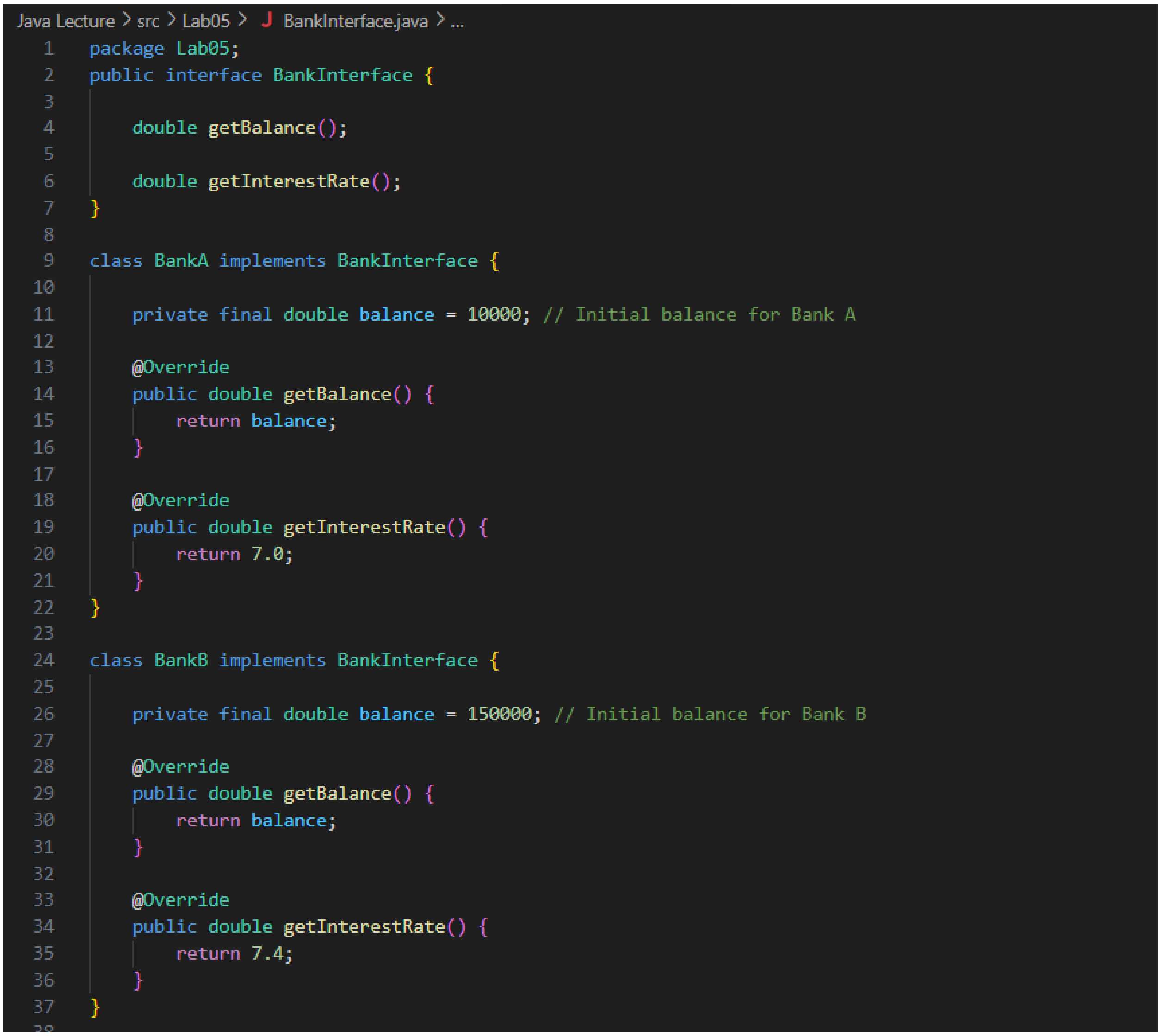
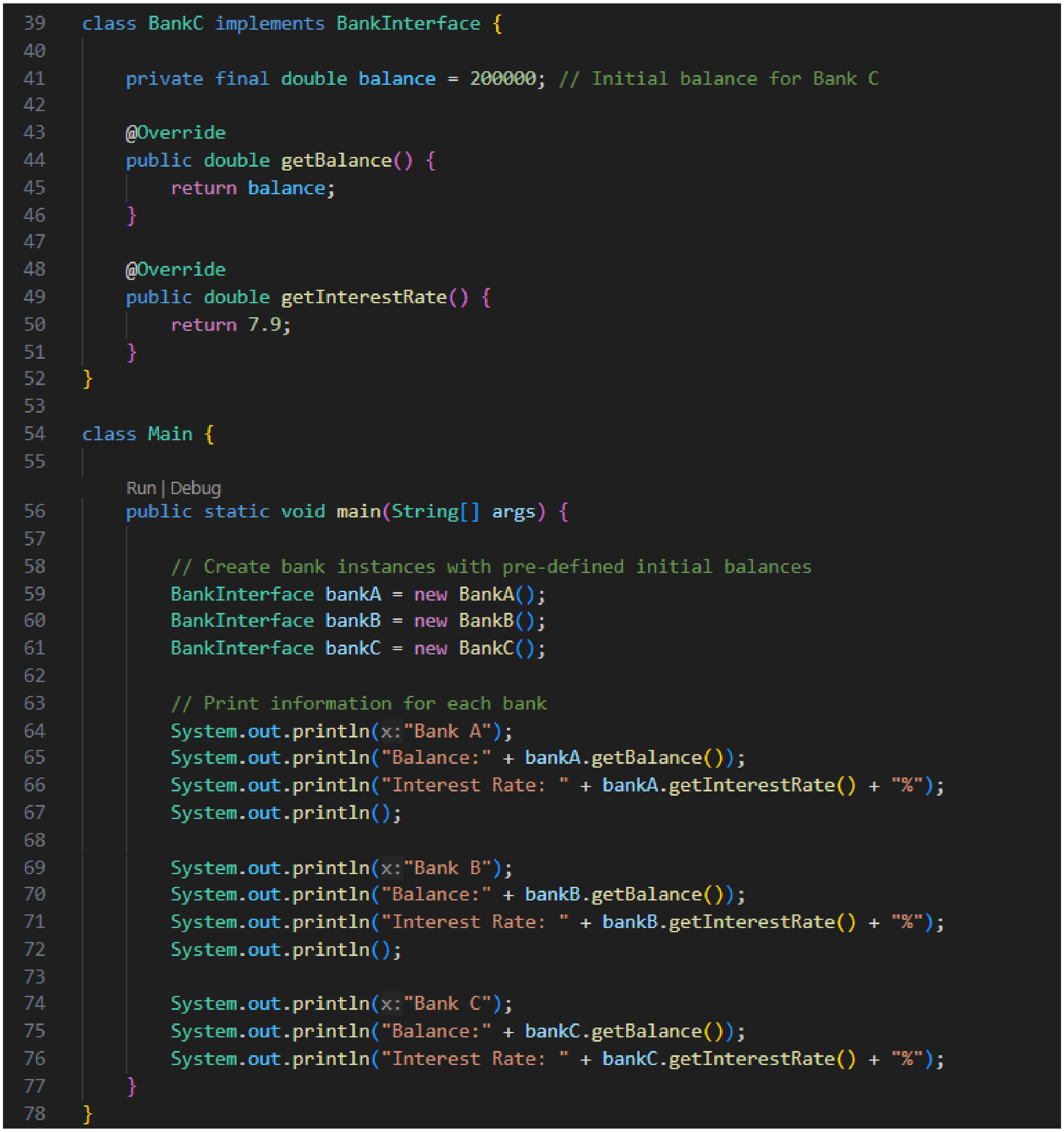
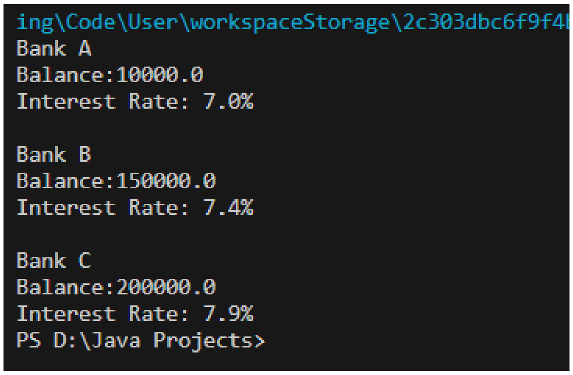


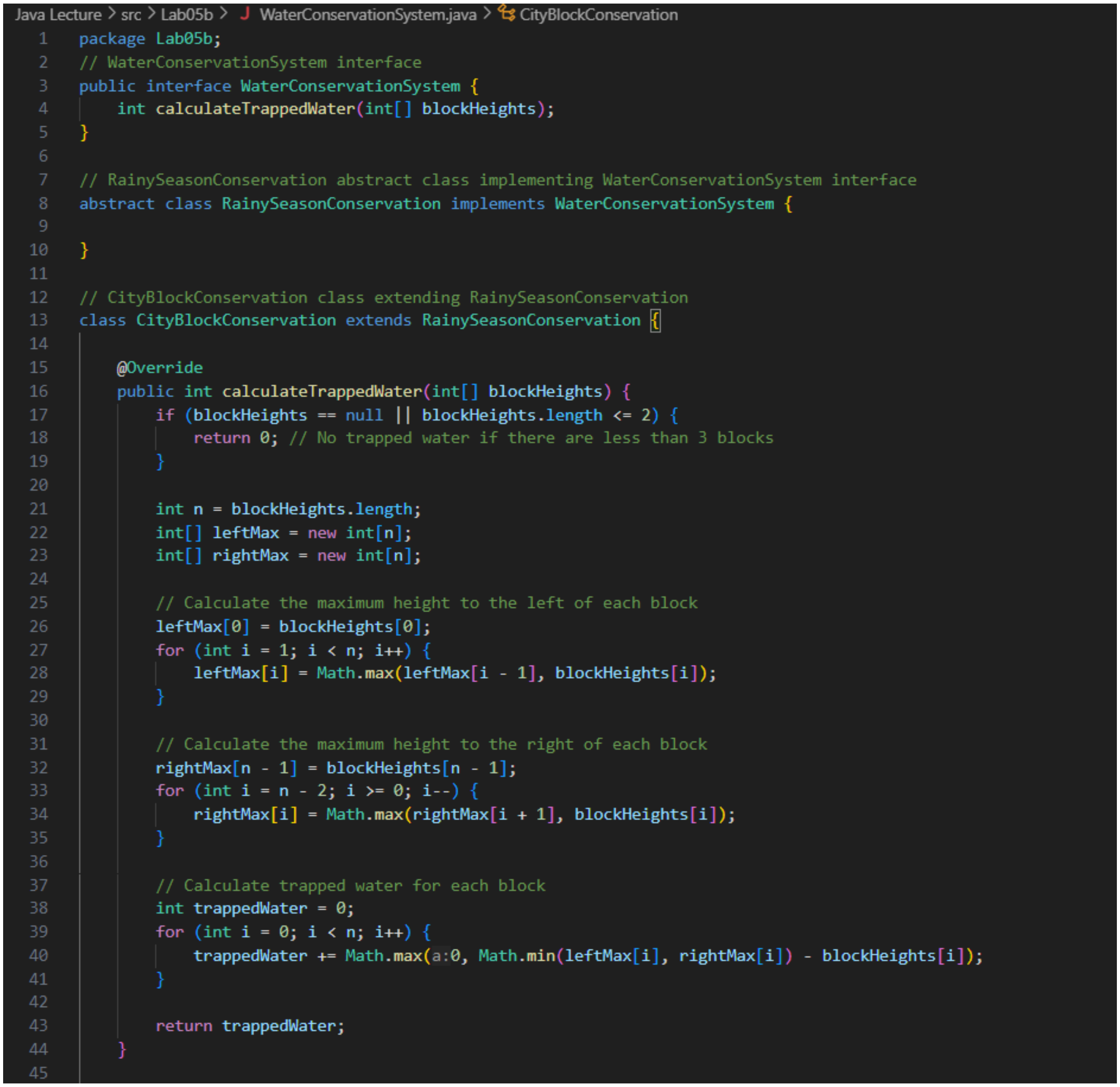
```java
package Lab05;
public interface BankInterface {

    double getBalance();

    double getInterestRate();
}

class BankA implements BankInterface {

    private final double balance = 10000; // Initial balance for Bank A

    @Override
    public double getBalance() {
        return balance;
    }

    @Override
    public double getInterestRate() {
        return 7.0;
    }
}

class BankB implements BankInterface {

    private final double balance = 150000; // Initial balance for Bank B

    @Override
    public double getBalance() {
        return balance;
    }

    @Override
    public double getInterestRate() {
        return 7.4;
    }
}
```



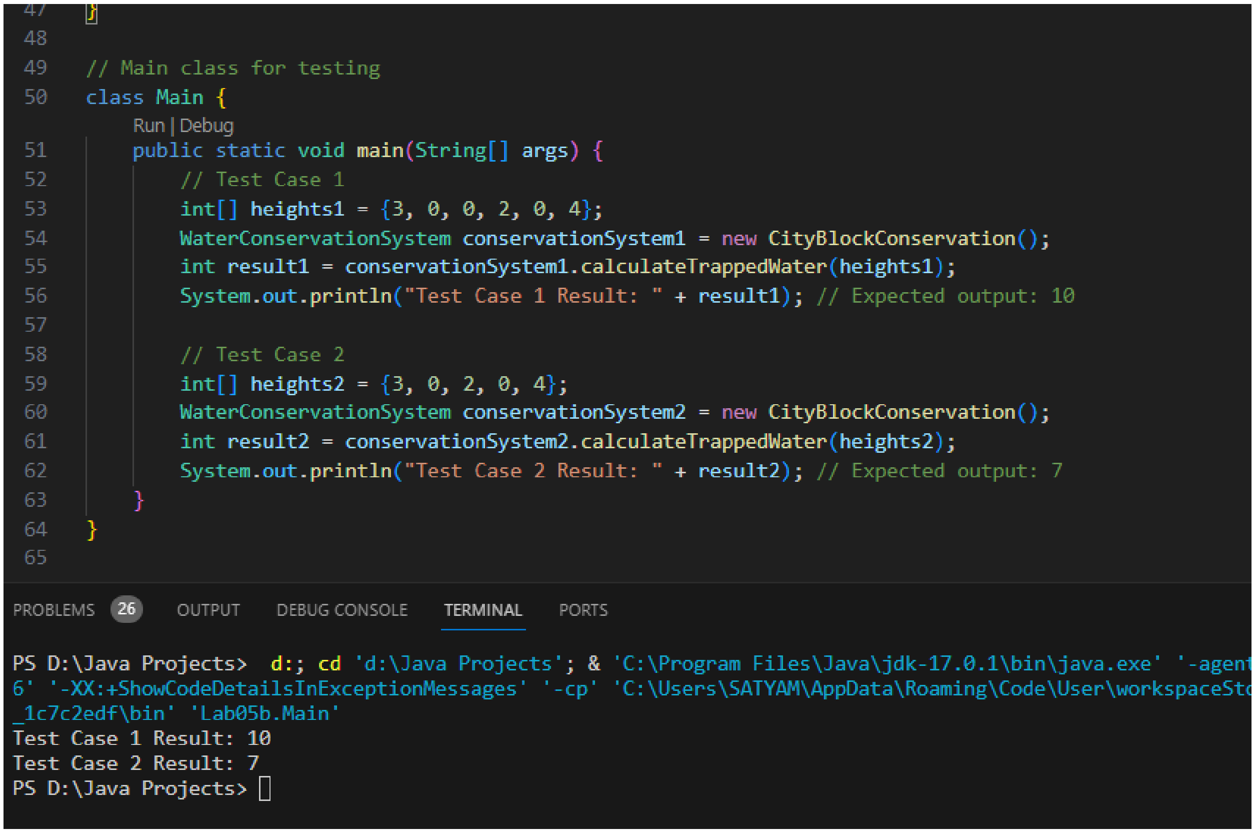
```java
class BankC implements BankInterface {

    private final double balance = 200000; // Initial balance for Bank C

