

# MODUL 8

## POLYMORPHISM

### PRAKTIKUM PEMROGRAMAN BERORIENTASI OBJEK

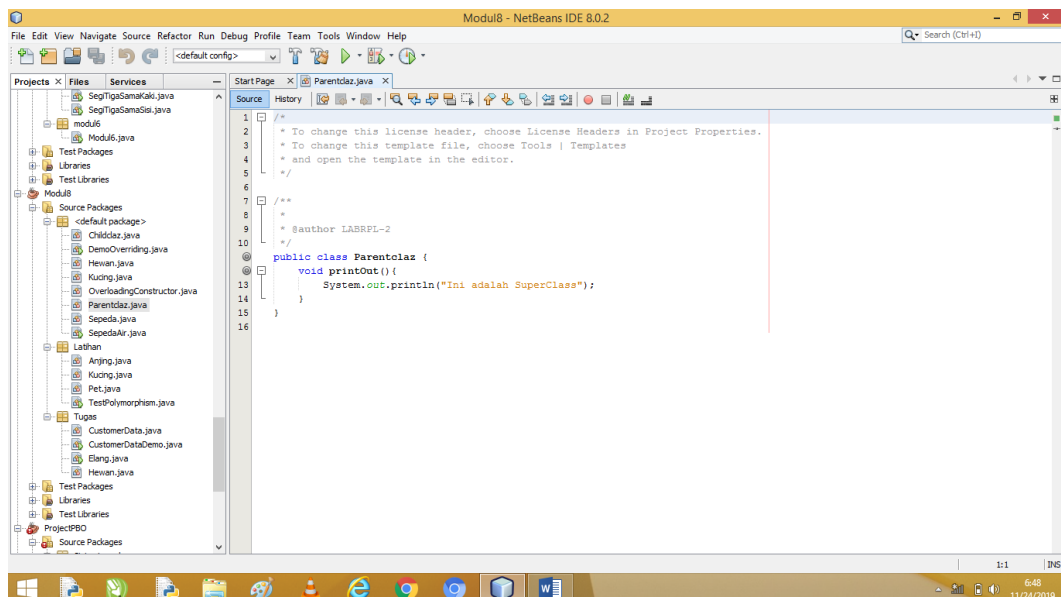
Nama : Annisa Nugraheni

NIM : L200180066

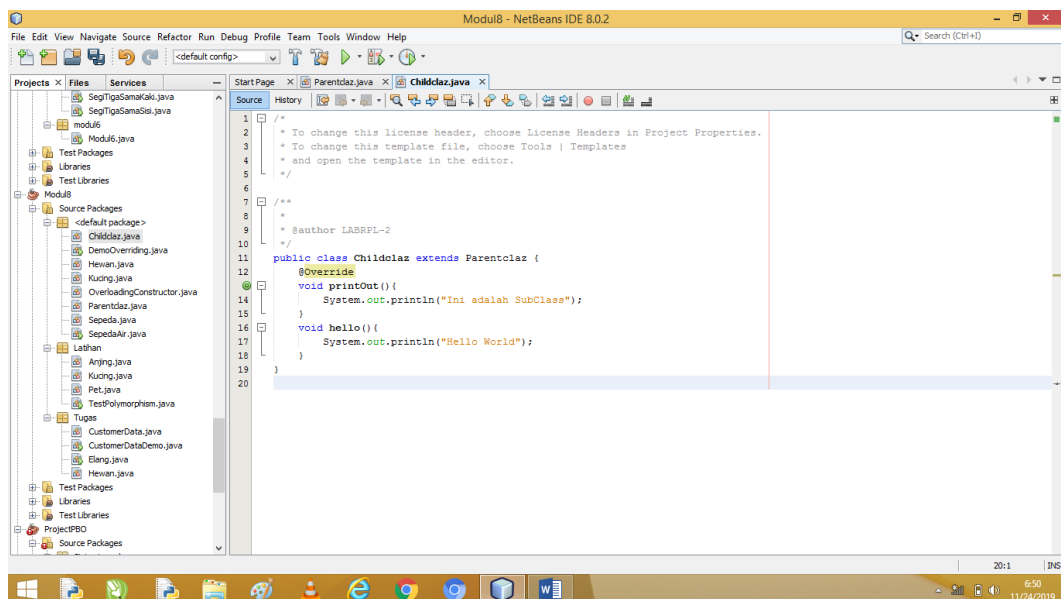
Kelas : B

#### ❖ 8.1.1. Overriding

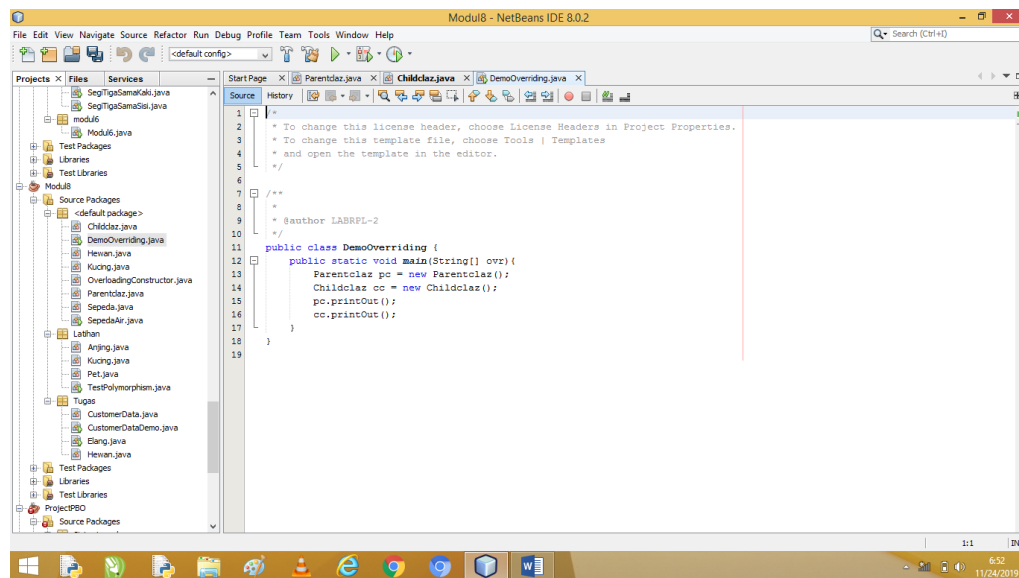
##### ➤ Program 1. Superclass yang akan diterapkan konsep overriding



