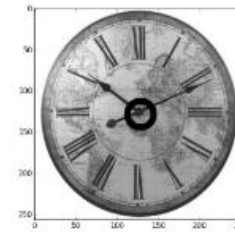# Image Processing, Retrieval, and Analysis.

Project 1.

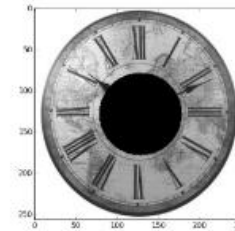Alina Arunova,
Alexey Karpov,
Maxim Maltsev,
Pylyp Matyash,
Maksym Radomskyi,
Andrey Zhukov.
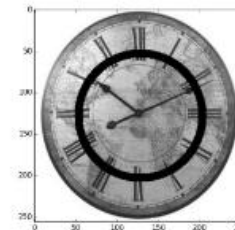
Task 1.1: warm-up
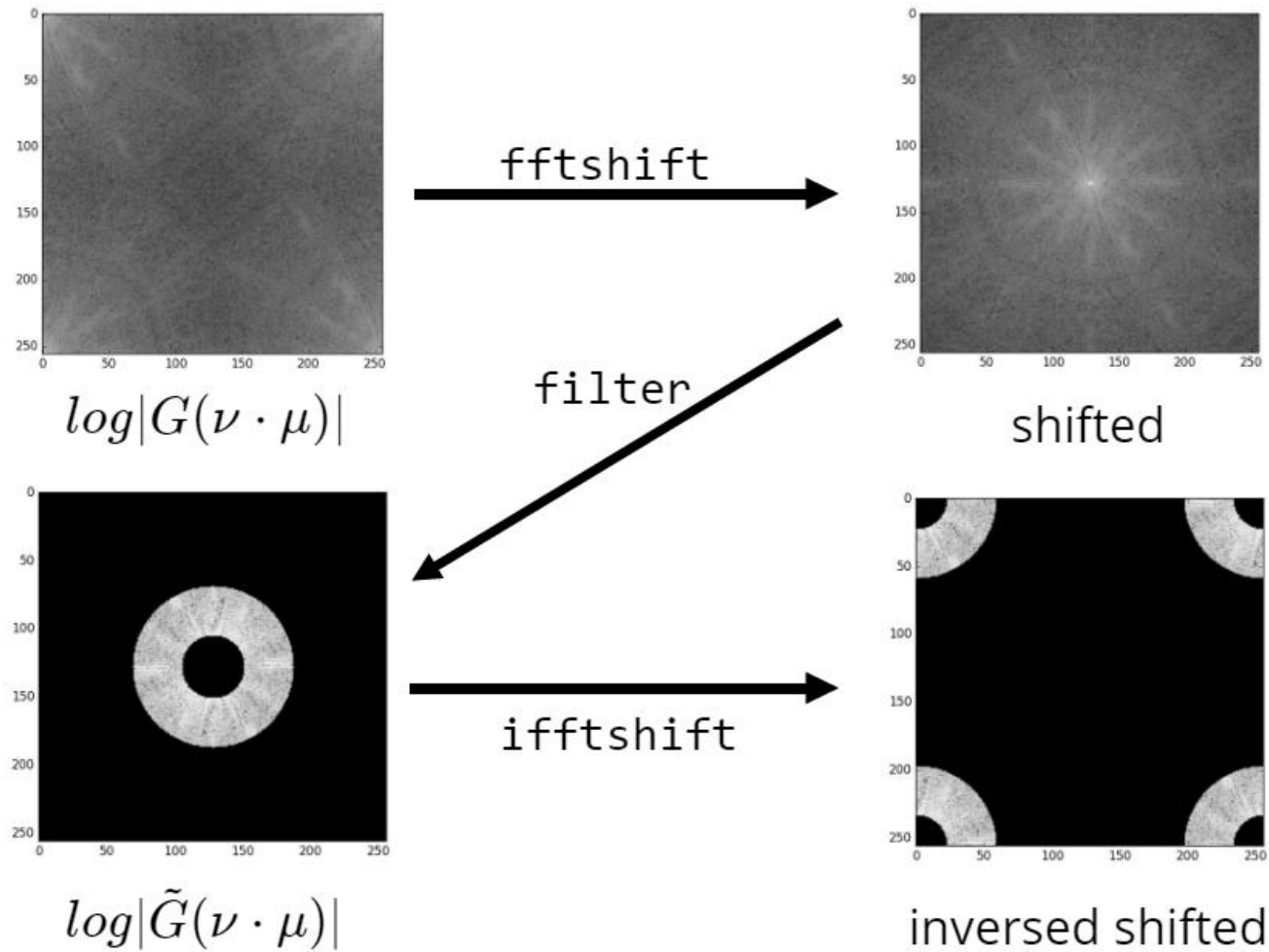

