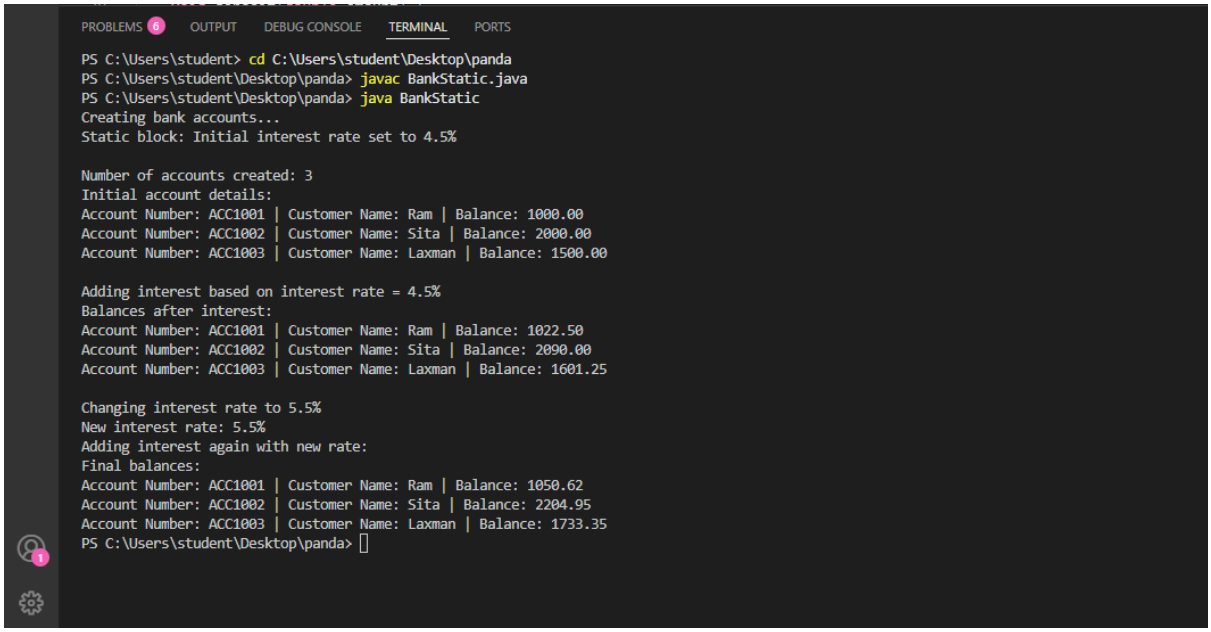
LAB_4:-Create a simple banking system for a small bank. Each bank customer has an account with a unique account number, name, and balance. The bank also wants to keep track of:
1.How many total accounts have been created.
2.The interest rate (same for all accounts).
3.Methods to withdraw, deposit and compute simple interest on a given account.

```
class BankAccount {
   String accountNumber;
   String customerName;
   double balance;
   static int accountCount = 0;
   static double interestRate;

   static {
      interestRate = 4.5;
      System.out.println("Static block: Initial interest rate set to " + interestRate + "%");
   }

   BankAccount(String accountNumber, String customerName, double initialBalance) {
      this.accountNumber = accountNumber;
      this.customerName = customerName;
      this.balance = initialBalance;
      accountCount++;
   }

   void deposit(double amount) {
      if (amount > 0) {
         balance += amount;
      } else {
         System.out.println("Cannot deposit non-positive amount: " + amount);
      }
   }

   void withdraw(double amount) {
      if (amount <= 0) {
         System.out.println("Cannot withdraw non-positive amount: " + amount);
      } else if (amount > balance) {
         System.out.println("Insufficient balance. Requested: " + amount + ", Available: " +
balance);
      } else {
         balance -= amount;
```

```
        }
    }

    void addInterest(double years) {
        if (years <= 0) {
            System.out.println("No time passed, no interest added.");
            return;
        }
        double r = interestRate / 100.0;
        balance += balance * r * years;
    }

    static void changeInterestRate(double newRate) {
        if (newRate < 0) {
            System.out.println("Interest rate cannot be negative: " + newRate);
        } else {
            interestRate = newRate;
        }
    }

    static int getAccountCount() {
        return accountCount;
    }

    static double getInterestRate() {
        return interestRate;
    }

    void displayDetails() {
        System.out.println("Account Number: " + accountNumber + " | Customer Name: " +
customerName + " | Balance: " + String.format("%.2f", balance));
    }
}

class BankStatic {
    public static void main(String[] args) {
        System.out.println("Creating bank accounts...");
        BankAccount acc1 = new BankAccount("ACC1001", "Ram", 1000.0);
        BankAccount acc2 = new BankAccount("ACC1002", "Sita", 2000.0);
        BankAccount acc3 = new BankAccount("ACC1003", "Laxman", 1500.0);
```

```
        System.out.println();
        System.out.println("Number of accounts created: " + BankAccount.getAccountCount());

        System.out.println("Initial account details:");
        acc1.displayDetails();
        acc2.displayDetails();
        acc3.displayDetails();

        System.out.println("\nAdding interest based on interest rate = " +
BankAccount.getInterestRate() + "%");
        acc1.addInterest(0.5);
        acc2.addInterest(1.0);
        acc3.addInterest(1.5);

        System.out.println("Balances after interest:");
        acc1.displayDetails();
        acc2.displayDetails();
        acc3.displayDetails();

        System.out.println("\nChanging interest rate to 5.5%");
        BankAccount.changeInterestRate(5.5);
        System.out.println("New interest rate: " + BankAccount.getInterestRate() + "%");

        System.out.println("Adding interest again with new rate:");
        acc1.addInterest(0.5);
        acc2.addInterest(1.0);
        acc3.addInterest(1.5);

        System.out.println("Final balances:");
        acc1.displayDetails();
        acc2.displayDetails();
        acc3.displayDetails();
    }
}
```

OUTPUT/:-


PROBLEMS 6
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
PS C:\Users\student> cd C:\Users\student\Desktop\panda
PS C:\Users\student\Desktop\panda> javac BankStatic.java
PS C:\Users\student\Desktop\panda> java BankStatic
Creating bank accounts...
Static block: Initial interest rate set to 4.5%
Number of accounts created: 3
Initial account details:
Account Number: ACC1001 | Customer Name: Ram | Balance: 1000.00
Account Number: ACC1002 | Customer Name: Sita | Balance: 2000.00
Account Number: ACC1003 | Customer Name: Laxman | Balance: 1500.00
Adding interest based on interest rate = 4.5%
Balances after interest:
Account Number: ACC1001 | Customer Name: Ram | Balance: 1022.50
Account Number: ACC1002 | Customer Name: Sita | Balance: 2090.00
Account Number: ACC1003 | Customer Name: Laxman | Balance: 1601.25
Changing interest rate to 5.5%
New interest rate: 5.5%
Adding interest again with new rate:
Final balances:
Account Number: ACC1001 | Customer Name: Ram | Balance: 1050.62
Account Number: ACC1002 | Customer Name: Sita | Balance: 2204.95
Account Number: ACC1003 | Customer Name: Laxman | Balance: 1733.35
PS C:\Users\student\Desktop\panda>