16TIN2054 – Teknik Pemrograman Praktek

Unit Testing with Junit- Week 13

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Tugas ini dikumpulkan untuk memenuhi sebagian persyaratan kelulusan mata kuliah Teknik Pemrograman Praktek

Program Studi D4 Teknik Informatika

Jurusan Teknik Komputer dan Informatika

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Unit Testing with Junit

1. Pahami 5 test operation yang umum digunakan pada buku Manning - JUnit Recipes
   - Practical Methods for Programmer Testing.pdf chapter 1 hal 14
2. Implementasikan kasus ATM pada pertemuan 7 Berikut :
   – Berhasil Login menggunakan account number dan pin yang diminta
   – Menampilkan Balance Information
   – Memilih penarikan (withdrawal)
   – menampilkan Balance Information setelah dilakukan penarikan
   – Untuk setiap transaksi minimal menerapkan 2 Test Operation (Misalnya, AssertSame dan AssertTrue)
   – Buatlah dokumen (Google doc) yang menjelaskan test operation apa yang digunakan untuk transaksi yang ATM (Pada Point 2) beserta sourcode nya.

```
package iniPackage;

import static org.junit.Assert.*;

import org.junit.jupiter.api.Test;

class JUnit_Testing{
  int AccountNumber = 12345;
  boolean userAuthenticated = false;

  @Test
  public void test() {
    // TESTING LOGIN
    BankDatabase bankDatabase = new BankDatabase();
    assertFalse(userAuthenticated);
    userAuthenticated = bankDatabase.authenticateUser(AccountNumber, 54321);
    assertTrue(userAuthenticated);

    // TESTING BALANCE
    Screen screen = new Screen();
    BalanceInquiry balance = new BalanceInquiry(AccountNumber,screen, bankDatabase);
    assertEquals(1000.0,balance.getBankDatabase().getAvailableBalance(AccountNumber),0.0);
    assertEquals(1200.0,balance.getBankDatabase().getTotalBalance(AccountNumber),0.0);
```

```
    balance.execute();

    // TESTING WITHDRAWAL
    Keypad keypad = new Keypad();
    CashDispenser cashDispenser = new CashDispenser();
    Withdrawal withdrawal = new Withdrawal(AccountNumber,screen,bankDatabase,k
eypad,cashDispenser);
    assertSame(bankDatabase,withdrawal.getBankDatabase());
    withdrawal.execute();
    assertEquals(AccountNumber,withdrawal.getAccountNumber());

    // TESTING BALANCE INFORMATION
    BalanceInquiry Balance = new BalanceInquiry(AccountNumber,screen, bankData
base);
    assertEquals(800.0,Balance.getBankDatabase().getAvailableBalance(AccountNu
mber),0.0);
    assertEquals(1000.0,Balance.getBankDatabase().getTotalBalance(AccountNumbe
r),0.0);
    Balance.execute();

  }
}
```

Screenshot Output Program :

- Dengan pernarikan $200, maka test case berhasil

```
Balance Information:
 - Available balance: $1,000.00
 - Total balance:     $1,200.00

Withdrawal Menu:
1 - $20
2 - $40
3 - $60
4 - $100
5 - $200
6 - Cancel transaction

Choose a withdrawal amount: 5

Your cash has been dispensed. Please take your cash now.

Balance Information:
 - Available balance: $800.00
 - Total balance:     $1,000.00
```

- Dengan penarikan $100, maka test case gagal

```
Balance Information:
 - Available balance: $1,000.00
 - Total balance:     $1,200.00

Withdrawal Menu:
1 - $20
2 - $40
3 - $60
4 - $100
5 - $200
6 - Cancel transaction

Choose a withdrawal amount: 4

Your cash has been dispensed. Please take your cash now.
```