Assignment 1

Q1. (5 Marks) Discuss the following terminologies related to the Basic Relationships between Pixels with an example:

1. Neighbors of a Pixel
2. Adjacency, Connectivity, Regions, and Boundaries
3. Distance Measures

Q2. (5 Marks) Explain the 4, 8 and m connectivity of pixels. Consider the two image subsets S_1 and S_2 shown below. For V= {1}, determine how many

(a) 4 -connected
(b) 8-connected
(c) m-connected

components there are in S_1 and S_2 ? Are S_1 and S_2 Adjacent?

		S_1					S_2		
0	0	0	0	0	0	0	1	1	0
1	0	0	1	0	0	1	0	0	1
1	0	0	1	0	1	1	0	0	0
0	0	1	1	1	0	0	1	1	1
0	0	1	1	1	0	0	1	1	1