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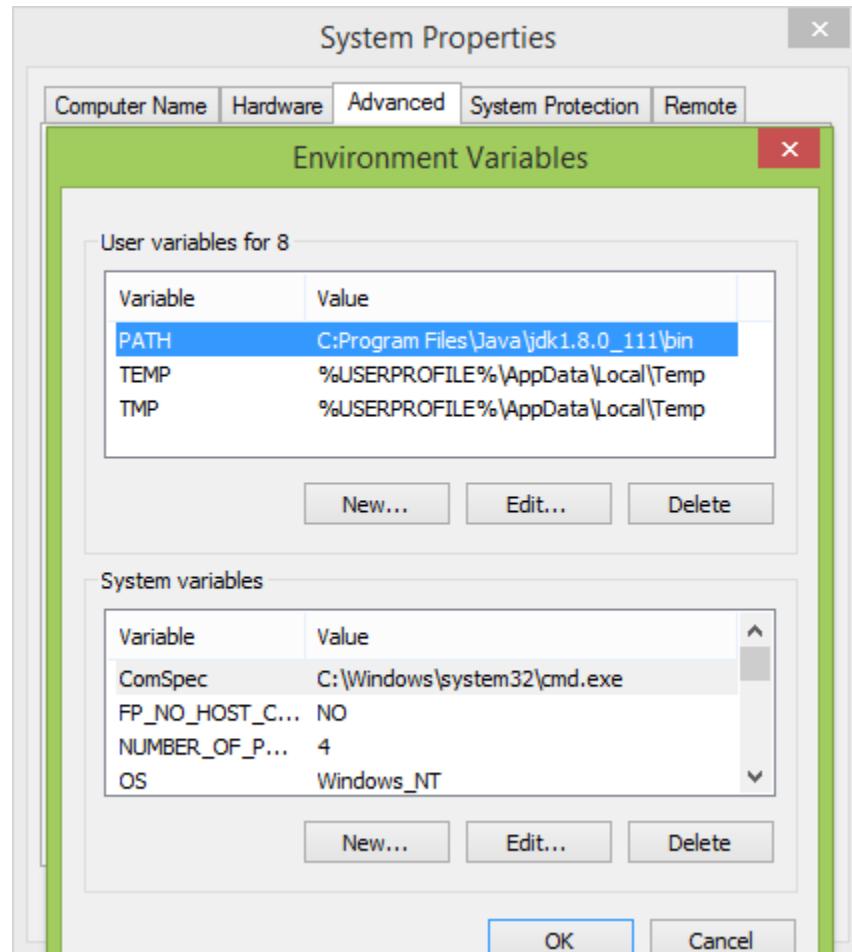
Kelas : B

