Sensitivity Analysis of Financial Investment using NPV

Problem Statement:

The goal of this program is to conduct a sensitivity analysis on a given financial model. This model evaluates the Net Present Value (NPV) of an investment considering various parameters, including acquisition cost, annual incoming, annual outgoing, salvage value, service life, and interest rate. The analysis helps understand how changes in these parameters impact the NPV, allowing for informed decision-making in investment planning.

Steps to Achieve the Goal:

1. Define the financial analysis function **calculate_npv** that computes the NPV based on provided parameters.
2. Specify parameter ranges for acquisition cost, annual incoming, annual outgoing, salvage value, service life, and interest rate.
3. Obtain user input for the parameters: acquisition cost, annual incoming, annual outgoing, salvage value, service life, and interest rate.
4. Perform a sensitivity analysis by evaluating NPV values for all combinations of parameters within the specified ranges.
5. Calculate the original NPV using user-provided parameters.
6. Calculate NPV changes for different percentage changes in the specified variables: Incoming, Outgoing, Salvage Value, and Interest Rate.
7. Plot sensitivity graphs to visualize the impact of parameter changes on NPV.

Libraries Used:

- **numpy**: Used for numerical computations and array operations.
- **matplotlib.pyplot**: Used for creating visualizations, including sensitivity analysis graphs.