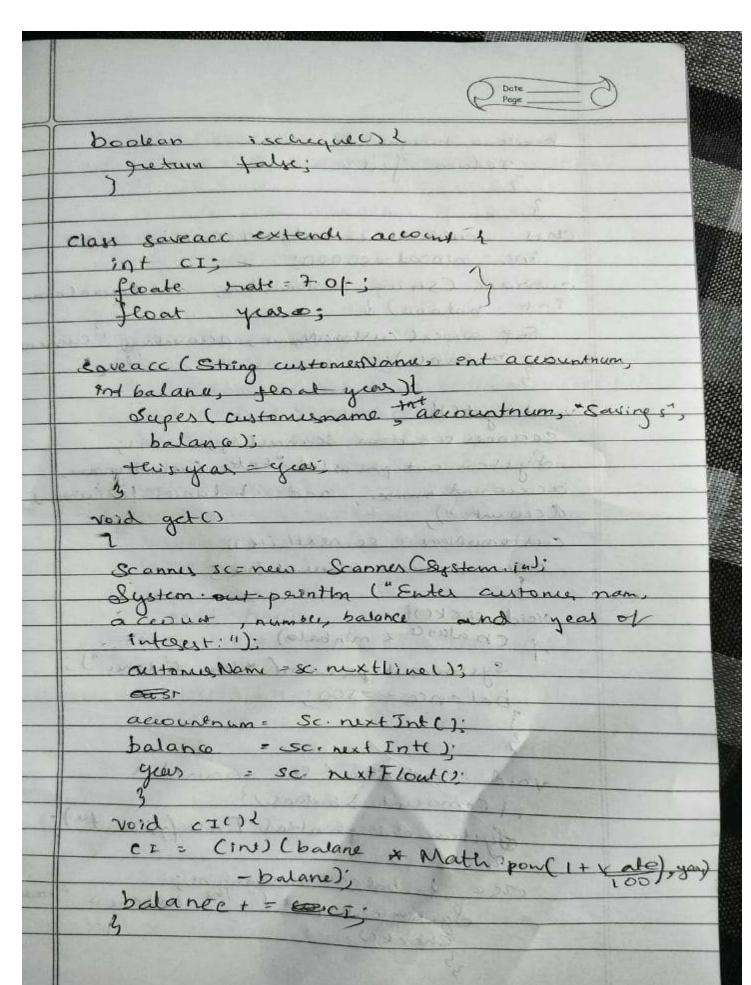
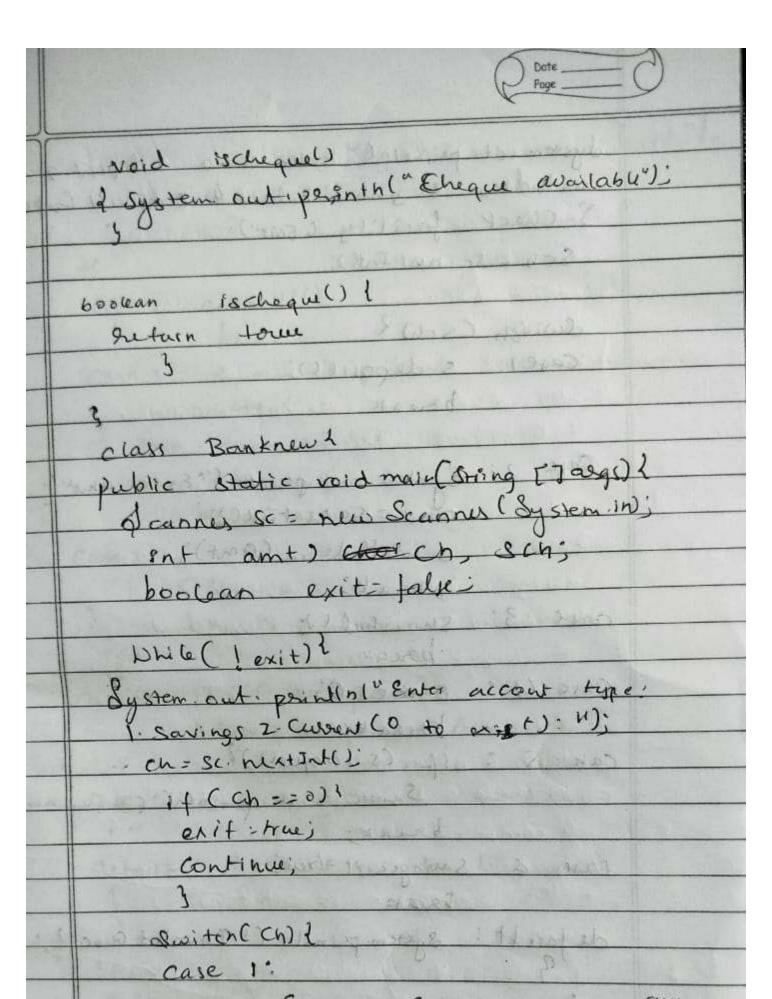
5)Develop a Java program to create a class Bank that maintains two kinds of account for its customers, one called savings account and the other current account. The savings account provides compound interest and withdrawal facilities but no cheque book facility. The current account provides cheque book facility but no interest. Current account holders should also maintain a minimum balance and if the balance falls below this level, a service charge is imposed. Create a class Account that stores customer name, account number and type of account. From this derive the classes Cur-acct and Sav-acct to make them more specific to their requirements. Include the necessary methods in order to achieve the following tasks: a) Accept deposit from customer and update the balance. b) Display the balance. c) Compute and deposit interest d) Permit withdrawal and update the balance Check for the minimum balance, impose penalty if necessary and update the balance