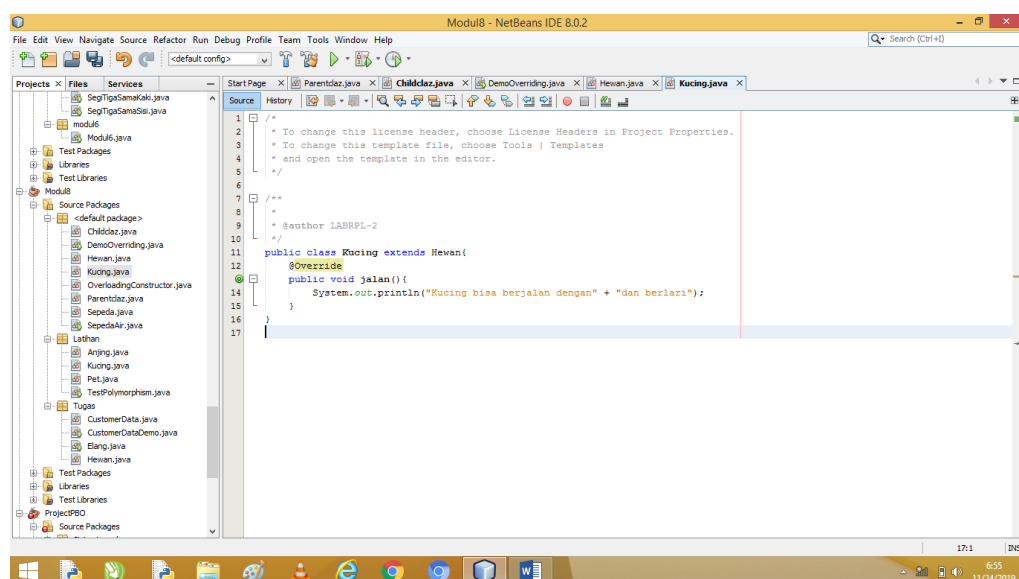
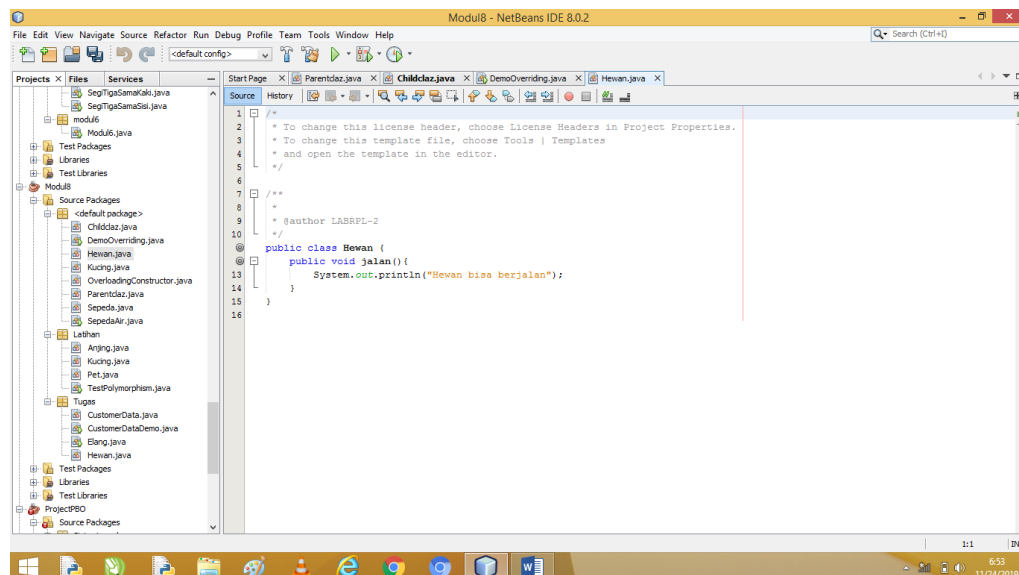
##### ➤ Program 2. Penerapan overriding pada subclass



