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

1. **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