

2023 Digital IC Design Homework 5

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|--|-----------|--|-----------|
| NAME | 賴姿伶 | | |
| Student ID | E94091128 | | |
| Simulation Result | | | |
| Functional simulation | Completed | Gate-level simulation | Completed |
| <pre>***** # ** # Simulation Start ** # ** # ***** # Simulation completed successfully! ** # ***** # ** Note: \$finish : D:/digital ic design/HW5/func/testfixture.v(145) # Time: 8336580 ns Iteration: 1 Instance: /testfixture # *****</pre> | | <pre>***** # ** # Simulation Start ** # ** # ***** # Simulation completed successfully! ** # ***** # ** Note: \$finish : D:/digital ic design/HW5/gate/testfixture.v(145) # Time: 8336580 ns Iteration: 1 Instance: /testfixture # *****</pre> | |
| Evaluation Results | | | |
| test1.png | 25.47 | test2.png | 24.97 |
| test3.png | 29.17 | test4.png | 20.96 |
| test5.png | 22.26 | test6.png | 25.27 |
| Description of your design | | | |
| <p>以標準的雙線性插值法為基準，考量到提高畫質的要素之一是邊緣銳利化，以及人眼對綠色的感覺最敏銳，因此針對綠色的計算做優化。如果上下的差大於左右的差，代表邊緣是橫向的使用左右兩像素平均值；反之是縱向的使用上下兩像素平均值。</p> <p>一開始先把所有輸入值存入 RGB 各自的 memory</p> <p>每次取 9 個值計算正中間缺少的 RGB 值，除法皆為四捨五入取整數</p> <p>邊以外的 pixel 計算完成後，把 done 拉高</p> | | | |

Scoring = average PSNR of the six test images

*** PSNR of all interpolation results should meet at least the baseline.**