### ➤ Program 3. Menjalankan konsep overriding

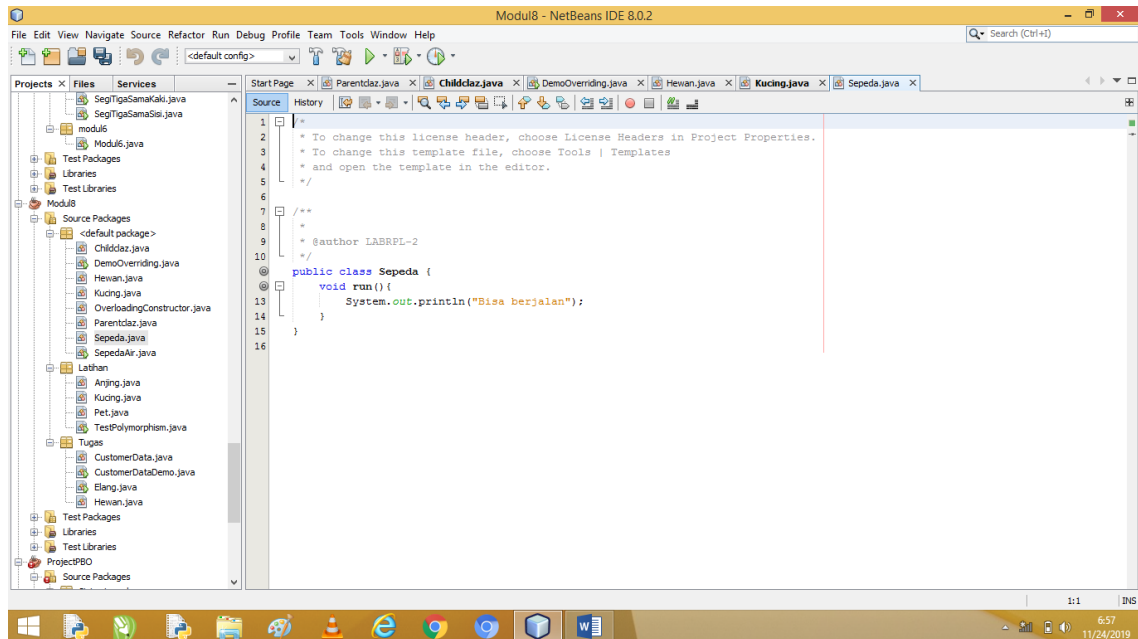


### ➤ Program 4. Contoh overriding method

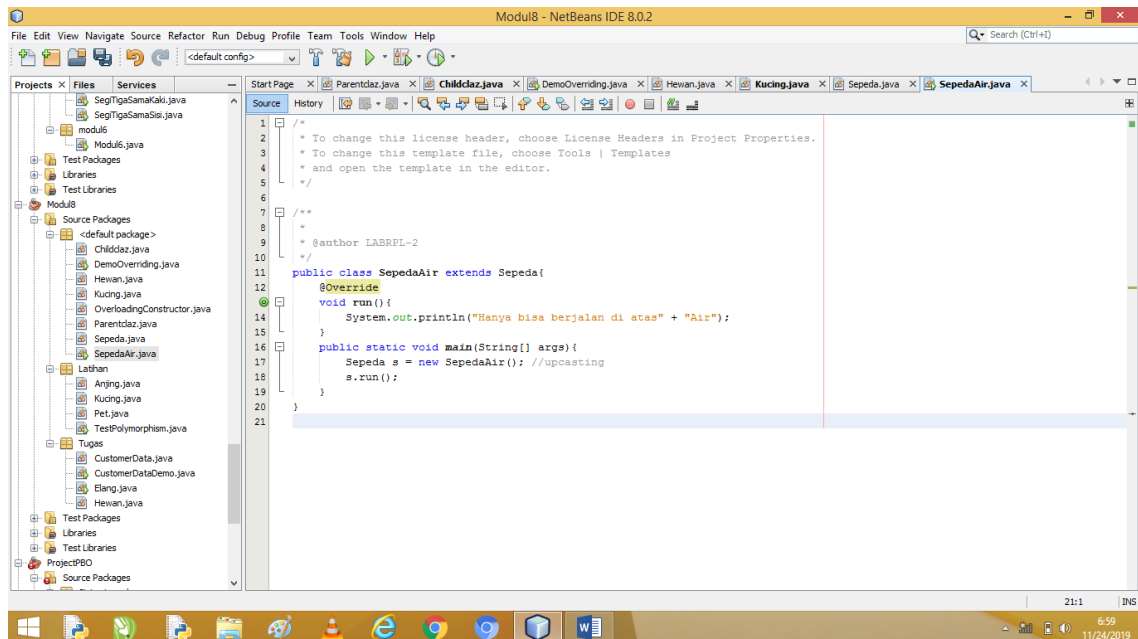


## ❖ 8.1.2 Upcasting

### ➤ Program 5. Superclass yang akan diterapkan konsep upcasting

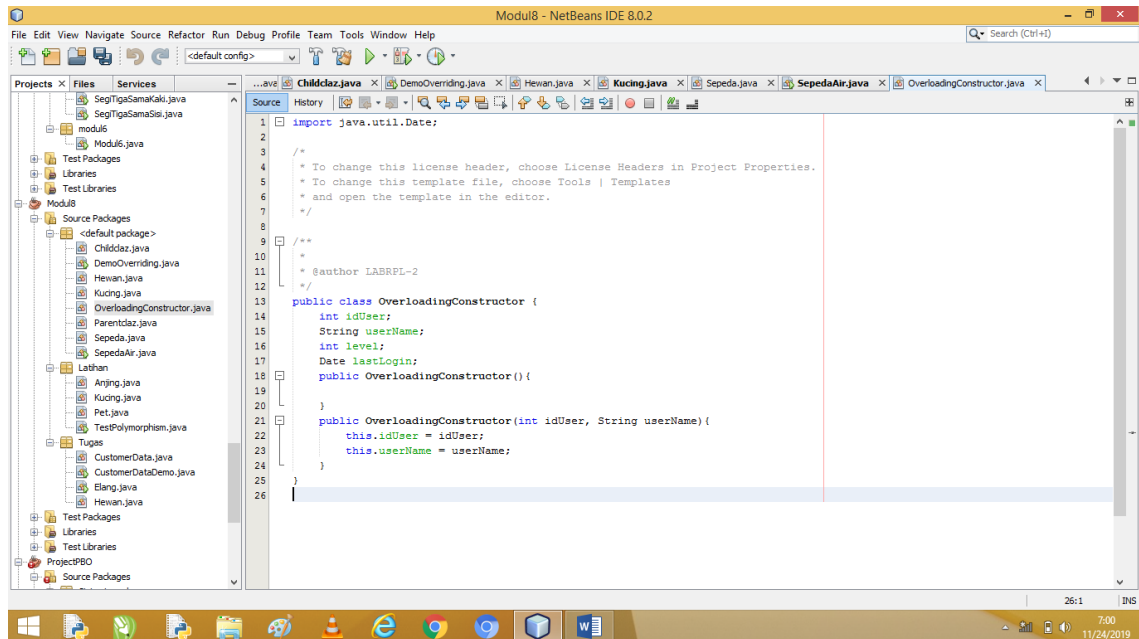


### ➤ Program 6. Penerapan upcasting pada subclass



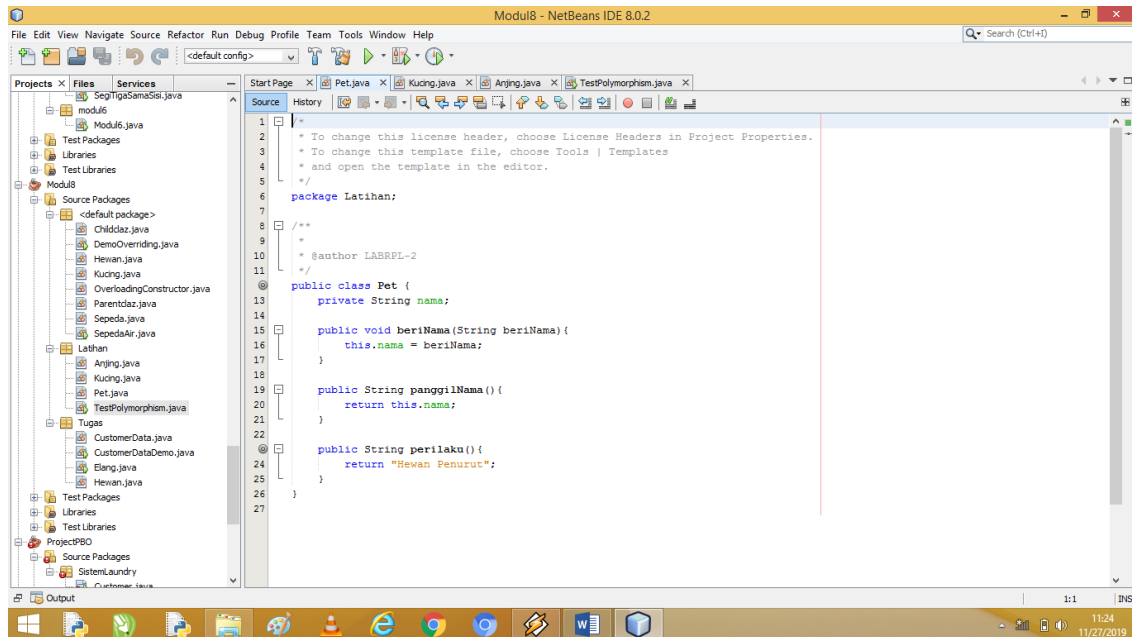