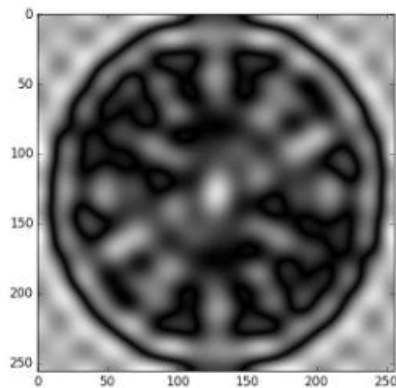$r_{min} = 12$

$r_{max} = 20$

$r_{min} = 1$

$r_{max} = 50$

$r_{min} = 70$

$r_{max} = 80$

Task 1.3: band pass filter

$log|G(\nu \cdot \mu)|$

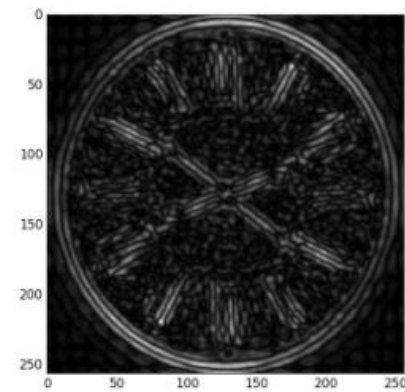shifted

$log|\tilde{G}(\nu \cdot \mu)|$

inversed shifted

Task 1.3: band pass filter

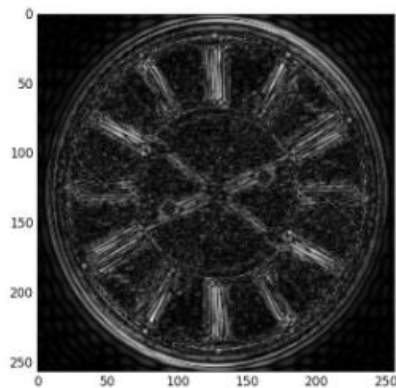
$r_{min} = 1, r_{max} = 10$
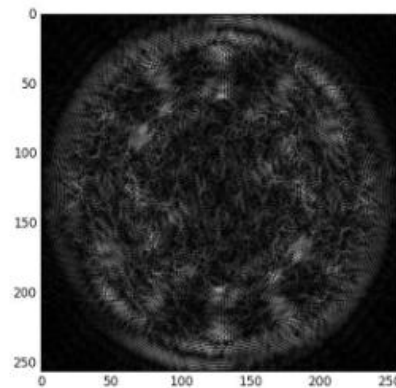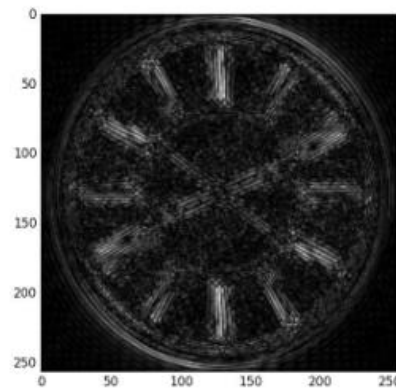
$r_{min} = 60, r_{max} = 90$
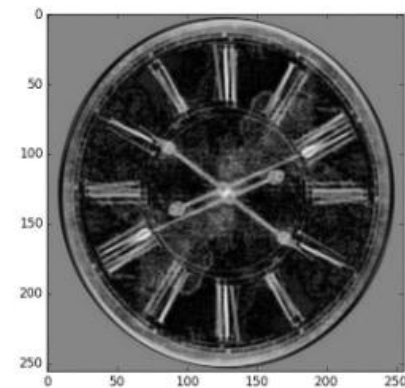
$r_{min} = 15, r_{max} = 45$