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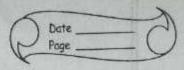
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	Enter Choice 1. deposit 2 withdraw 3. showbalan
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	Enter amount to deposit
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	compound interest 5259
	Balane after compound interest 41554 Enter choile: 1. Deposit 2. withdlew 3. show Galance
	4. compound interest
	Enter Ones to the state of the
	Enter amount to withdraw 50000
	Insufficient balance

```
import java.util.Scanner;
class Account {
  String customerName;
  int accountNum;
  String typeAccount;
  int balance = 0;
  Account(String customerName, int accountNum, String typeAccount, int balance) {
    this.customerName = customerName;
    this.accountNum = accountNum;
    this.typeAccount = typeAccount;
    this.balance = balance;
  }
  void showBalance() {
    System.out.println(typeAccount + " balance is: " + balance);
  }
  void deposit() {
    int amount;
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter amount to deposit: ");
    amount = sc.nextInt();
     balance += amount;
    showBalance();
  }
```

```
void withdraw(int amount) {
    if (amount > balance) {
       System.out.println("Insufficient balance.");
     } else {
       balance -= amount;
       System.out.println("The balance is: " + balance);
     }
}
class SaveAcc extends Account {
  int compoundInterest;
  float rate = 7.0f; // 7\% interest
  float year;
  SaveAcc(String customerName, int accountNum, int balance, float year) {
    super(customerName, accountNum, "Savings", balance);
    this.year = year;
  }
  void get() {
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter customer name, account number, balance, and years for interest:
");
    customerName = sc.nextLine();
    accountNum = sc.nextInt();
    balance = sc.nextInt();
    year = sc.nextFloat();
  }
```

```
void compoundInterest() {
    compoundInterest = (int)(balance * Math.pow((1 + \text{rate} / 100), year) - balance);
    balance += compoundInterest;
    System.out.println("Compound interest: " + compoundInterest);
    System.out.println("Balance after compound interest: " + balance);
  }
}
class CurrAcc extends Account {
  int minBalance = 50000;
  CurrAcc(String customerName, int accountNum, int balance) {
    super(customerName, accountNum, "Current", balance);
  }
  void get() {
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter customer name, account number, and balance for current
account: ");
    customerName = sc.nextLine();
    accountNum = sc.nextInt();
    balance = sc.nextInt();
  }
  void check() {
    if (balance < minBalance) {
       System.out.println("Low balance. Service charge of 500 imposed.");
       balance = 500;
```

```
}
  void withdraw(int amount) {
     if (amount > balance) {
       System.out.println("Insufficient balance.");
     } else {
       balance -= amount;
       System.out.println("The balance is: " + balance);
       check();
  }
  void isCheque() {
     System.out.println("Cheque facility is available.");
}
public class newBank {
  public static void main(String[] args) {
     Scanner sc = new Scanner(System.in);
     int amount, Ch, c1;
     System.out.println("Enter account type 1. Savings 2. Current");
     Ch = sc.nextInt();
     while(true) {
       if (Ch == 1) {
```

```
SaveAcc s = new SaveAcc("", 0, 0, 0);
          s.get();
          System.out.println("Enter choice 1. Deposit 2. Withdraw 3. Show balance 4.
Compound interest");
         c1 = sc.nextInt();
         if (c1 == 1) {
            s.deposit();
          } else if (c1 == 4) {
            s.compoundInterest();
          } else if (c1 == 2) {
            System.out.println("Enter amount to withdraw from savings account: ");
            amount = sc.nextInt();
            s.withdraw(amount);
          } else if (c1 == 3) {
            s.showBalance();
          } else {
            System.out.println("Invalid choice");
          }
       } else if (Ch == 2) {
          CurrAcc c = new CurrAcc("", 0, 0);
          c.get();
          System.out.println("Enter choice 1. Deposit 2. Withdraw 3. Show balance");
          c1 = sc.nextInt();
         if (c1 == 1) {
            c.deposit();
          } else if (c1 == 2) {
            System.out.println("Enter amount to withdraw from current account: ");
            amount = sc.nextInt();
            c.withdraw(amount);
```

```
} else if (c1 == 3) {
       c.showBalance();
     } else {
       System.out.println("Invalid choice");
     }
  } else {
     System.out.println("Invalid choice");
  }
  System.out.println("Do you want to continue? (1. Yes / 0 or any chracter. No)");
  int continueChoice = sc.nextInt();
  if (continueChoice !=1) {
     break;
sc.close();
```

