

1. A meteorological agency requires a tool to convert temperatures between Celsius and Fahrenheit for its global weather reports. Develop an application using function overloading for `convertTemperature()` that converts:
 - Celsius to Fahrenheit.
 - Fahrenheit to Celsius.
2. An architect needs a software tool to calculate areas for different shapes while designing buildings. Create an overloaded function `calculateArea()` to compute the area of:
 - A circle (radius provided).
 - A rectangle (length and width provided).
 - A triangle (base and height provided).
3. A packaging company needs to calculate the volume of different types of containers. Implement an overloaded function `processString()` to:
 - A cube (side length provided).
 - A cylinder (radius and height provided).
 - A rectangular box (length, width, and height provided).
4. A text analysis tool requires basic functionalities to analyze input strings for document indexing. Implement an overloaded function `processString()` to:
 - Return the length of a string.
 - Return the count of a specific character in the string.
5. A financial application requires basic arithmetic operations for calculations. Develop an overloaded function `calculate()` to:
 - Add two integers.
 - Multiply two floating-point numbers.
 - Raise a number to an integer power.
6. An HR system needs to compute salaries for both hourly and salaried employees. Create an overloaded function `calculateSalary()` to:
 - Compute the salary for an hourly employee (hourly wage and hours worked).
 - Compute the salary for a salaried employee (base salary and performance bonus).
7. A travel agency's system must convert between multiple currencies for client transactions. Develop an overloaded function `convertCurrency()` to:
 - Convert dollars to euros.
 - Convert euros to dollars.
 - Convert dollars to British pounds.
8. A database system requires sorting capabilities for numeric and string data fields. Implement an overloaded function `sort()` to:
 - Sort an array of integers.

- Sort an array of floating-point numbers.
 - Sort an array of strings alphabetically.
9. A logistics company needs a date formatting utility for its shipment tracking system. Write an overloaded function `formatDate()` to:
- Convert three integers (day, month, year) into DD/MM/YYYY format.
 - Convert a string in YYYY-MM-DD format into DD/MM/YYYY format.
10. An e-commerce platform wants to implement a discount calculation feature for its shopping cart. Create an overloaded function `applyDiscount()` to:
- Apply a percentage discount to a single item price.
 - Apply a flat discount to a single item price.
 - Apply a percentage discount to the total price of multiple items.