LAB – 04

Assignment-1.

• Create a BankAccount class that

• BankAccount class should have three fields accoundHolderName (String), bankName(String), accountBalance(double).

• Create a constructor that takes account holder's name, bankname and initial balance.

• Add three methods to the interface - getBalance(), deposit() and withdraw().

• Implement all three methods.

• In the main method create three bank accounts withdifferent account holders names and ICICI, HDFC and SBI as banknames.

• Deposit and withdraw money for each account. Displaytheaccount balance.

```
package lab;
 public class BankAccount
{
    String accountHolderName;
    String bankName;
    double accountBalance;


    //constructor
    public BankAccount(String accountHolderName, String bankName, double accountBalance) {
        super();
        this.accountHolderName = accountHolderName;
        this.bankName = bankName;
        this.accountBalance = accountBalance;
    }
    // method to get Account balance
    public double getAccountBalance() {
        return accountBalance;
    }
    // method to deposit money
    public void deposit(double amount) {
        if (amount>0) {
            accountBalance += amount;
            System.out.println("Deposited :" +amount + ". New Balance : " +accountBalance);
        }else {
            System.out.println("Deposit amount must be positive");

        }
    }
    // method to withdraw money
    public void withdraw(double amount)
    {
        if (amount > 0 && amount <= accountBalance)
        {
            accountBalance -= amount;
            System.out.println("Withdrawn :" +amount + ". New Balance : " +accountBalance);
```

```
        }else if (amount > accountBalance) {
            System.out.println("Insufficient Balance");
        }else
        {
            System.out.println("withdrawal amount must be positive");
        }
    }
    // method  to display account details
    public void displayAccountDetails()
    {
        System.out.println("Account Holder:" +accountHolderName);
        System.out.println("BankName :" +bankName);
        System.out.println("Account Balance :" +accountBalance);
        System.out.println("==================================");
    }
    public static void main(String[] args) {
        // create Three bank Accounts
        BankAccount acc1 = new BankAccount("A", " ICICI", 1000.00);
        BankAccount acc2 = new BankAccount("B", " HDFC", 1500.00);
        BankAccount acc3 = new BankAccount("C", " SBI", 2000.00);

        //PERFORM DEPOSIT AND WITHDRAWAL OPERATIONS
        acc1.deposit(500);
        acc1.withdraw(200);
        acc1.displayAccountDetails();

        acc2.deposit(300);
        acc2.withdraw(100);
        acc2.displayAccountDetails();

        acc3.deposit(700);
        acc3.withdraw(2500); // insufficient funds
        acc3.displayAccountDetails();

    }
}
```

Output

```
Deposited :500.0. New Balance : 1500.0
Withdrawn :200.0. New Balance : 1300.0
Account Holder:A
BankName : ICICI
Account Balance :1300.0
==================================
Deposited :300.0. New Balance : 1800.0
Withdrawn :100.0. New Balance : 1700.0
Account Holder:B
BankName : HDFC
Account Balance :1700.0
==================================
Deposited :700.0. New Balance : 2700.0
Withdrawn :2500.0. New Balance : 200.0
Account Holder:C
BankName : SBI
Account Balance :200.0
==================================
```

Assignment-3. (Harder problem)

• Create an enum BankName.

• Create a constructor of the enum which takes a parameter interestRate of type double.

• Create the enum constant -ICICI (6.3), HDFC(5.8), SBI (6.0).

• Now in the BankAccount class of previous exercise, modifythetype of bankName to enum BankName. Change constructor accordingly.

• Modify the instantiation of a new Account accordingly. (Example: new BankAccount(12000, "Harry", BankName.SBI);

• Print the bankName for each account.

• Add a method which calculates total interest - calculateInterest(int numberOfYears). The interest will be calculated basedoninterest rate and available balance. Print total interest. [Hints: double totalInterest = bankName.interestRate* numberOfYears * accountBalance;]

```
package dailyQuiz;
enum BankName
{
    ICICI(6.3),
    HDFC(5.8),
    SBI(6.0);
    double interestRate;
    BankName(double interestRate)
    {
        this.interestRate = interestRate;
    }
}
public class BankAccount1 {

    double accountBalance;
    String accountHolderName;

    BankName bankName;

    public BankAccount1(double accountBalance, String accountHolderName, BankName bankName) {

        this.accountBalance = accountBalance;
        this.accountHolderName = accountHolderName;
        this.bankName = bankName;
    }

    public double getAccountBalance() {
        return accountBalance;
    }

    public String getAccountHolderName() {
        return accountHolderName;
    }

    public BankName getBankName() {
        return bankName;
    }
```

```
    public void deposit(double amount)
    {
        accountBalance += amount;
    }
    public void withdraw(double amount)
    {
        accountBalance -= amount;
    }

    public void calculateInterest(int numberOfYears)
    {
        double totalInterest = bankName.interestRate* numberOfYears * accountBalance;
        System.out.println(totalInterest);
    }
    public static void main(String[] args) {
        BankAccount1 account1 = new BankAccount1(12000,"Jack",BankName.HDFC);
        account1.deposit(5000);
        System.out.println(account1.getAccountBalance());
        System.out.println(account1.bankName);
        account1.calculateInterest(10);
    }

}
```

Output

```
17000.0
HDFC
986000.0
```