

## Assignment 1

```
c1 = 4 + 5i
c2 = 2 - 3i
Sum = 6 + 2i
Difference = 2 + 8i
Quotient = -0.538462 + 1.69231i
```

## Assignment 2

```
kvnene@JauhoMyllly~/Documents/Cpp2025/lab4/q2 > ./ex1/run
Constructor: "C++ Fundamentals" with 300 pages
Constructor: "Data Structures" with 450 pages
Constructor: "Algorithms" with 500 pages

--- Library Contents ---
Title: C++ Fundamentals, Pages: 300
Title: Data Structures, Pages: 450
Title: Algorithms, Pages: 500

--- End of Program ---
Destructor: "Algorithms" destroyed
Destructor: "Data Structures" destroyed
Destructor: "C++ Fundamentals" destroyed
kvnene@JauhoMyllly~/Documents/Cpp2025/lab4/q2 > ./ex2/run
Constructor: "C++ Fundamentals" with 300 pages
Constructor: "Data Structures" with 450 pages
Constructor: "Algorithms" with 500 pages
BookShelf Constructor: Shelf initialized with 3 books

Books on shelf:
Title: C++ Fundamentals, Pages: 300
Title: Data Structures, Pages: 450
Title: Algorithms, Pages: 500
Destructor: "Algorithms" destroyed
Destructor: "Data Structures" destroyed
Destructor: "C++ Fundamentals" destroyed
BookShelf Destructor: Shelf destroyed

--- End of Program ---
kvnene@JauhoMyllly~/Documents/Cpp2025/lab4/q2 > █
```

In the 1<sup>st</sup> example the destructor does basically nothing, it just prints out some text

In the 2<sup>nd</sup> example the destructor deletes the array that is created by the constructor inside the class

## Assignment 3

```
How many cars do you want to enter? 2

Enter model for car 1: toyota
Enter year: 1987
Enter price: 1000000
Car Constructor: toyota (1987) - $1e+06

Enter model for car 2: skoda
Enter year: 2024
Enter price: 60000
Car Constructor: skoda (2024) - $60000
CarCollection initialized with 2 cars

--- Car Collection ---
Model: toyota, Year: 1987, Price: $1e+06
Model: skoda, Year: 2024, Price: $60000
Car Destructor: skoda destroyed
Car Destructor: toyota destroyed
CarCollection destroyed
```

## Assignment 4

```
Enter the number of cars: 2
Enter the type of car 1 (1 = Electric, 2 = Gas, 3 = Hybrid): 1
Enter model: skoda
Enter year: 2024
Enter price: 50000
Enter battery size (kWh): 1000
Enter the type of car 2 (1 = Electric, 2 = Gas, 3 = Hybrid): 2
Enter model: toyota
Enter year: 1987
Enter price: 1000000
Enter fuel capacity (liters): 2

Car 1 details:
Model: skoda, Year: 2024, Price: 50000
Battery size: 1000 kWh

Car 2 details:
Model: toyota, Year: 1987, Price: 1e+06
Fuel capacity: 2 liters
```