}

```
Enter account type: 1. Savings 2. Current (0 to exit):
Enter customer name, account number, balance, and years for interest:
madhu
23
34000
Enter choice: 1. Deposit 2. Withdraw 3. Show balance 4. Compound interest 5. Check Cheque facility 6. Exit
Savings balance is: 34000
Enter choice: 1. Deposit 2. Withdraw 3. Show balance 4. Compound interest 5. Check Cheque facility 6. Exit
Enter amount to deposit:
Savings balance is: 36300
Enter choice: 1. Deposit 2. Withdraw 3. Show balance 4. Compound interest 5. Check Cheque facility 6. Exit
Compound interest: 5259
Balance after compound interest: 41559
Enter choice: 1. Deposit 2. Withdraw 3. Show balance 4. Compound interest 5. Check Cheque facility 6. Exit
Enter amount to withdraw from savings account:
Insufficient balance.
Enter choice: 1. Deposit 2. Withdraw 3. Show balance 4. Compound interest 5. Check Cheque facility 6. Exit
Enter amount to withdraw from savings account:
23000
The balance is: 18559
Enter choice: 1. Deposit 2. Withdraw 3. Show balance 4. Compound interest 5. Check Cheque facility 6. Exit
Cheque facility is not available for Savings account.
Enter choice: 1. Deposit 2. Withdraw 3. Show balance 4. Compound interest 5. Check Cheque facility 6. Exit
Enter account type: 1. Savings 2. Current (0 to exit):
Enter customer name, account number, and balance for current account:
vasisshta
345
Enter choice: 1. Deposit 2. Withdraw 3. Show balance 4. Check Cheque facility 5. Exit
Enter amount to deposit:
24567
Current balance is: 144567
Enter choice: 1. Deposit 2. Withdraw 3. Show balance 4. Check Cheque facility 5. Exit
Enter amount to withdraw from current account:
The balance is: 54567
```

The balance is: 24567

Low balance. Service charge of 500 imposed.

Enter choice: 1. Deposit 2. Withdraw 3. Show balance 4. Check Cheque facility 5. Exit

3

Current balance is: 24067

Enter choice: 1. Deposit 2. Withdraw 3. Show balance 4. Check Cheque facility 5. Exit

4

Cheque facility is available.

Enter choice: 1. Deposit 2. Withdraw 3. Show balance 4. Check Cheque facility 5. Exit