5001 Assignment 2 - Parallel Computing

- Assignment 2.1. **Relay race**: realize the following in python:
  - send an integer via processor 0 -> 1 -> 2 -> … -> np-1;
  - on processer np - 1, square the integer, and send it all the way back: np - 1 -> np - 2 -> … -> 1 -> 0;
  - on processer 0, print out the result and the elapsed time.
- Assignment 2.2. **Euler's number**: write an efficient parallel program to use the following infinite series to calculate Euler's number e:

$$e = 1 + \frac{1}{1!} + \frac{1}{2!} + \frac{1}{3!} + \cdots.$$

- Assignment 2.3. **Central Limit Theorem**: write a parallel program to demonstrate the Central Limit Theorem that the mean of a large number of independent and identically distributed random numbers follows the Gaussian distribution.