster(cluster1 : Cluster, cluster2 : Cluster)
                                           dist point to cluster(point: np.array, cluster: Cluster)
                                           dist point to point(point1: np.array, point2: np.array,
                                           ⊳cluster of point1 : Cluster)
                                                                                      AWardPBClusterStrucutre
                 AWardClusterStrucutre
                                                                      p: float
                                                                      beta: float
dist cluster to cluster(cluster1 : Cluster, cluster2 : Cluster)
                                                                         init (data: np.array, p: float, beta: float)
dist point to cluster(point: np.array, cluster: Cluster)
                                                                      dist cluster to cluster(cluster1 : Cluster, cluster2 : Cluster)
dist point to point(point1: np.array, point2: np.array,
                                                                      dist point to cluster(point: np.array, cluster: Cluster)
⊳cluster of point1 : Cluster)
                                                                      dist point to point(point1: np.array, point2: np.array,
merge(cluster1 : Cluster, cluster2 : Cluster)
                                                                      ⊳cluster of point1 : Cluster)
release new cluster(points indices: np.array)
                                                                      merge(cluster1 : Cluster, cluster2 : Cluster)
                                 cluster structure
                           APInit
       MAX LOOPS: int
       cluster structure : ClusterStructure
                                                                                                      cluster structure
       completed: bool
                                                                                                APInitPB
       data : np.array
                                                                                beta: float
       _index : np.array
                                                                                p: float
       origin: np.array
                                                                                threshold: int
      threshold: int
                                                                                  init (data: np.array, threshold: int)
       __call__()
                                                                                calculate origin()
       __init__(data : np.array, threshold : int)
                                                                                \_{
m create}\_{
m cluster}\_{
m strucutre}()
       _calculate_origin()
       cluster(points indices : np.array)
       create cluster strucutre()
       furthest point relative index(current data:
       ⊳np.array)
```