

Submit your Jupyter notebook with the answers to gradescope by 10:50am.

Consider the polynomials

$$p(x) = (x - 1)(x - 2)(x - 3) \quad \text{and} \quad q(x) = (x - 1.99999)(x - 2)(x - 2.00001).$$

Compute the condition number for 2 as the root of  $p$  and 2 as the root of  $q$ .

Write one sentence to compare the condition numbers.