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| **Part A** | | |
| **Experiment 7:** | | |
| **Aim:**  Implementation of Hit-or-Miss. | | |
| **Prerequisite:**   1. Basic image Processing command 2. MATLAB | | |
| **Objective:**   1. Image Morphology   **Outcome:**   1. Analyse images using morphological techniques. | | |
| **Theory:**   * The hit-or-miss transform indicates the positions where a certain pattern (characterized by a structuring element B) occurs in the input image. * As such, it operates as a basic tool for shape detection. * This technique is best understood by an illustrative example. * Consider Figure, in which we depict a binary image A alongside a designated ‘target’ pixel conﬁguration B (foreground pixels are shaded). * The aim is to identify all the locations within the binary image A at which the target pixel conﬁguration deﬁned by B can be found. * It is important to stress that we are seeking the correct combination of both foreground (shaded) and background (white) pixels, not just the foreground, and will refer to this combination of foreground and background as the target shape. * Recalling our earlier deﬁnitions, it is readily apparent that the erosion of image A by the target shape will preserve all those pixels in image A at which the foreground pixels of the target can be entirely contained within foreground pixels in the image. * These points are indicated in Figure as asterisks and are designated as ‘hits. * In terms of our goal of ﬁnding the precise target shape, the hits thus identify all locations at which the correct conﬁguration of foreground pixels are found. However, this step does not test for the required conﬁguration of background pixels in . | | |
| **Procedure:**   1. Read Gray scale image in variable 2. Convert Gray scale image to binary image 3. Define the two mask/structuring element (B1 & B2) 4. Apply the hit-or-miss using function bwhitmiss(image,B1,B2) 5. Show the result   **B1=[0 0 0; 0 1 1; 0 1 0]**  **B2=[1 1 1; 1 0 0; 1 0 0]** | | |
| **Part B** | | |
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| **Code:** | | |
| **Input & Output:** | | |
| **Observations & Learning:** From the above experiment, we observed and learned to implement Hit-Miss detection in an image. We also implemented the same, using any image of our own. | | |
| **Conclusion:** Thus, the aim of implementation of hit-or-miss image is completed. | | |