1 Let

10 Points

$$A = \begin{bmatrix} 0 & \frac{1}{\sqrt{3}} + \frac{1}{\sqrt{3}}i & \frac{1}{\sqrt{6}} - \frac{1}{\sqrt{6}}i \\ \frac{1}{\sqrt{6}} + \frac{1}{\sqrt{3}}i & -\frac{1}{\sqrt{6}}i & \frac{1}{\sqrt{3}} \\ \frac{1}{\sqrt{3}} - \frac{1}{\sqrt{6}}i & \frac{1}{\sqrt{6}} & \frac{1}{\sqrt{3}}i \end{bmatrix}.$$

(a) Using Matlab *inv* function, calculate inverse of A

(b) Check whether A is unitary matrix or not by checking $AA^* = I$

※ If you do not know Matlab command about operator or symbol, you can search in Google or mathwork homepage. For example, if you want to use imaginary number, then search 'matlab imaginary'.