    @Override
    public double getBalance() {
        return balance;
    }

    @Override
    public double getInterestRate() {
        return 7.9;
    }
}

class Main {

    Run | Debug
    public static void main(String[] args) {

        // Create bank instances with pre-defined initial balances
        BankInterface bankA = new BankA();
        BankInterface bankB = new BankB();
        BankInterface bankC = new BankC();

        // Print information for each bank
        System.out.println(x:"Bank A");
        System.out.println("Balance:" + bankA.getBalance());
        System.out.println("Interest Rate: " + bankA.getInterestRate() + "%");
        System.out.println();

        System.out.println(x:"Bank B");
        System.out.println("Balance:" + bankB.getBalance());
        System.out.println("Interest Rate: " + bankB.getInterestRate() + "%");
        System.out.println();

        System.out.println(x:"Bank C");
        System.out.println("Balance:" + bankC.getBalance());
        System.out.println("Interest Rate: " + bankC.getInterestRate() + "%");
    }
}
```



```
ing\Code\User\workspaceStorage\2c303dbc6f9f4
Bank A
Balance:10000.0
Interest Rate: 7.0%

Bank B
Balance:150000.0
Interest Rate: 7.4%

Bank C
Balance:200000.0
Interest Rate: 7.9%
PS D:\Java Projects>
```


Java Lecture > src > Lab05b > WaterConservationSystem.java > CityBlockConservation

```java
package Lab05b;
// WaterConservationSystem interface
public interface WaterConservationSystem {
    int calculateTrappedWater(int[] blockHeights);
}

// RainySeasonConservation abstract class implementing WaterConservationSystem interface
abstract class RainySeasonConservation implements WaterConservationSystem {

}

// CityBlockConservation class extending RainySeasonConservation
class CityBlockConservation extends RainySeasonConservation {

    @Override
    public int calculateTrappedWater(int[] blockHeights) {
        if (blockHeights == null || blockHeights.length <= 2) {
