

Algorithm: Currency Converter

1. Input:

- Source currency code (e.g., USD, EUR)
- Target currency code (e.g., USD, EUR)
- Amount to be converted
- Exchange rate (from source currency to target currency)

2. Process:

- Validate input values (e.g., ensure currency codes are valid, amount is a positive number).
- Convert the amount using the exchange rate.

3. Output:

- Converted amount in the target currency.

Detailed Steps

1. Initialize Variables:

- `source_currency_code` (string)
- `target_currency_code` (string)
- `amount` (float)
- `exchange_rate` (float)

2. Validate Inputs:

- Check if `source_currency_code` and `target_currency_code` are valid currency codes.
- Ensure `amount` is a positive number.
- Ensure `exchange_rate` is a positive number.

3. Conversion Calculation:

- Compute the converted amount using the formula:
$$\text{converted_amount} = \text{amount} \times \text{exchange_rate}$$

4. Output Result:

- Print or return the `converted_amount` along with the `target_currency_`