

Lab 6:

```
import java.util.Scanner;
```

```
class Account {
```

```
    String customerName;
```

```
    String accountNumber;
```

```
    double balance;
```

```
    Account(String customerName, String accountNumber){
```

```
        this.customerName = customerName;
```

```
        this.accountNumber = accountNumber;
```

```
        this.balance = 0;
```

```
    }
```

```
    void deposit(double amount) {
```

```
        balance += amount;
```

```
        System.out.println("Deposit of Rs" + amount + "successful");
```

```
    }
```

```
    void displayBalance(){
```

```
        System.out.println("Account Number:" + accountNumber+ "\nBalance:" + balance);
```

```
    }
```

```
}
```

```
class SavingsAccount extends Account {
```

```
    SavingsAccount(String customerName, String accountNumber) {
```

```
        super(customerName, accountNumber);
```

```
}
```

```
void addInterest(double years) {  
    double interestRate = 5;  
    if(years <= 0) {  
        System.out.println("No time passed, no interest added.");  
        return;  
    }  
    double r = interestRate / 100.0;  
    balance += balance * r* years;  
}
```

```
void withdraw(double amount) {  
    if (balance >= amount) {  
        balance -= amount;  
        System.out.println("withdrawal of " + amount + "successful");  
  
    }else {  
        System.out.println("insufficient funds for withdrawal.");  
    }  
}  
}  
  
class CurrentAccount extends Account {  
    double minimumBalance = 1000;  
    CurrentAccount(String customerName, String accountNumber) {  
        super(customerName, accountNumber);  
    }  
}
```

```

void withdraw(double amount) {
    if(balance - amount >= minimumBalance) {
        balance -= amount;

        System.out.println("withdrawal of " + amount + "successful");
    } else {
        System.out.println("Insufficient funds. Service charge applied.");
        imposePenalty();
    }
}

void imposePenalty() {
    double penalty = 200;

    balance -= penalty;

    System.out.println("Penalty of Rs" + penalty + "imposed");
}
}

class Bank {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        System.out.println("Enter 1 for current account or 2 for savings Account");

        int choice1 = sc.nextInt();

        Account acc;

        if(choice1 == 1) {
            acc = new CurrentAccount("Alice", "1234");

        }else{
            acc = new SavingsAccount("James", "2345");
        }
    }
}

```

```

while(true) {

    System.out.println("\n Menu");

    System.out.println("\n Deposit");

    System.out.println("\n Withdrawal");

    System.out.println("\n Display Balance");

    System.out.println("\n Compute interesr(savings only)");

    System.out.println("\n Exit");

    System.out.print("Enter you choice:");

    int choice2 = sc.nextInt();


    switch(choice2) {

        case 1 :

            System.out.println("Enter amount to deposit: ");

            double amount = sc.nextDouble();

            acc.deposit(amount);

            break;

        case 2 :

            if (acc instanceof SavingsAccount) {

                System.out.println("withdrawal is not allowed for savings Account");

            }

            else {

                System.out.print("Enter amount to withdraw:");

                amount = sc.nextDouble();

                ((CurrentAccount) acc).withdraw(amount);

            }

            break;

        case 3 :

            acc.displayBalance();

```

```

        break;

        case 4:
            if(acc instanceof SavingsAccount) {
                ((SavingsAccount) acc).addInterest(2);

            }else {
                System.out.println("Interest computation not applicable for current
Account.");
            }

            break;

            case 5 :
                System.exit(0);

            default:
                System.out.println("Invalid choice");
        }

    }

}

```

Output 1

```
PS C:\Users\student\1BM24CS326> cd "c:\Users\student\1BM24CS326\" ; if ($?) { javac Bank.java } ; if ($?) { java Bank }
Enter 1 for current account or 2 for savings Account
1
Menu
Deposit
Withdrawal
Display Balance
Compute interesr(savings only)
Exit
Enter you choice:1
Enter amount to deposit:
2000
Deposit of Rs2000.0successful
Menu
Deposit
Withdrawal
Display Balance
Compute interesr(savings only)
Exit
Enter you choice:2
Enter amount to withdraw:1000
withdrawal of 1000.0successful
Menu
Deposit
Withdrawal
Display Balance
Compute interesr(savings only)
Exit
Enter you choice:3
Account Number:1234
Balance:1000.0
Menu
Deposit
Withdrawal
Display Balance
Compute interesr(savings only)
```

```
Enter you choice:4
Interest computation not applicable for current Account.
Menu
Deposit
Withdrawal
Display Balance
Compute interesr(savings only)
Exit
Enter you choice:5
PS C:\Users\student\1BM24CS326>
```

Output Choice 2:

```
Enter 1 for current account or 2 for savings Account
2

Menu

Deposit

Withdrawal

Display Balance

Compute interesr(savings only)

Exit
Enter you choice:1
Enter amount to deposit:
1000
Deposit of Rs1000.0successful

Menu

Deposit

Withdrawal

Display Balance

Compute interesr(savings only)

Exit
Enter you choice:2
withdrawal is not allowed for savings Account

Menu

Deposit

Withdrawal

Display Balance

Compute interesr(savings only)

Exit
Enter you choice:3
Account Number:2345
Balance:1000.0

Menu

Deposit

Withdrawal

Display Balance

Compute interesr(savings only)

Exit
Enter you choice:4
```

Enter you choice:4

Menu

Deposit

Withdrawal

Display Balance

Compute interesr(savings only)

Exit

Enter you choice:5

PS C:\Users\student\1BM24CS326>