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.