LAB-3

Assignment-1

```
package megha;

class BankAccount {
private String accountHolderName;
private String bankName;
private double accountBalance;

// Constructor
public BankAccount(String accountHolderName, String bankName, double initialBalance)
{
this.accountHolderName = accountHolderName;
this.bankName = bankName;
this.accountBalance = initialBalance;
}

// Method to get the balance
public double getBalance() {
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("Withdrew: " + amount + " | New Balance: " + accountBalance);
} else if (amount > accountBalance) {
System.out.println("Insufficient funds for withdrawal.");
} 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("Bank Name: " + bankName);
System.out.println("Account Balance: " + accountBalance);
System.out.println();
}
}

public class bank {

public static void main(String[] args) {
// Creating three bank accounts
BankAccount account1 = new BankAccount("Adarsha", "ICICI", 1000.0);
BankAccount account2 = new BankAccount("Bhavana", "HDFC", 1500.0);
BankAccount account3 = new BankAccount("Chaitra", "SBI", 2000.0);

// Displaying initial account details
account1.displayAccountDetails();
account2.displayAccountDetails();
account3.displayAccountDetails();

// Depositing money
account1.deposit(500);
account2.deposit(300);
account3.deposit(700);

// Withdrawing money
account1.withdraw(200);
account2.withdraw(500);
account3.withdraw(1000);

// Displaying final account balances
account1.displayAccountDetails();
account2.displayAccountDetails();
account3.displayAccountDetails();
}
}
```

OUTPUT:

```
Account Holder: Adarsha
Bank Name: ICICI
Account Balance: 1000.0
```

```
Account Holder: Bhavana
Bank Name: HDFC
Account Balance: 1500.0

Account Holder: Chaitra
Bank Name: SBI
Account Balance: 2000.0

Deposited: 500.0 | New Balance: 1500.0
Deposited: 300.0 | New Balance: 1800.0
Deposited: 700.0 | New Balance: 2700.0
Withdrew: 200.0 | New Balance: 1300.0
Withdrew: 500.0 | New Balance: 1300.0
Withdrew: 1000.0 | New Balance: 1700.0
Account Holder: Adarsha
Bank Name: ICICI
Account Balance: 1300.0

Account Holder: Bhavana
Bank Name: HDFC
Account Balance: 1300.0

Account Holder: Chaitra
Bank Name: SBI
Account Balance: 1700.0
```

Assigment-2

```java
package animal;
//Superclass
class Animal {
// Method to be overridden
public void makeSound() {
System.out.println("The animal makes a sound.");
}
}

//Subclass Dog
class Dog extends Animal {
// Overriding the makeSound method
@Override
public void makeSound() {
```

```
System.out.println("The dog barks.");
}
}

//Subclass Cat
class Cat extends Animal {
// Overriding the makeSound method
@Override
public void makeSound() {
System.out.println("The cat meows.");
}
}

//Main class to demonstrate method overriding

public class animal1 {

 public static void main(String[] args) {
 // Creating objects of Dog and Cat
 Animal myDog = new Dog();
 Animal myCat = new Cat();

 // Displaying sounds
 System.out.println("Dog Sound:");
 myDog.makeSound(); // Calls Dog's makeSound method

 System.out.println("Cat Sound:");
 myCat.makeSound(); // Calls Cat's makeSound method
 }
}
```

OUTPUT:

```
Dog Sound:
The dog barks.
Cat Sound:
The cat meows.
```

Assignment-3

```
package megha;
```

```
enum BankName {
ICICI(6.3),
HDFC(5.8),
SBI(6.0);

private final double interestRate;

BankName(double interestRate) {
this.interestRate = interestRate;
}

public double getInterestRate() {
return interestRate;
}
}

class BankAcc {

private double accountBalance;
private String accountHolderName;
private BankName bankName;

public BankAcc(double accountBalance, String accountHolderName, BankName bankName) {
this.accountBalance = accountBalance;
this.accountHolderName = accountHolderName;
this.bankName = bankName;
}

public String getBankName() {
return bankName.name();
}

public double calculateInterest(int numberOfYears) {
return (bankName.getInterestRate() / 100) * accountBalance * numberOfYears;
}

public void printAccountDetails() {
 System.out.println("Account Holder: " + accountHolderName);
System.out.println("Bank Name: " + getBankName());
System.out.println("Account Balance: " + accountBalance);
}
}

public class BankAccount {
```

```
public static void main(String args[]) {

BankAcc account1 = new BankAcc(12000, "Shilpa", BankName.SBI);
BankAcc account2 = new BankAcc(15000, "Adarsha", BankName.ICICI);
// Print details for account 1
account1.printAccountDetails();
System.out.printf("Total Interest for 5 years: %.2f%n",
account1.calculateInterest(5));

System.out.println(); // Spacing

// Print details for account 2
account2.printAccountDetails();
System.out.printf("Total Interest for 3 years: %.2f%n",
account2.calculateInterest(3));
}

}
```

OUTPUT:

```
Account Holder: Shilpa
Bank Name: SBI
Account Balance: 12000.0
Total Interest for 5 years: 3600.00

Account Holder: Adarsha
Bank Name: ICICI
Account Balance: 15000.0
Total Interest for 3 years: 2835.00
```