

## Problem 1: Rectangle Area Calculation

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**Question:**

Create a class `Rectangle` with two integer variables `length` and `breadth`. Implement a default constructor to set both to 1, a parameterized constructor to set custom values, and a copy constructor. Write a program to find the area of the rectangle.

**Sample Input and Output:**

Input: 5 10

Output: Area = 50

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## Problem 2: Complex Number Addition

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**Question:**

Create a class `Complex` with two integer variables `real` and `imag`. Use a default constructor to initialize them to 0, a parameterized constructor for custom values, and a copy constructor. Write a program to add two complex numbers and display the result.

**Sample Input and Output:**

Input:

Complex 1: 3 2

Complex 2: 1 7

Output:

Result: 4 + 9i

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## Problem 3: Student Marks

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**Question:**

Create a class `Student` with variables `name` (string) and `marks` (integer). Use a default constructor to set `marks` to 0, a parameterized constructor for custom values, and a copy constructor. Write a program to display a student's name and marks.

**Sample Input and Output:**

Input:

Name: Alice, Marks: 95

Output:

Student Name: Alice, Marks: 95

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## Problem 4: Point Distance

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**Question:**

Create a class `Point` with variables `x` and `y`. Use a default constructor to set them to 0, a parameterized constructor to set specific values, and a copy constructor. Write a program to calculate the distance between two points.

**Sample Input and Output:**

Input:

Point 1: 3 4

Point 2: 6 8

Output:

Distance: 5

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## Problem 5: Box Volume

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**Question:**

Create a class `Box` with variables `length`, `width`, and `height`. Use a default constructor to set them to 1, a parameterized constructor for custom values, and a copy constructor. Write a program to find the volume of a box.

**Sample Input and Output:**

Input:

Length: 2, Width: 3, Height: 4

Output:

Volume: 24

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## Problem 6: Bank Account

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**Question:**

Create a class `BankAccount` with variables `accountNumber` and `balance`. Use a default constructor to set `balance` to 0, a parameterized constructor for custom values, and a copy constructor. Write a program to display account details.

**Sample Input and Output:**

Input:

Account Number: 12345, Balance: 1000

Output:

Account Number: 12345, Balance: 1000

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## Problem 7: Employee Salary

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**Question:**

Create a class `Employee` with variables `name` and `salary`. Use a default constructor to set `salary` to 0, a parameterized constructor for custom values, and a copy constructor. Write a program to display the employee's details.

**Sample Input and Output:**

Input:

Name: Bob, Salary: 50000

Output:

Employee Name: Bob, Salary: 50000

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## Problem 8: Temperature Conversion

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**Question:**

Create a class `Temperature` with variables `celsius` and `fahrenheit`. Use a default constructor to set both to 0, a parameterized constructor for custom values, and a copy constructor. Write a program to convert temperature from Celsius to Fahrenheit.

**Sample Input and Output:**

Input:

Celsius: 25

Output:

Fahrenheit: 77

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## Problem 9: Time Addition

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**Question:**

Create a class `Time` with variables `hours` and `minutes`. Use a default constructor to set both to 0, a parameterized constructor for custom values, and a copy constructor. Write a program to add two time objects and display the total time.

**Sample Input and Output:**

Input:

Time 1: 1 45

Time 2: 2 30

Output:

Total Time: 4 hours 15 minutes

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## Problem 10: Circle Area and Perimeter

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**Question:**

Create a class `Circle` with a variable `radius`. Use a default constructor to set the radius to 1, a parameterized constructor for custom values, and a copy constructor. Write a program to calculate the area and perimeter of a circle.

**Sample Input and Output:**

Input:

`Radius: 7`

Output:

`Area: 153.86, Perimeter: 43.96`