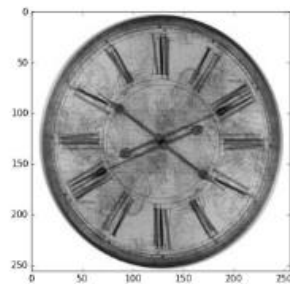$r_{min} = 20, r_{max} = 150$

$r_{min} = 30, r_{max} = 90$

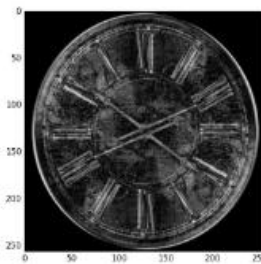$r_{min} = 1, r_{max} = 90$

Task 1.4: importance of phase

$$|F(\omega)| = \sqrt[2]{[\mathcal{R}(F)^2 + \mathcal{I}(F)^2]}$$

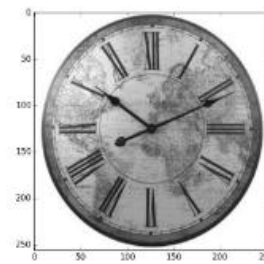$$\phi(F(\omega)) = \tan^{-1} \frac{\mathcal{I}(F)}{\mathcal{R}(F)}$$

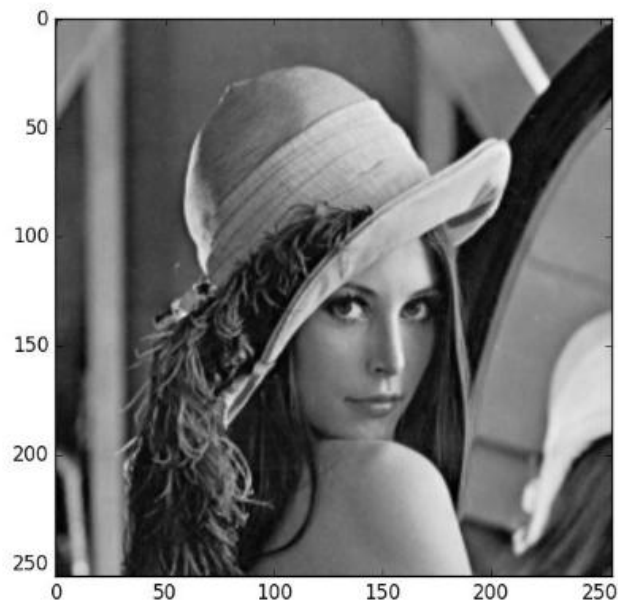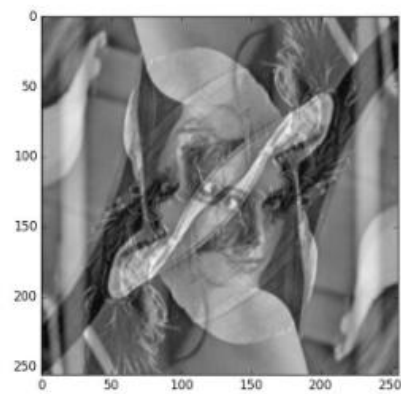$$F(\omega) = |F(\omega)| * \cos(\phi(F(\omega))) + i * |F(\omega)| * \sin(\phi(F(\omega)))$$

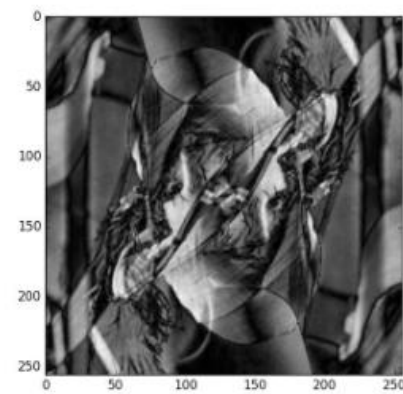# Task 1.4: importance of phase

Who is she?

Task 1.4: importance of phase

$$+ i *$$

Thank you for attention

Sorry for taking too long, here is a potato