### ❖ 8.1.3 Overloading

#### ➤ Program 7. Overloading pada constructor



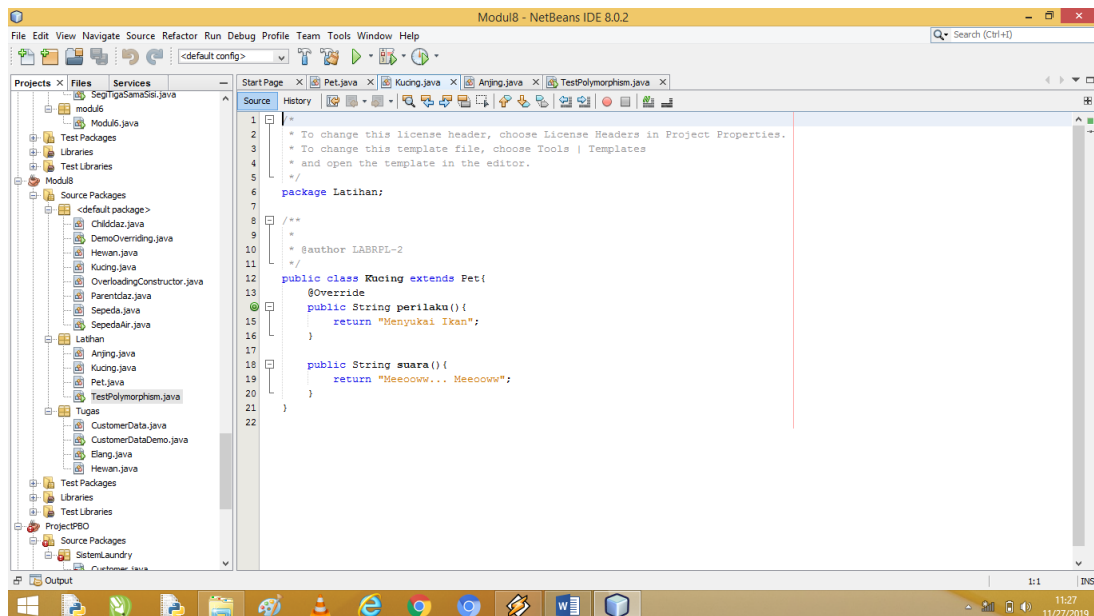
## ❖ 8.2 LATIHAN

### ➤ Program 8. Latihan menerapkan konsep polymorphism

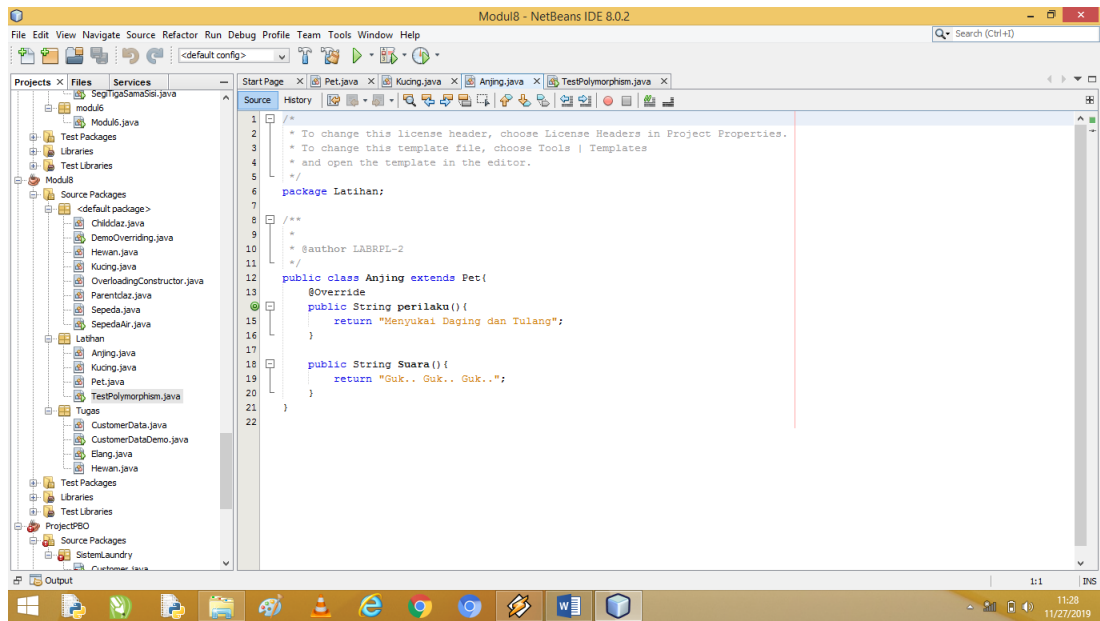


1. Membuat class Kucing dan Anjing dimana kedua class tersebut melakukan overriding terhadap method perilaku() dan menambahkan satu method pada masing-masing class yang secara khusus hanya berlaku pada masing-masing class tersebut.

