Performance report

# DBSCAN

1. **Blobs**: The DBSCAN algorithm seems to have merged several clusters together, resulting in overlapping red clusters. This is in contrast to the distinct and well-separated clusters in original.
2. **Dart**: original shows circular patterns, but DBSCAN appears to have more noise present in its result.
3. **Basic**: original has vertical bands of color-coded clusters, but the bands in the DBSCAN output are less distinct.
4. **Outliers**: The original color has distinct core points from noise, while DBSCAN struggles with noise identification and cluster separation.
5. **Spiral**: The original color depicts a clear spiral pattern, but DBSCAN fails to capture this intricacy, resulting in an unclear pattern formation.
6. **Boxes**: The original color has distinct square-shaped clusters, whereas they appear merged and indistinct using DBSCAN.

# Chameleon

 CHAMELEON algorithm has performed reasonably well on the datasets, although there are some variations when compared to the original (ANSWER).

1. **Blobs**: The CHAMELEON algorithm seems to have some overlap between clusters, which is in contrast to the distinct and well-separated clusters formed by the original.
2. **Dart**: CHAMELEON effectively identified a circular cluster surrounded by another cluster, but there are slight differences in boundary definition.
3. **Basic**: CHAMELEON clustered vertical lines of different colors effectively, indicating distinct groups.
4. **Outliers**: original seems more reasonable, while CHAMELEON has some scattered points.
5. **Spiral**: CHAMELEON shows capability in identifying spiral patterns but there are variations in cluster compactness and separation.
6. **Boxes**: CHAMELEON effectively identify distinct box-shaped clusters.

# BIRCH

1. **Blobs**: The BIRCH algorithm seems to have formed clusters that are quite similar to original.
2. **Dart**: BIRCH effectively identified a circular cluster surrounded by another cluster, but there are slight differences in boundary definition.
3. **Basic**: BIRCH clustered vertical lines of different colors effectively, indicating distinct groups.
4. **Outliers**: original algorithm seems more reasonable as it clearly identifies separate clusters, while BIRCH has some scattered points.
5. **Spiral**: BIRCH identified spiral patterns, but there are variations in cluster compactness and separation.
6. **Boxes**: BIRCH effectively identified distinct box-shaped clusters.

# KMedoids

1. **Blobs**: The K-Medoids algorithm seems to have formed clusters that are quite similar to original.
2. **Dart**: K-Medoids effectively identified a circular cluster surrounded by another cluster, but there are slight differences in boundary definition.
3. **Basic**: K-Medoids clustered vertical lines of different colors effectively, indicating distinct groups.
4. **Outliers**: original algorithm seems more reasonable as it clearly identifies separate clusters, while K-Medoids has some scattered points.
5. **Spiral**: K-Medoids identifed spiral patterns, but there are variations in cluster compactness and separation.
6. **Boxes**: K-Medoids effectively identified distinct box-shaped clusters.

# Kmeans

1. **Blobs**: The K-Means algorithm seems to have formed clusters that are quite similar to those formed by the original algorithm.
2. **Donut**: K-Means effectively identified a circular cluster surrounded by another cluster, but there are slight differences in boundary definition.
3. **Basic**: K-Means has clustered vertical lines of different colors effectively, indicating distinct groups.
4. **Outliers**: original algorithm seems more reasonable as it clearly identifies separate clusters, while K-Means has some scattered points.
5. **Spiral**: K-Means identified spiral patterns, but there are variations in cluster compactness and separation.