**Report 08: Morpholigical Processing**

**Ge Yunhao （116020910017）**

**[Problem 08]**

Implement the "Opening by reconstruction", "Filling holes" and "Border clearing" operations on pages 681-683, and reproduce the results in Figure 9.29, Figures 9.31, and Figure 9.32. (The imagesfig9.29(a) and fig9.31(a) are provided in ftp address.

**[Solve]**

**Program:**

(1) main ：problem8. m.

(2)function：dilation.m; erosion.m; recon.m sign\_edge.m

**Input:**

(1) origin\ Fig0929(a)(text\_image).tif.

(2) origin \ Fig0931(a)(text\_image).tif.

**Output:**

(1) fig 8.1 outimage/Opening by reconstruction.jpg (Original image, image after erosion by structuring element of 51×1, image after opening and image after opening by reconstrucion)

(2) fig 8.2. outimage/Filling holes.

(3) fig 8.3. outimage/erase edge.

**Transformation Function:**

(1) Geodesic dilation.

(2) Opening by reconstruction.

(3) Border Sign.

(4) Hole-filling.

(5) Border clearing.

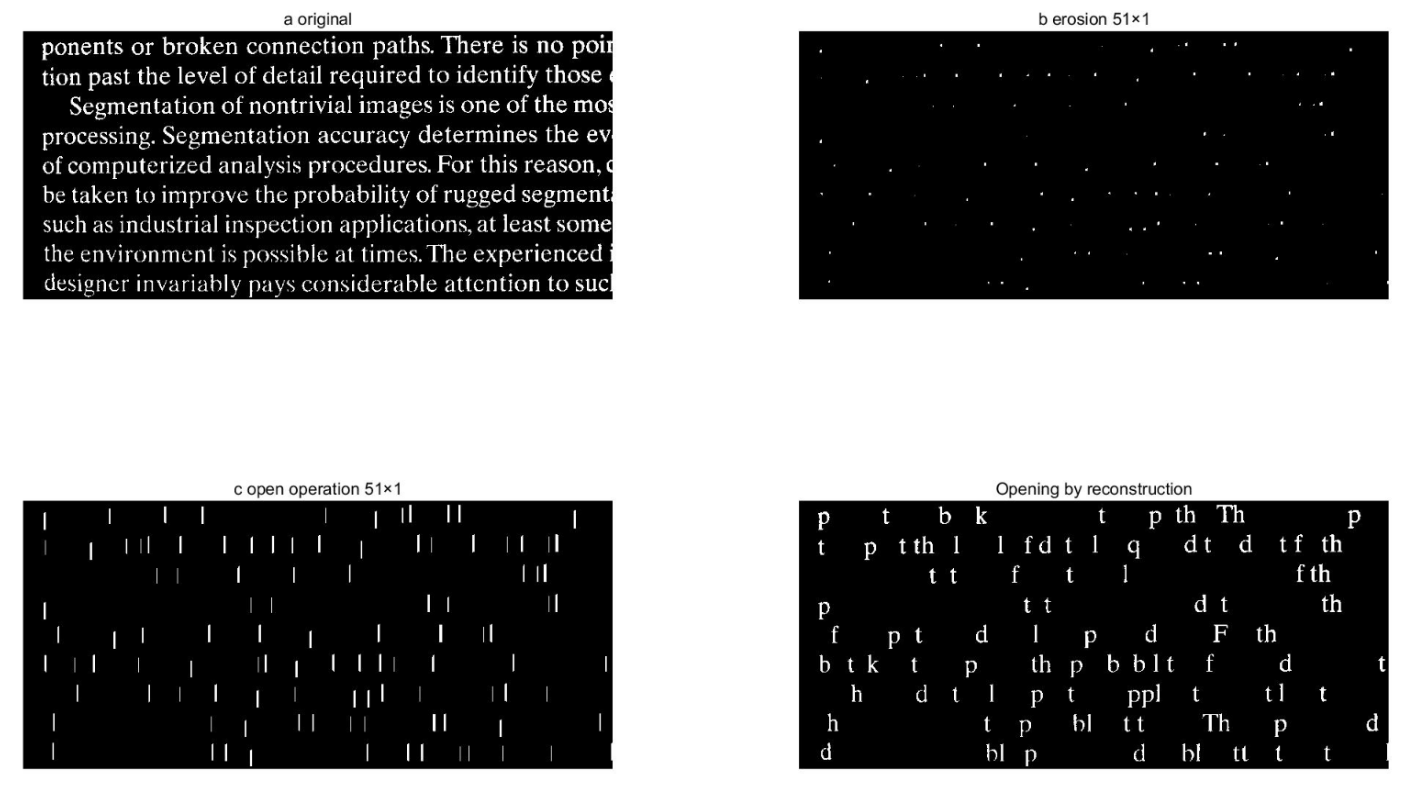
****

fig 8.1 Opening by reconstruction.jpg (Original image, image after erosion by structuring element of 51×1, image after opening and image after opening by reconstrucion)

