

# Mini report #1 (Advanced Automation) 2016.11.17

Student #: \_\_\_\_\_ Name: \_\_\_\_\_

## [NOTICE]

- write by hand
  - due date: 2016/11/23 17:00; place of submission: room 405(機械建設 1号棟 小林)
  - check if your answer is correct or not before submission by using Matlab
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Let  $M$  be a matrix given as:

$$M = \begin{bmatrix} \sqrt{2} & \sqrt{2} \\ -\frac{j}{\sqrt{2}} & \frac{j}{\sqrt{2}} \end{bmatrix}.$$

Answer the followings:

(1)  $\bar{M}$

(2)  $M^*$

(3)  $M^*M$

(4)  $\lambda_i(M^*M)$

(5)  $\sigma_i(M)$

(6)  $\bar{\sigma}(M)$