Mini report #1 (Advanced Automation) 2023.11.2

Student #: _____   Name: _____

[**NOTICE**]

- write by hand

- due date: 2023/11/8 17:00; place of submission: **room 405 @ Dept. Mech. Bldg. 1**

- don't answer in approximated values (write $\sqrt{2}$ instead of 1.4142 , for example)

Let M be a matrix given as:

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

Answer the followings:

(1) $\bar{M}$

(2) M^*

(3) M^*M

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

(5) $\sigma_i(M)$

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