Q.1: Use comparison test or limit comparison test to determine whether the series \( \sum_{n=1}^{\infty} \frac{4(n-1)}{(n+2)^3} \) is convergent or divergent.

Q.2: Show that the series \( \sum_{n=1}^{\infty} \frac{(-1)^{n-1}}{n^2} \) is convergent and find how many terms we need to add so that \( |Error| < 0.01 \).

Q.3: Determine whether the series \( \sum_{n=1}^{\infty} \frac{(-1)^n}{\ln n} \) is absolutely convergent, conditionally convergent or divergent.