            return 0; // No trapped water if there are less than 3 blocks
        }

        int n = blockHeights.length;
        int[] leftMax = new int[n];
        int[] rightMax = new int[n];

        // Calculate the maximum height to the left of each block
        leftMax[0] = blockHeights[0];
        for (int i = 1; i < n; i++) {
            leftMax[i] = Math.max(leftMax[i - 1], blockHeights[i]);
        }

        // Calculate the maximum height to the right of each block
        rightMax[n - 1] = blockHeights[n - 1];
        for (int i = n - 2; i >= 0; i--) {
            rightMax[i] = Math.max(rightMax[i + 1], blockHeights[i]);
        }

        // Calculate trapped water for each block
        int trappedWater = 0;
        for (int i = 0; i < n; i++) {
            trappedWater += Math.max(a:0, Math.min(leftMax[i], rightMax[i]) - blockHeights[i]);
        }

        return trappedWater;
    }

```



```java
}

// Main class for testing
class Main {
    public static void main(String[] args) {
        // Test Case 1
        int[] heights1 = {3, 0, 0, 2, 0, 4};
        WaterConservationSystem conservationSystem1 = new CityBlockConservation();
        int result1 = conservationSystem1.calculateTrappedWater(heights1);
        System.out.println("Test Case 1 Result: " + result1); // Expected output: 10

        // Test Case 2
        int[] heights2 = {3, 0, 2, 0, 4};
        WaterConservationSystem conservationSystem2 = new CityBlockConservation();
        int result2 = conservationSystem2.calculateTrappedWater(heights2);
        System.out.println("Test Case 2 Result: " + result2); // Expected output: 7
    }
}

```

```
PS D:\Java Projects>  d:; cd 'd:\Java Projects'; & 'C:\Program Files\Java\jdk-17.0.1\bin\java.exe' '-agent
6' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'C:\Users\SATYAM\AppData\Roaming\Code\User\workspaceSto
_1c7c2edf\bin' 'Lab05b.Main'
Test Case 1 Result: 10
Test Case 2 Result: 7
PS D:\Java Projects> 
```