Exercise 1 (5 points)

Determine whether the series \( \sum_{n=1}^{\infty} \frac{\ln(n)}{n} \) is convergent or divergent.

Exercise 2 (5 points)

Determine whether the series \( \sum_{n=1}^{\infty} \left( \frac{n \sin\left(\frac{1}{n}\right)}{3^n} \right)^n \) is convergent or divergent.
Exercise 1 (5 points)

Determine whether the series \( \sum_{n=1}^{\infty} \frac{e^{-n}}{n!} \) is convergent or divergent.