University of Science and Technology in Zewail City	CIE 552	Final_Assignment

Question 1

Apply Harris corner detector to the pixels marked by * in the following image using a 3 x 3 window around each pixel. Use the tunable parameter k equal to 0.04 and use the following kernels to compute the derivative in the x and y directions:

$\delta f/\delta x$ =

-1	0	1

$\delta f/\delta y$ =

-1
0
1

Image =

1	1	1	1	1	1	1
1	1	1	1	1	1	1
0	0	0	0	0*	1	1
0	0	0	0	0	1	1
0	0	0*	0	0	1	1
0	0	0	0	0	1	1
0	0	0	0	0	1	1

Question 2

For the following grayscale sample image

7	7	5	3
5	7	5	3
4	70	70	75
2	70	70	75

Apply
1- k-mean clustering segmentation where k=2 means split the data for two clusters.
2- Split- Merge segmentation.
3- Optimal Threshoulding.
4- Agglomartive clustering.

Question 3

Applay Background Modeling by Median Filtering for the following three consecutive frames

3	255	255	2
0	250	3	3
0	251	2	7
4	254	250	4

2	254	255	3
5	255	4	5
3	250	2	7
7	253	255	1

1	2	254	255
5	4	255	3
0	5	255	2
3	3	254	255