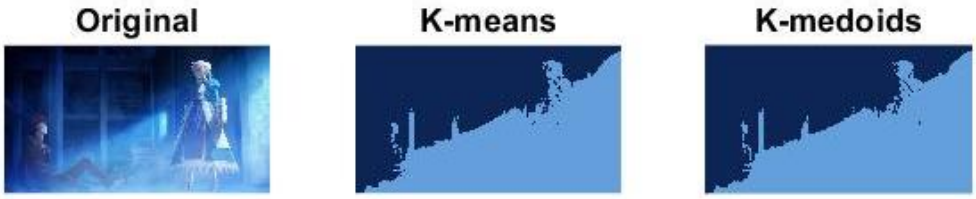

Figure 1. K=2, using eluclidian distance.

Figure 2. K=4, using eluclidian distance.

Figure 3. K=8, using eluclidian distance.

Figure 4. K=16, using eluclidian distance.

Figure 5. K=32, using eluclidian distance.

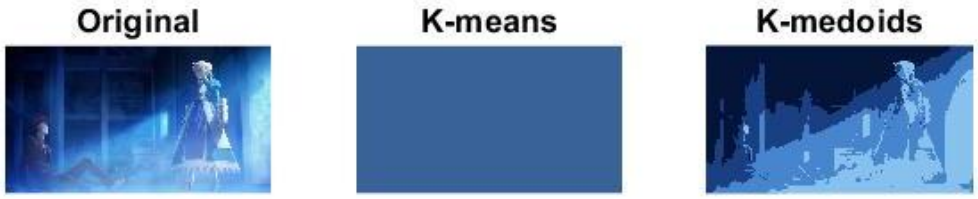

Figure 6. Output with poor manual initial centroids.

K	kmeans_time	kmedois_time	kmedois_distance	trial
2	4.6207	5.1277	euclidean'	1
2	6.15	4.5443	euclidean'	2
4	13.8916	25.8229	euclidean'	1
4	14.2168	25.0583	euclidean'	2
4	20.3018	13.1551	Chebychev'	1
4	14.921	7.609	Chebychev'	2
4	13.4802	8.0518	Manhattan'	1
4	18.2456	16.7783	Manhattan'	2
8	42.8334	18.0424	euclidean'	1
8	28.9347	9.7227	euclidean'	2
16	32.0595	27.5949	euclidean'	1
16	22.3406	19.4267	Manhattan'	1
16	34.7357	10.9475	Chebychev'	1
32	42.9796	19.7811	euclidean'	1

Table 5-1. Results of running time of K-means and K-medoids using different K values and K-medois distance.