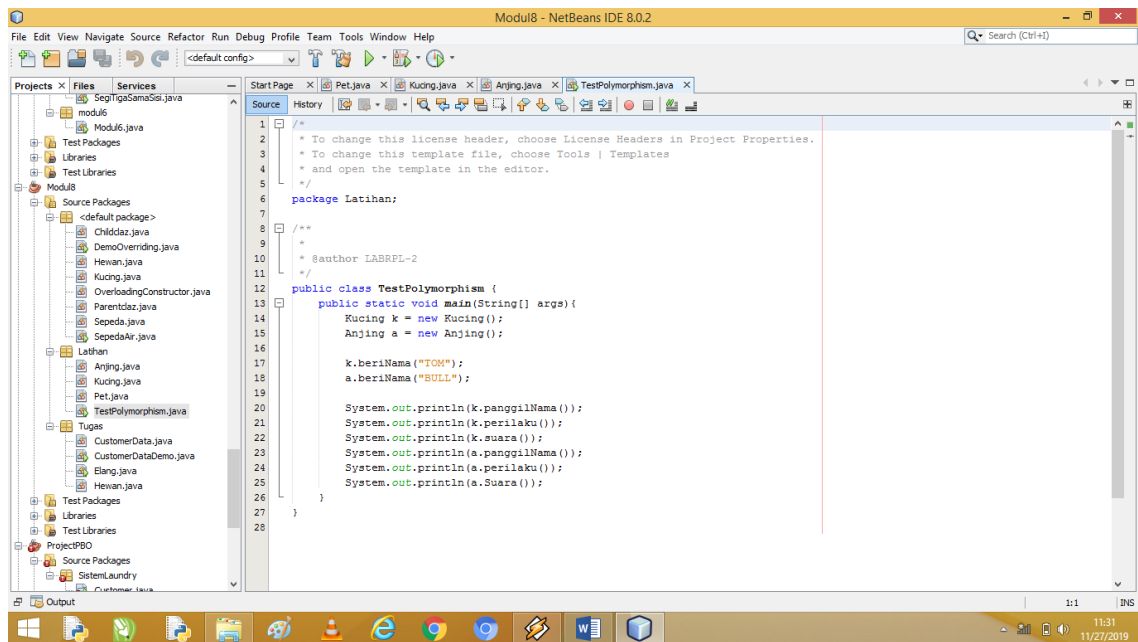
### ➤ Class Kucing



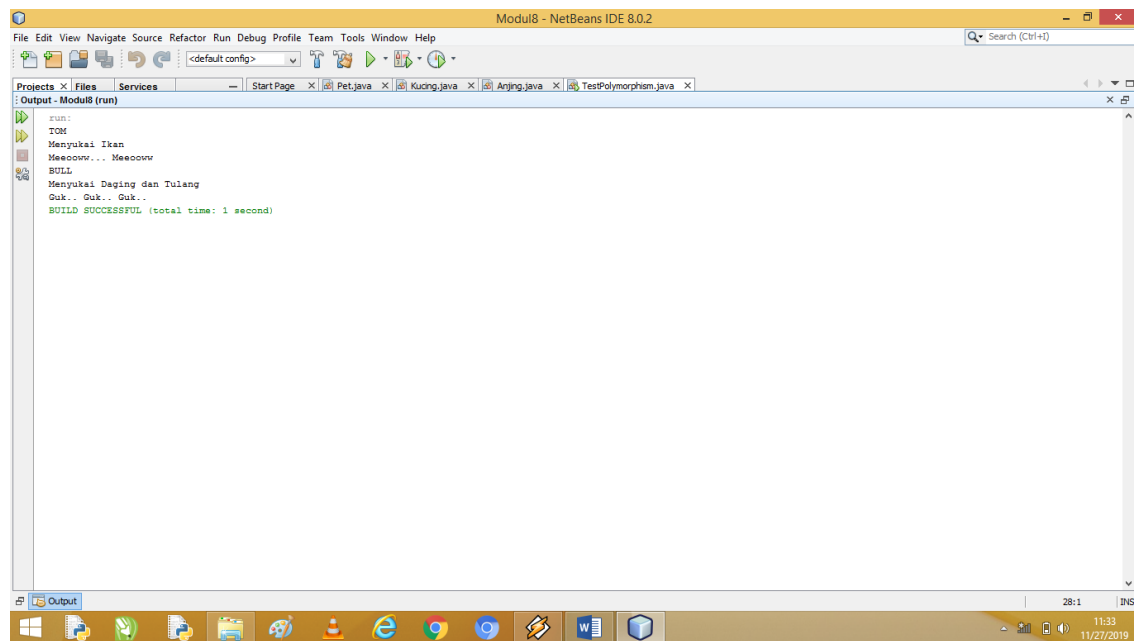
## ➤ Class Anjing



## 2. Membuat class TestPolymorphism



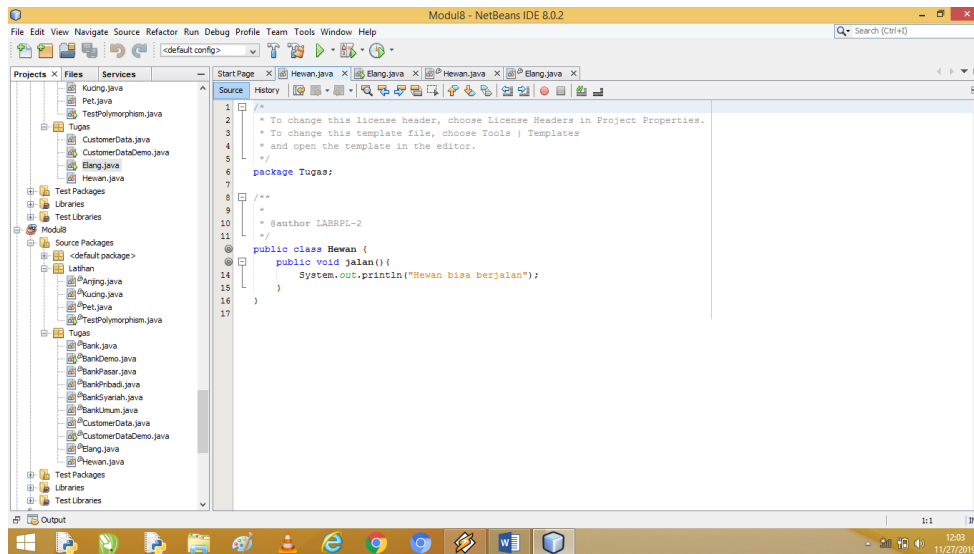
➤ Output dari program diatas:



```
Modul8 - NetBeans IDE 8.0.2
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
<default config>
Projects X Files Services
Output - Modul8 (run)
StartPage X Pet.java X Kucing.java X Anjing.java X TestPolymorphism.java X
RUN:
TOM
Menyukai Ikan
Meow... Meow...
SULL
Menyukai Daging dan Tulang
Guk.. Guk.. Guk..
BUILD SUCCESSFUL (total time: 1 second)
```

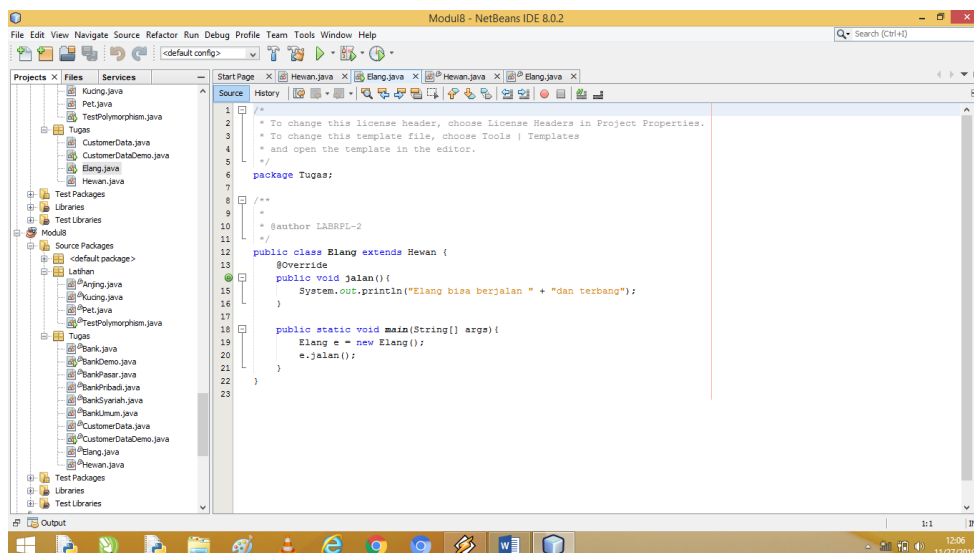
### ❖ 8.3 TUGAS

- 1) Membuat class Elang yang memiliki method jalan() namun implementasinya berbeda dari kedua class lainnya.



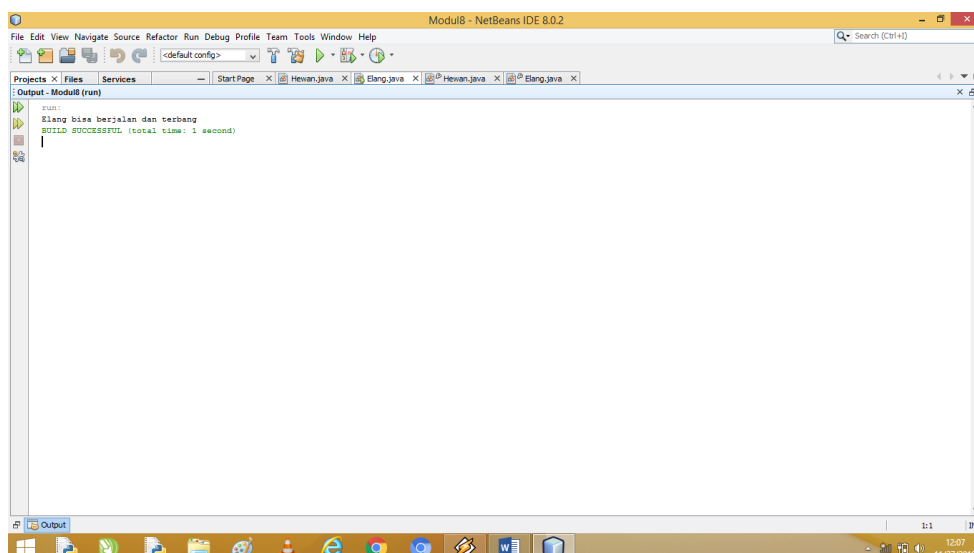
The screenshot shows the NetBeans IDE 8.0.2 interface. The 'Projects' pane on the left displays a project structure with a 'Tugas' package containing 'Hewan.java'. The 'Source' editor shows the following code:

```
1  /*
2  * To change this license header, choose License Headers in Project Properties.
3  * To change this template file, choose Tools | Templates
4  * and open the template in the editor.
5  */
6  package Tugas;
7
8  /**
9   *
10  * @author LABRPL-2
11  */
12  public class Hewan {
13      @Override
14      public void jalan() {
15          System.out.println("Hewan bisa berjalan");
16      }
17  }
```



