**Natthapol Maneechote 6133723323**

**Homework 4** Due November 15, 2020

1. Apply ILPF, BLPF, and GLPF with cutoff equals to 5, 50, and 150 to the given images. Explain what happens to the image after applying each filter and why? You may need to preprocess an image before applying any filter.

* ILPF: make image blur and as the cutoff increasing ILPF will make image less blur compare to low cutoff. The cutoff changes the effect of ILPF dramatically
* BLPF: make image blur but not as much as ILPF compare with the same cutoff and as the cutoff increasing BLPF will make image less blur compare to low cutoff. The cutoff changes the effect of BLPF less than ILPF
* GLPF: make image blur but smoother unlike ILPF and BLPF. As the cutoff increasing GLPF will make image less blur compare to low cutoff. The cutoff changes the effect of GLPF least amongst three method

1. Apply IHPF, BHPF, and GHPF with cutoff equals to 5, 50, and 150 to the given images in question 1. Explain what happens to the image after applying each filter and why?

* IHPF: dimmer the detail part of the image left the point that the colour dramatically change. As increasing the cutoff IHPF make the detail part dimmer.

IHPF effect by cutoff dramatically

* BHPF: dimmer the detail part of the image like IHPF but differ in point that BHPF left the point that the colour is changing more accurate than IHPF and effect less by cutoff that IHPF.
* GHPF: dimmer the detail part of the image same as the previous two method but more accurate than BHPF and affect by cutoff the least.