```java
//-------------------------------------------------------------
// Author: Shyaan Khan      Period: 4          Date:
// Description:
//-------------------------------------------------------------

/** >>>>>>>>>>>>>>>>>> CLASS BankAccount <<<<<<<<<<<<<<<<<<<
* A bank account has a balance that can be changed by
* deposits and withdrawals.
*/
public class BankAccount
{
 private double balance; // instance variables are usually private
 private double interestRate;

 /**
 * Constructor (0 parameters): Constructs a bank account with a zero
balance
 * >>> method overloading: more that 1 method with same name
 */
 public BankAccount()
 {
 balance = 0;
 interestRate = 0;
 }
 /**
 * Constructor (1 parameter): Constructs a bank account with a given
balance
 */
 public BankAccount(double givenBalance)
 {
      balance = givenBalance;
      interestRate = 0;
 }

 /**
 * Constructor (2 parameter): both the initial balance
 * and interest rate are set when a new account is created*/

public BankAccount(double givenBalance, double givenRate)
{
      balance = givenBalance;
      interestRate = givenRate;
}

 /**
 * deposit - Method to deposit money into the bank account.
 * Adds the amount given to the account balance
 */
 public void deposit(double moneyAdded)
 {
      balance = balance + moneyAdded;
 }

 /**
 * withdraw - Method to withdraw money from the bank account.
```

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     * Subtracts the amount given from the account.
     */
    public void withdraw(double moneyTaken)
    {
            balance = balance - moneyTaken;
    }

    /**
     * Gets the current balance of the bank account.
     */
    public double getBalance()
    {
            return balance;
    }

/**
 * closeAccount - sets the balance to zero and returns the amount of
 * money which was in the account before it closed
 */

    public double closeAccount()
    {
            double priorBalance;
            priorBalance = balance;
            balance = 0;
            return priorBalance;
    }


    /**
     * setInterestRate - takes a decimal value as a parameter and sets a
     * variable called interestRate to the value input.
     */

    public void setInterestRate(double newRate)
    {
            interestRate = newRate;
    }

    /**
     * getInterestRate - returns the current interest rate as a decimal value
     */
    public double getInterestRate()
    {
            return interestRate;
    }
    /**
     * addInterest - Method to add Interest to the account balance
     */
    public void addInterest()
    {
            balance+=(interestRate*balance);
    }
    /**
     * toString - Method to return instance variable data for chosen object
```

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    */
    public String toString()
    {
        return "Interest Rate: "+interestRate+"\nBalance After Interest: "+balance;
    }
}
```