The screenshot shows the NetBeans IDE 8.0.2 interface. The 'Projects' pane on the left displays a project structure with a 'Tugas' package containing 'Elang.java'. The 'Source' editor shows the following code:

```
1  /*
2  * To change this license header, choose License Headers in Project Properties.
3  * To change this template file, choose Tools | Templates
4  * and open the template in the editor.
5  */
6  package Tugas;
7
8  /**
9   *
10  * @author LABRPL-2
11  */
12  public class Elang extends Hewan {
13      @Override
14      public void jalan() {
15          System.out.println("Elang bisa berjalan " + "dan terbang");
16      }
17
18      public static void main(String[] args) {
19          Elang e = new Elang();
20          e.jalan();
21      }
22  }
```

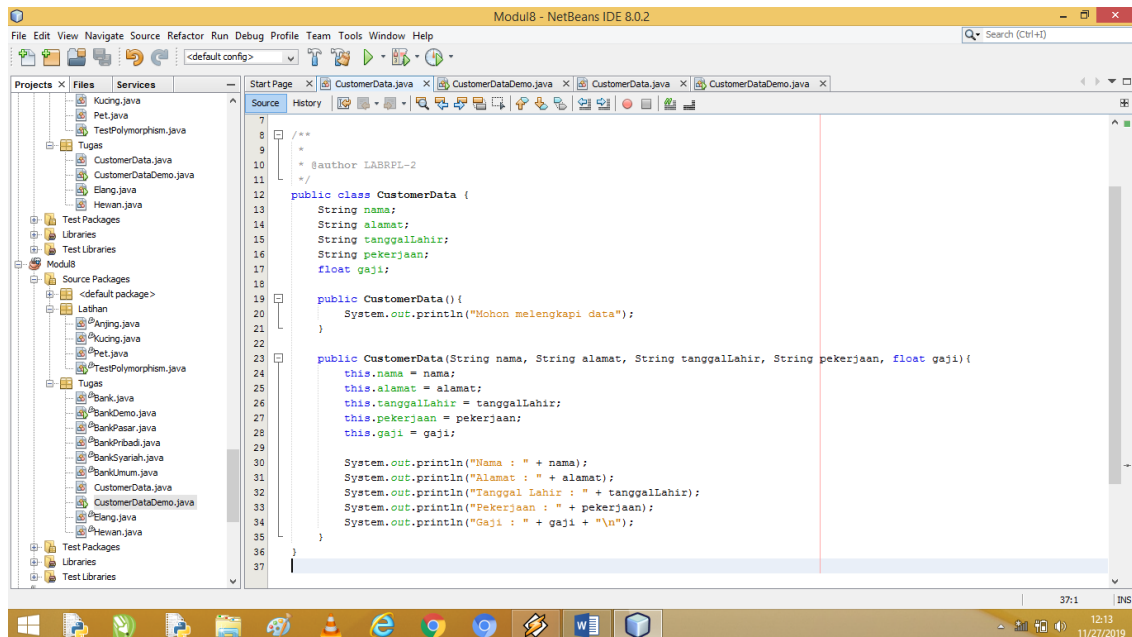


The screenshot shows the NetBeans IDE 8.0.2 interface. The 'Output' window at the bottom displays the following output:

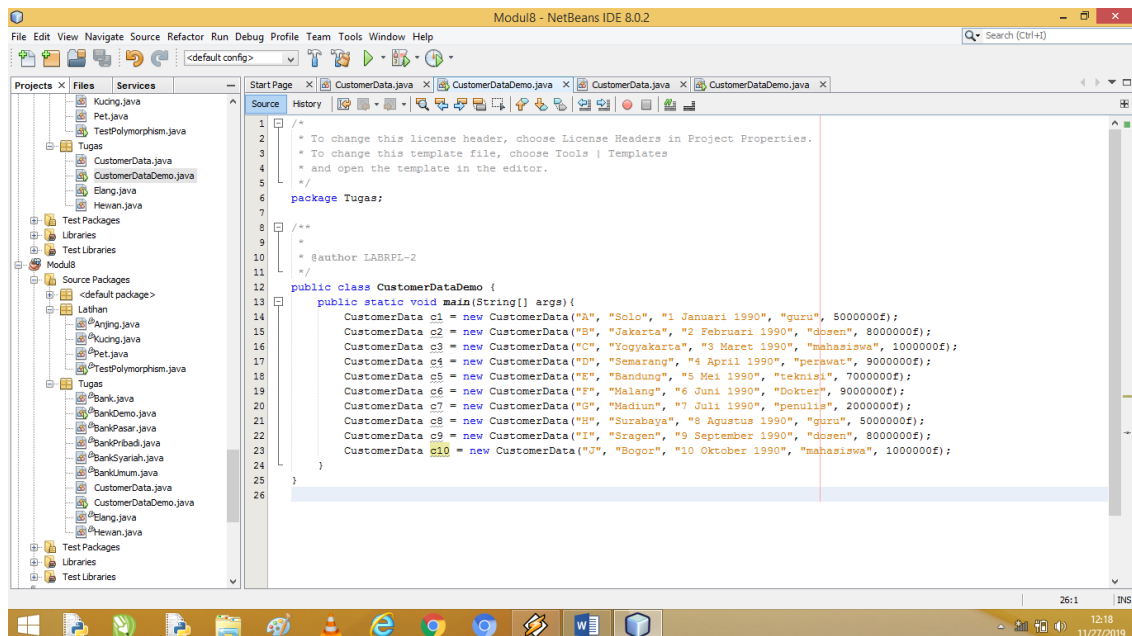
```
run:
Elang bisa berjalan dan terbang
BUILD SUCCESSFUL (total time: 1 second)
```



