

Mini report #1 (Advanced Automation) 2018.11.8

Student #: _____ Name: _____

[NOTICE]

- write by hand
 - due date: 2018/11/14 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
 - don't answer in approximated values (write $\sqrt{2}$ instead of 1.4142 ,for example)
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Let M be a matrix given as:

$$M = \begin{bmatrix} 1 & \frac{j}{\sqrt{2}} \\ 1 & -\frac{j}{\sqrt{2}} \end{bmatrix}.$$

Answer the followings:

(1) \bar{M}

(2) M^*

(3) M^*M

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

(5) $\sigma_i(M)$

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