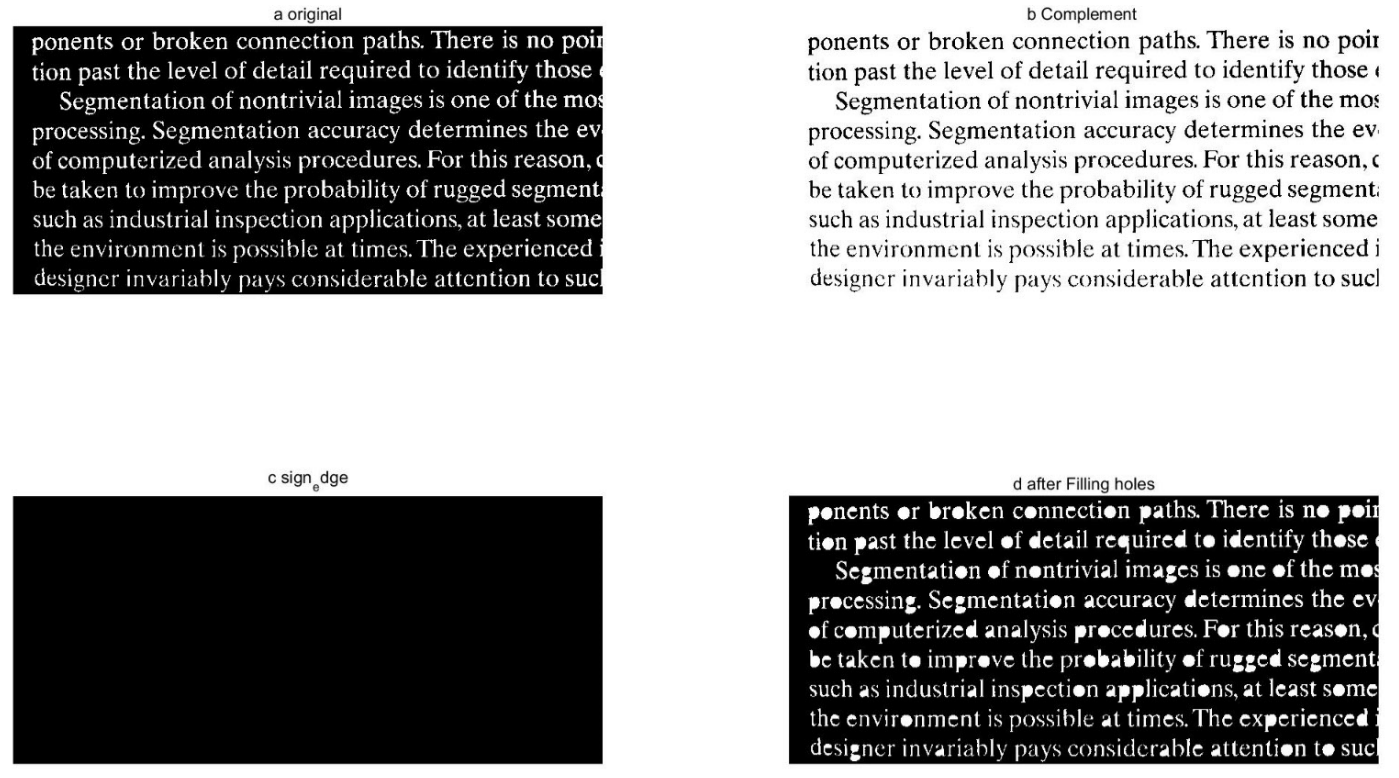
****

Figure 8.2 Filling holes.

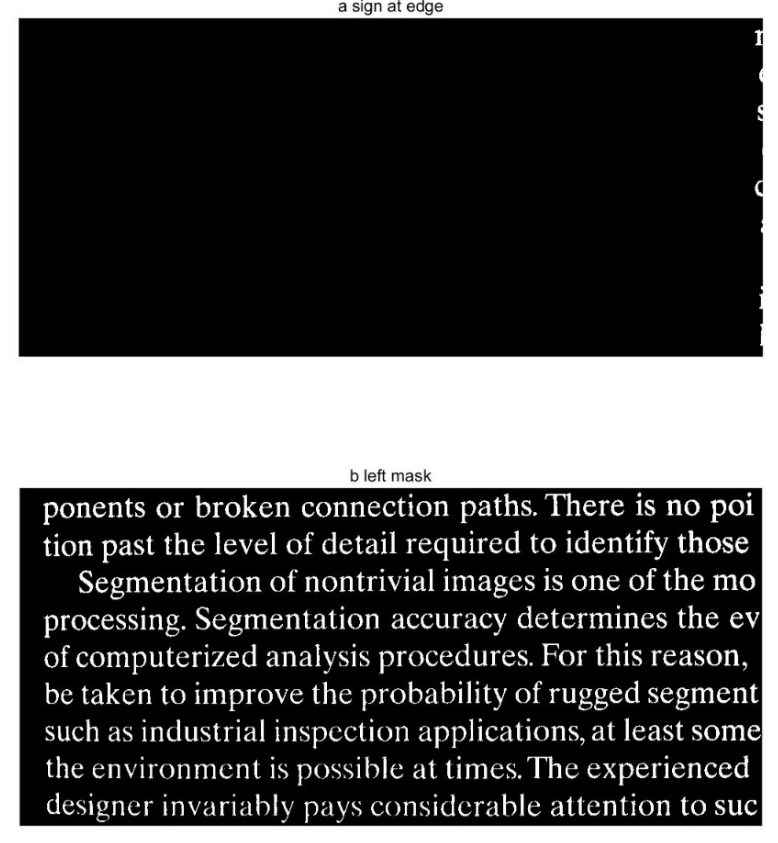


Figure 8.3 erase edge