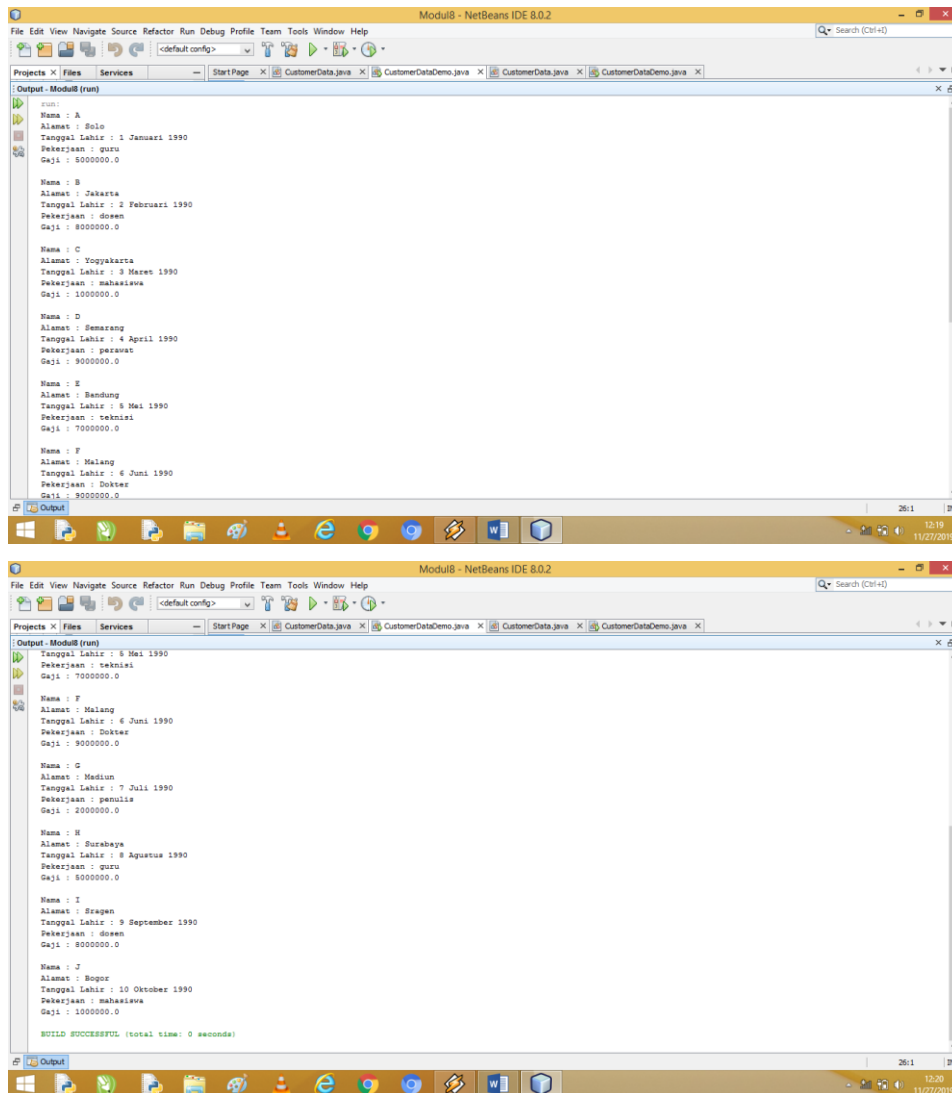
- 2) Membuat class baru dengan nama CustomerData, menambahkan variable nama, alamat, tanggal lahir, pekerjaan, dan gaji. Selanjutnya membuat overloading constructor dari class tersebut.



- 3) Membuat class baru dengan method main() yang disertai 10 object customer dari class CustomerData.



➤ Output dari program diatas:



```
run
Nama : A
Alamat : Solo
Tanggal Lahir : 1 Januari 1990
Pekerjaan : guru
Gaji : 6000000.0

Nama : B
Alamat : Jakarta
Tanggal Lahir : 2 Februari 1990
Pekerjaan : dosen
Gaji : 8000000.0

Nama : C
Alamat : Yogyakarta
Tanggal Lahir : 3 Maret 1990
Pekerjaan : mahasiswa
Gaji : 1000000.0

Nama : D
Alamat : Semarang
Tanggal Lahir : 4 April 1990
Pekerjaan : perawat
Gaji : 9000000.0

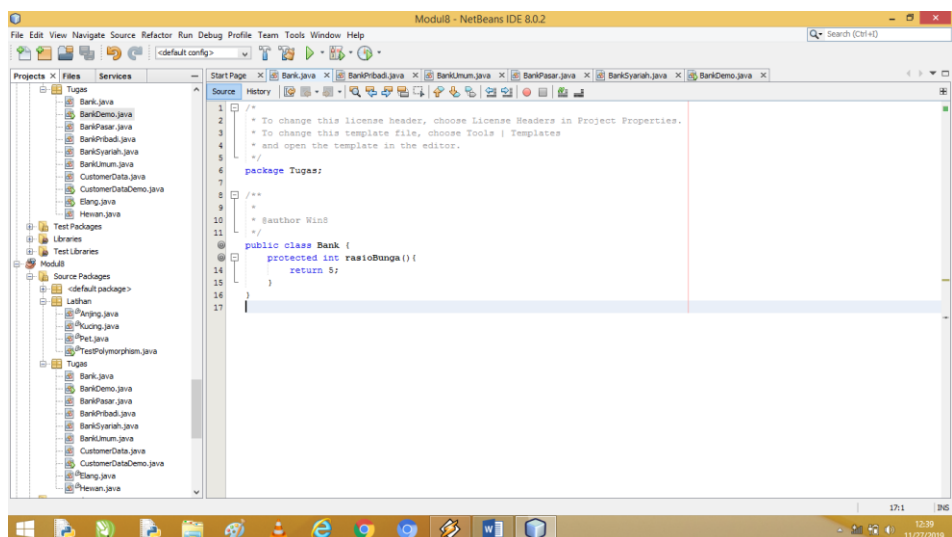
Nama : E
Alamat : Bandung
Tanggal Lahir : 5 Mei 1990
Pekerjaan : teknisi
Gaji : 7000000.0

Nama : F
Alamat : Malang
Tanggal Lahir : 6 Juni 1990
Pekerjaan : Dokter
Gaji : 9000000.0

BUILD SUCCESSFUL (total time: 0 seconds)
```

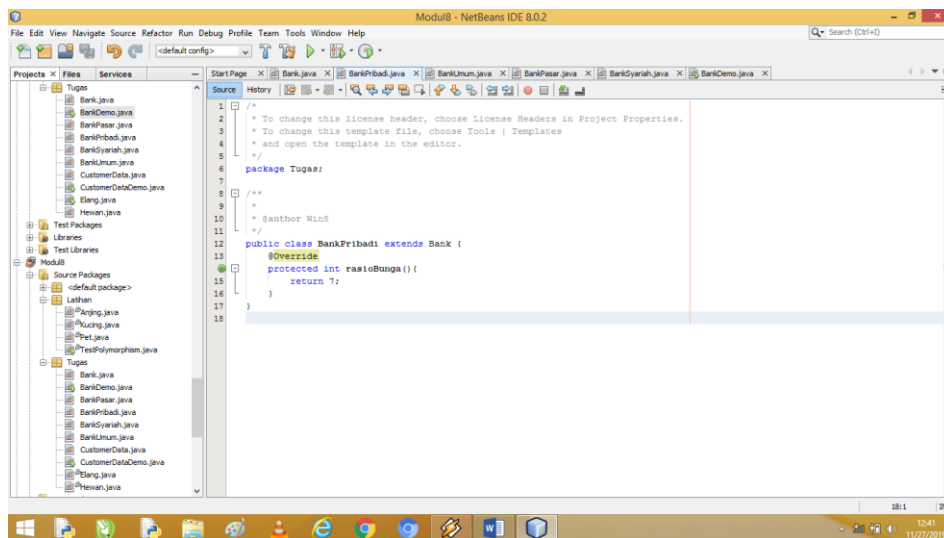
4) Membuat class berdasarkan diagram UML. Menerapkan teknik polymorphism dan menampilkan hasil output program.

