**Lab 08**

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| Name: | 白騏瑞 |
| Student ID: | B08611027 |
| Total Score: |  |

**Note:**

Most of the explanations in this lab is mandatory, However, giving reasonable explanations to your answer or programs will earn you partial credits when your answer is incorrect.

1. **Multiple Choice (20 points)**

|  |  |  |  |
| --- | --- | --- | --- |
| # | Answer | Explanation (Please write codes to verify it.) | Score |
| 1 | B |  |  |

1. **Find the Contour (20 points)**

|  |  |  |
| --- | --- | --- |
| # | Description | Score |
| 1 | 先做侵蝕再膨脹，調了很久發現：  1.侵蝕太多，會殘留一些小輪廓(selem1 = square(10))  2.膨脹太多會邊界會超出原圖邊界(selem2 = disk(10))    因此最終找出方法，尋找最大邊界，解決太多輪廓問題，這樣就比較方便調整侵蝕與膨脹的大小。 |  |

1. **Image Enhancement (25 points)**

|  |  |  |
| --- | --- | --- |
| # | Description | Score |
| - | Paste your result from (a) to (g) here.    不知道為甚麼(c)與(d)看起來比範例圖片清楚。  剩下的看起來都與範例差不多。 |  |

1. **Fingerprint Analysis (35 points)**

|  |  |  |
| --- | --- | --- |
| # | Description | Score |
| - | Paste your result here and briefly describe your image processing procedure and approach. How do you think your results are?  Step 1：用不同的方法提高fingerprint image的辨識度  Step 2：將fingerprint image做skeletonization(骨架化)  Step 3：運用ridge-endings周圍只有一個pixel是白的跟bifurcations周圍有三個pixel是白的方法，尋找出ridge-ending和bifurcations的位置  Step 4：刪除重複數的bifurcation points    我認為bifurcations的結果還不錯，而ridge-ending的結果錯誤有點多。  我認為可以改進圖片的前處理來增加準確度。(因為在座骨架化的時候發現有些線段沒有到非常的光滑) |  |