**學號：D12922014**

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**程式執行環境與使用套件**

* 執行環境:
  + Windows 10 專業版 22H2 (Build: 19045.3570)
  + Visual Studio Code - 1.83.1
  + Git for Windows - 2.42.0
  + Python - 3.12.0
* 使用套件:
  + matplotlib - 3.8.0
  + opencv-python - 4.8.1.78

1. Suppose that a digital image is subjected to histogram equalization. Show that a second pass of histogram equalization (on the histogram-equalized image) will produce exactly the same result as the first pass.
2. Write a program for histogram equalization, and test it with your own selfie took in a relatively dark environment so that we can clearly see the effect of histogram equalization in image enhancement. Please show the histograms of your selfie before and after histogram equalization and explain your results. (Note: You only have to work on the gray scale image.)

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| **Before** | **After** |
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