➤ Class Bank

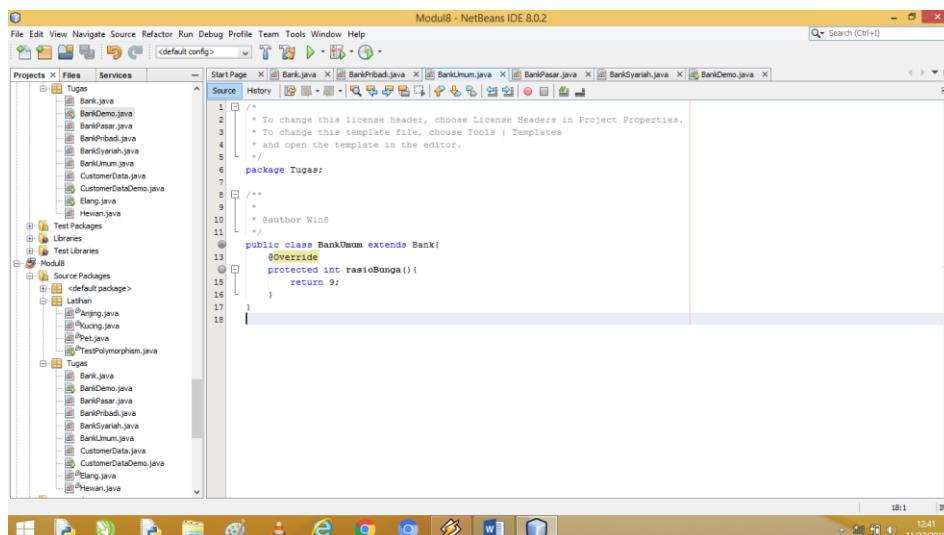


```
1  /*
2  * To change this license header, choose License Headers in Project Properties.
3  * To change this template file, choose Tools | Templates
4  * and open the template in the editor.
5  */
6  package Tugas;
7
8  /**
9   *
10   * @author WinS
11   */
12  public class Bank {
13      protected int rasioBunga() {
14          return 5;
15      }
16  }
17
```

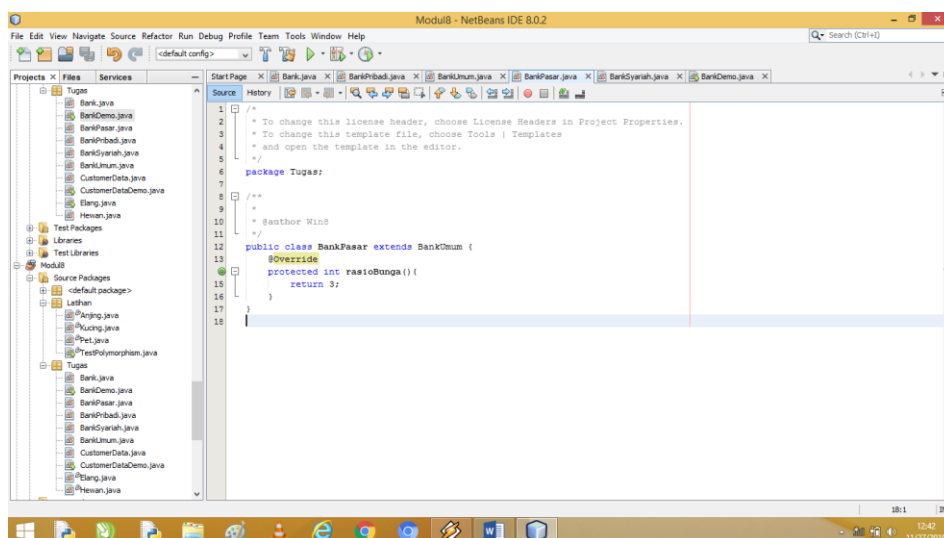
## ➤ Class BankPribadi



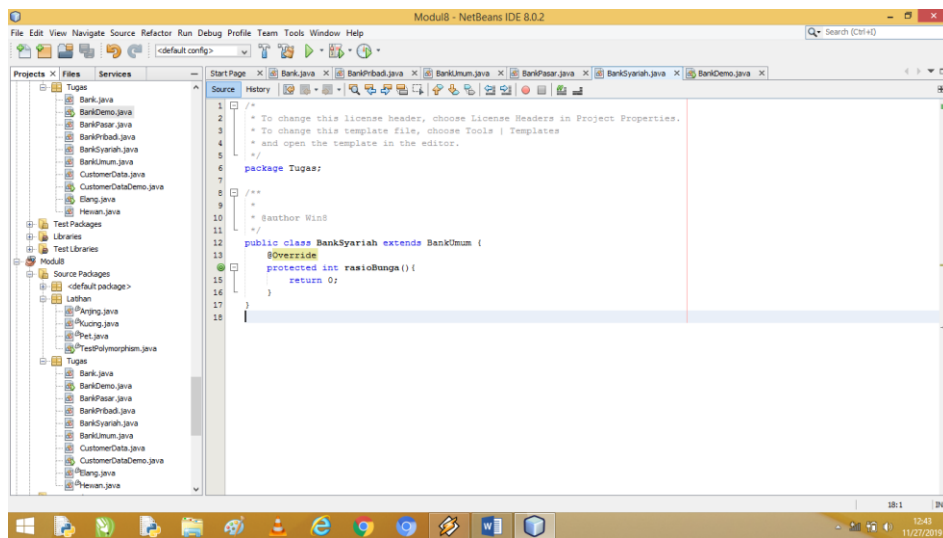
## ➤ Class BankUmum



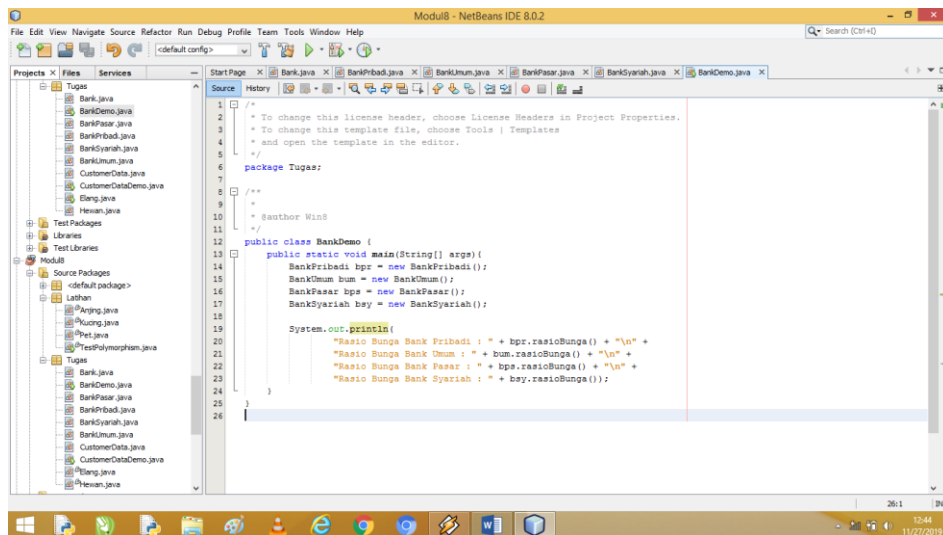
## ➤ Class BankPasar



## ➤ Class BankSyariah



## ➤ Class BankDemo (main class)



## ➤ Output:

