

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\IBM24CS326> cd "c:\Users\student\IBM24CS326\" ; if ($?) { javac Bank.java } ; if ($?) { java Bank }
Enter 1 for current account or 2 for savings Account
1

Menu
Deposit
Withdrawal
Display Balance
Compute interest(savings only)

Exit
Enter you choice:1
Enter amount to deposit:
2000
Deposit of Rs2000.0successful

Menu
Deposit
Withdrawal
Display Balance
Compute interest(savings only)

Exit
Enter you choice:2
Enter amount to withdraw:1000
withdrawal of 1000.0successful

Menu
Deposit
Withdrawal
Display Balance
Compute interest(savings only)

Exit
Enter you choice:3
Account Number:1234
Balance:1000.0

Menu
Deposit
Withdrawal
Display Balance
Compute interest(savings only)
```

```
Enter you choice:4
Interest computation not applicable for current Account.
```

```
Menu
Deposit
Withdrawal
Display Balance
Compute interest(savings only)

Exit
Enter you choice:5
```

```
PS C:\Users\student\IBM24CS326>
```

Output Choice 2:

```
Enter 1 for current account or 2 for savings Account  
2.  
  
Menu  
Deposit  
Withdrawal  
Display Balance  
Compute interest(savings only)  
Exit  
Enter you choice:1  
Enter amount to deposit:  
1000  
Deposit of Rs1000.0 successful  
  
Menu  
Deposit  
Withdrawal  
Display Balance  
Compute interest(savings only)  
Exit  
Enter you choice:2  
withdrawal is not allowed for savings Account  
  
Menu  
Deposit  
Withdrawal  
Display Balance  
Compute interest(savings only)  
Exit  
Enter you choice:3  
Account Number:2345  
Balance:1000.0  
  
Menu  
Deposit  
Withdrawal  
Display Balance  
Compute interest(savings only)  
Exit  
Enter you choice:4
```

```
Enter you choice:4
```

```
Menu
```

```
Deposit
```

```
Withdrawal
```

```
Display Balance
```

```
Compute interest(savings only)
```

```
Exit
```

```
Enter you choice:5
```

```
o PS C:\Users\student\1BM24CS326> █
```