**LAPORAN PRAKTIKUM PEMROGRAMAN BEORIENTASI OBJEK**

“Tugas 10 Studi kasus ATM dengan java*”*

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Oleh:

Nama : Mohammad Sayifullah

NPM : 4523210066

Kelas : A

Dosen:

Adi Wahyu Pribadi, S.Si., M. Kom

**S1-Teknik Informatika**

**Fakultas Teknik Universitas Pancasila**

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**Account.java**

package com.atm.model;

public class Account {

    private String accountNumber;

    private String pin;

    private double balance;

    public static final double MINIMUM\_BALANCE = 50000;

    public **Account**(String *accountNumber*, String *pin*, double *balance*) {

        this.accountNumber = *accountNumber*;

        this.pin = *pin*;

        this.balance = *balance*;

    }

public boolean **changePin**(String *oldPin*, String *newPin1*, String *newPin2*) {

        if (!this.pin.**equals**(*oldPin*)) {

            System.out.**println**("PIN lama salah.");

            return false;

        }

        if (!*newPin1*.**equals**(*newPin2*)) {

            System.out.**println**("PIN baru tidak cocok.");

            return false;

        }

        this.pin = *newPin1*;

        System.out.**println**("PIN berhasil diubah.");

        return true;

    }

*// Getter dan Setter*

    public String **getAccountNumber**() {

        return accountNumber;

    }

    public String **getPin**() {

        return pin;

    }

    public double **getBalance**() {

        return balance;

    }

    public void **credit**(double *amount*) {

        this.balance += *amount*;

    }

    public void **debit**(double *amount*) {

        this.balance -= *amount*;

    }

}

**Withdrawal.java**

package com.atm.transaction;

import com.atm.model.Account;

import java.util.Scanner;

public class Withdrawal extends Transaction {

    public **Withdrawal**(Account *account*) {

        super(*account*);

    }

    @Override

    public void **execute**() {

        Scanner scanner = new **Scanner**(System.in);

        System.out.**print**("Masukkan jumlah penarikan: ");

        double amount = scanner.**nextDouble**();

        if (account.**getBalance**() - amount < Account.MINIMUM\_BALANCE) {

            System.out.**println**("Saldo tidak mencukupi. Saldo minimum menyisakan 50000");

        } else {

            account.**debit**(amount);

            System.out.**println**("Penarikan berhasil. Saldo Anda sekarang: " + account.**getBalance**());

        }

    }

}

**ATM.java**

package com.atm;

import com.atm.model.Account;

import com.atm.transaction.\*;

import java.util.HashMap;

import java.util.Map;

import java.util.Scanner;

public class ATM {

    private Map<String, Account> accounts;

    public **ATM**() {

        accounts = new **HashMap**<>();

**initializeAccounts**();

    }

    private void **initializeAccounts**() {

*// Menambahkan akun contoh*

        accounts.**put**("123456", new **Account**("123456", "1234", 500000));

        accounts.**put**("654321", new **Account**("654321", "4321", 1000000));

    }

    public void **start**() {

        Scanner scanner = new **Scanner**(System.in);

        System.out.**print**("Masukkan nomor akun: ");

        String accountNumber = scanner.**nextLine**();

        System.out.**print**("Masukkan PIN: ");

        String pin = scanner.**nextLine**();

        Account account = **authenticateUser**(accountNumber, pin);

        if (account != null) {

**showMenu**(account);

        } else {

            System.out.**println**("Autentikasi gagal.");

        }

    }

    private Account **authenticateUser**(String *accountNumber*, String *pin*) {

        Account account = accounts.**get**(*accountNumber*);

        if (account != null && account.**getPin**().**equals**(*pin*)) {

            return account;

        }

        return null;

    }

    private void **showMenu**(Account *account*) {

        Scanner scanner = new **Scanner**(System.in);

        int choice = 0;

        do {

            System.out.**println**("\nMenu:");

            System.out.**println**("1. Penarikan");

            System.out.**println**("2. Deposit");

            System.out.**println**("3. Transfer");

            System.out.**println**("4. Cek Saldo");

            System.out.**println**("5. Ubah Pin");

            System.out.**println**("6. Keluar");

            System.out.**print**("Pilih opsi: ");

            choice = scanner.**nextInt**();

            switch (choice) {

                case 1:

                    Transaction withdrawal = new **Withdrawal**(*account*);

                    withdrawal.**execute**();

                    break;

                case 2:

                    Transaction deposit = new **Deposit**(*account*);

                    deposit.**execute**();

                    break;

                case 3:

                    scanner.**nextLine**(); *// Membersihkan buffer*

                    System.out.**print**("Masukkan nomor akun tujuan: ");

                    String targetAccountNumber = scanner.**nextLine**();

                    Account targetAccount = accounts.**get**(targetAccountNumber);

                    if (targetAccount != null) {

                        Transaction transfer = new **Transfer**(*account*, targetAccount);

                        transfer.**execute**();

