Constructor University
Fall 2025

September 19, 2025

Stochastic Modeling and Financial Mathematics

Quiz 1

1. **(6 points)** Very briefly describe what *git* is and what it is useful for.

2. **(6 points)** Consider n years, cash flows C_j ($j = 1, \ldots, n$) at the end of year j and assume a fixed interest rate r. With usual interest compounding, what are the present value PV and future value FV of this cash flow?

3. **(2 points)** Name two root finding algorithms that were discussed in class.

4. **(6 points)** Write python code to do the following. Create a numpy array of the natural numbers from 0 to 99. Then create an array that contains the square of the natural numbers from 0 to 99. Display both arrays in the console.