

1. Simple Calculator:

```
import java.util.Scanner;

public class SimpleCalculator {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        // Prompt user to enter two numbers and an operator
        System.out.println("Enter the first number:");
        double num1 = scanner.nextDouble();

        System.out.println("Enter the second number:");
        double num2 = scanner.nextDouble();

        System.out.println("Enter an operator (+, -, *, /):");
        char operator = scanner.next().charAt(0);

        // Initialize result variable
        double result = 0;

        // Perform the calculation based on the operator
        switch (operator) {
            case '+':
                result = num1 + num2;
                break;
            case '-':
                result = num1 - num2;
                break;
            case '*':
                result = num1 * num2;
                break;
            case '/':
                if (num2 != 0) {
                    result = num1 / num2;
                } else {
                    System.out.println("Error: Division by zero");
                    return;
                }
                break;
            default:
                System.out.println("Error: Invalid operator");
                return;
        }

        // Display the result
        System.out.println("The result is: " + result);

        scanner.close();
    }
}
```

OUTPUT:

Enter the first number:
10
Enter the second number:
5
Enter an operator (+, -, *, /):
/
The result is: 2.0

2. Simple Banking Application:

```
import java.util.Scanner;

class BankAccount {
    private double balance;

    // Constructor to initialize balance
    public BankAccount(double initialBalance) {
        this.balance = initialBalance;
    }

    // Method to deposit money
    public void deposit(double amount) {
        balance += amount;
    }

    // Method to withdraw money with exception handling
    public void withdraw(double amount) {
        if (amount > balance) {
            System.out.println("Error: Insufficient funds");
        } else {
            balance -= amount;
        }
    }

    // Method to get the current balance
    public double getBalance() {
        return balance;
    }

    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        // Create a BankAccount instance with an initial balance
        System.out.println("Enter initial balance:");
        double initialBalance = scanner.nextDouble();
        BankAccount account = new BankAccount(initialBalance);

        while (true) {
            // Display options to the user
            System.out.println("Choose an option: 1. Deposit 2. Withdraw 3. Exit");
            int choice = scanner.nextInt();
```

```

        if (choice == 3) {
            break;
        }

        switch (choice) {
            case 1: // Deposit
                System.out.println("Enter deposit amount:");
                double depositAmount = scanner.nextDouble();
                account.deposit(depositAmount);
                System.out.println("Deposit successful. Current balance: " +
account.getBalance());
                break;
            case 2: // Withdraw
                System.out.println("Enter withdrawal amount:");
                double withdrawAmount = scanner.nextDouble();
                account.withdraw(withdrawAmount);
                System.out.println("Current balance: " + account.getBalance());
                break;
            default:
                System.out.println("Invalid choice. Please choose again.");
                break;
        }
    }
    scanner.close();
}
}

```

OUTPUT:

```

Enter initial balance:
1000
Choose an option: 1. Deposit 2. Withdraw 3. Exit
1
Enter deposit amount:
200
Deposit successful. Current balance: 1200.0
Choose an option: 1. Deposit 2. Withdraw 3. Exit
2
Enter withdrawal amount:
300
Current balance: 900.0
Choose an option: 1. Deposit 2. Withdraw 3. Exit
3

```