                    } else {

                        System.out.**println**("Akun tujuan tidak ditemukan.");

                    }

                    break;

                case 4:

                    System.out.**println**("Saldo Anda: " + *account*.**getBalance**());

                    break;

                case 5:

                    scanner.**nextLine**(); *// Clear buffer*

                    System.out.**print**("Masukkan PIN lama: ");

                    String oldPin = scanner.**nextLine**();

                    System.out.**print**("Masukkan PIN baru: ");

                    String newPin1 = scanner.**nextLine**();

                    System.out.**print**("Masukkan ulang PIN baru: ");

                    String newPin2 = scanner.**nextLine**();

*account*.**changePin**(oldPin, newPin1, newPin2);

                    break;

                case 6:

                    System.out.**println**("Terima kasih telah menggunakan ATM kami.");

                    break;

                default:

                    System.out.**println**("Opsi tidak valid.");

            }

        } while (choice != 5);

    }

}

**Main.java**

package com.atm;

public class Main {

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

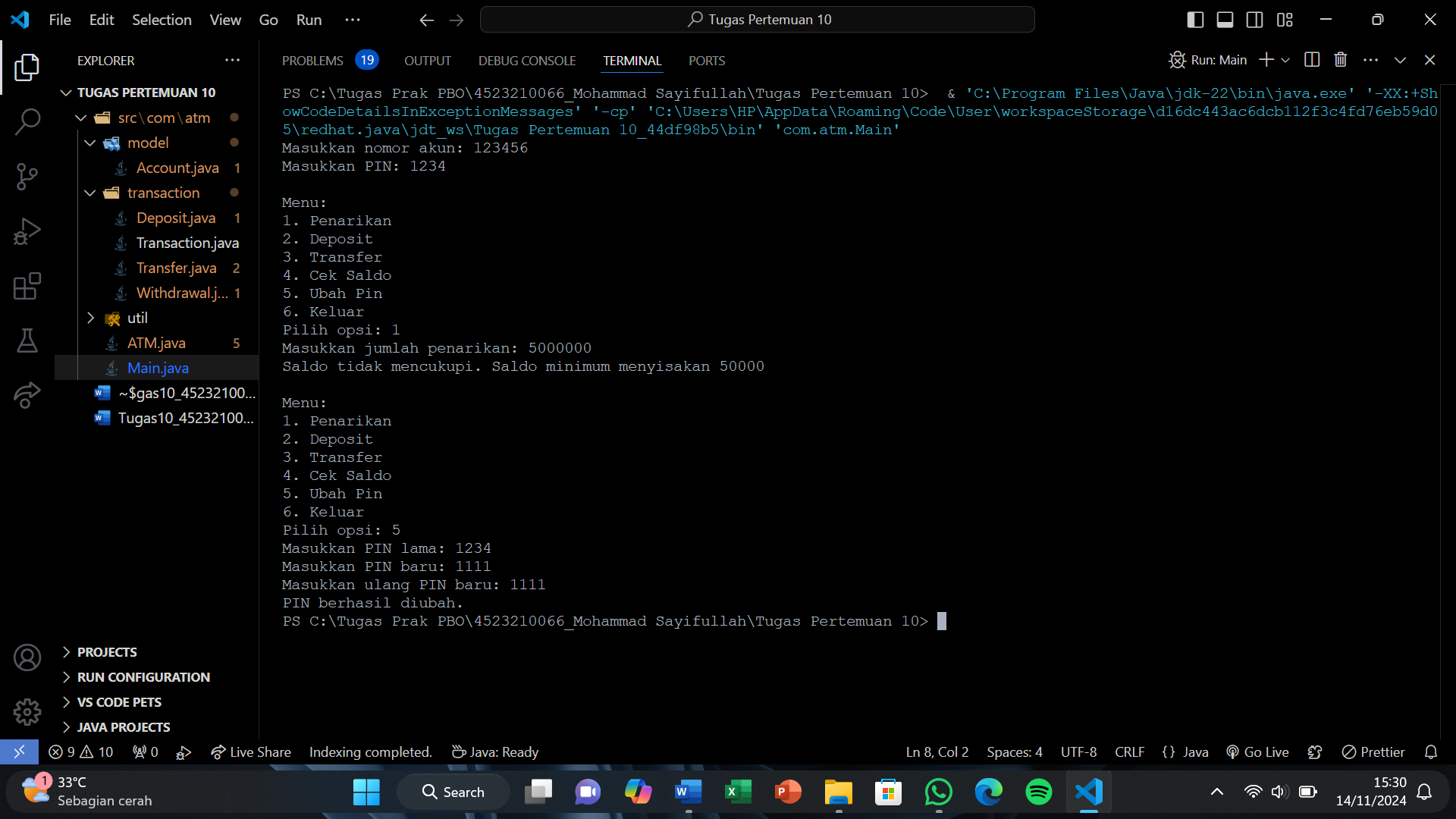
        ATM atm = new **ATM**();

        atm.**start**();

    }

}

**Hasil run**

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