Laporan Praktikum PBO

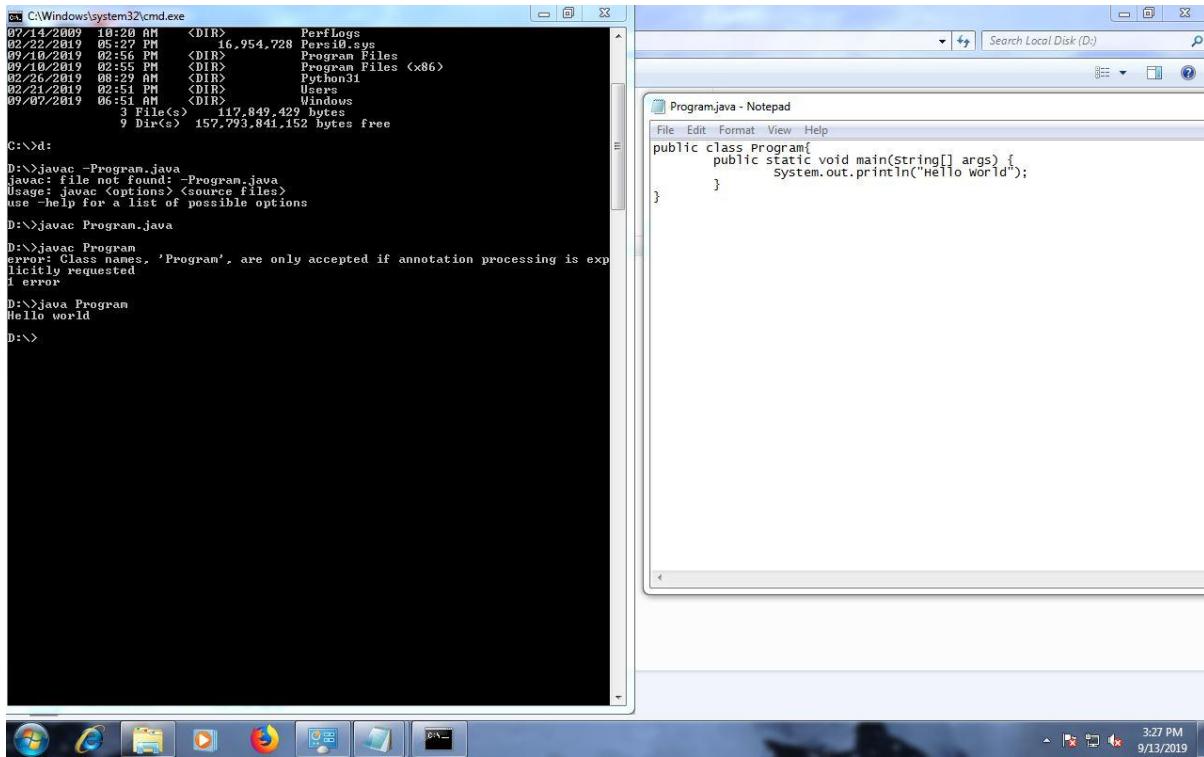
Laporan Modul 1 Praktikum PBO

Pengenalan Java

ScreenShoot PATH



ScreenShoot



Modul ke 2 Praktikum PBO

Class dan Object

ScreenShot Hewan yang dimodifikasi

The screenshot shows two windows of the Windows Notepad application. The left window, titled 'Bunga.java - Notepad', contains the source code for a Java class named 'Bunga'. This class has fields for color ('warna'), smell ('harum'), weight ('berat'), and price ('harga'). It includes methods for setting these properties and printing them to the console. The right window, titled 'BungaDemo.java - Notepad', contains the source code for a Java program named 'BungaDemo'. It creates an instance of the 'Bunga' class, sets its properties, and then calls the 'infoBunga()' method to print the information to the console. A watermark for 'Activate Windows' is visible in the bottom right corner of the screen.

```
public class Bunga {
    String warna;
    String harum;
    int berat;
    double harga;

    void beriWarna (String warnaBunga) {
        warna = warnaBunga;
    }

    void beriHarum (String harumBunga) {
        harum = harumBunga;
    }

    void timbangBerat (int beratBunga) {
        berat = beratBunga;
    }

    void hargaJual (double hargaBunga) {
        harga = hargaBunga;
    }

    void infoBunga() {
        System.out.println(
            "warna : " + warna + "\n" +
            "harum Bunga : " + harum + "\n" +
            "berat Bunga: " + berat + "\n" +
            "harga Bunga : Rp. " + harga );
    }
}

public static void main(String[] args) {
    Bunga bunga = new Bunga();
    bunga.beriWarna ("hijau");
    bunga.beriHarum ("20");
    bunga.timbangBerat (30);
    bunga.hargaJual (6000);
    bunga.infoBunga();
}
```

```
Command Prompt

C:\Users\ASUS_White\Downloads>dir
Volume in drive C has no label.
Volume Serial Number is B03B-D6E4

Directory of C:\Users\ASUS_White\Downloads

23/09/2019  10:10    <DIR>      .
23/09/2019  10:10    <DIR>      ..
23/09/2019  09:52            1.133 Bunga.class
23/09/2019  10:06            787 Bunga.java
20/09/2019  15:27            519 BungaDemo.class
23/09/2019  09:59            237 BungaDemo.java
22/09/2019  11:21    <DIR>      Compressed
27/05/2019  08:21    <DIR>      Documents
11/09/2019  18:29    <DIR>      Music
14/09/2019  07:04        2.625.171.456 OpenMandrivaLx.4.0-plasma.x86_64.iso
20/09/2019  16:22            419 Program.class
13/09/2019  20:29            108 Program.java
14/09/2019  05:48    <DIR>      Programs
23/09/2019  10:05            1.343 Roti.class
19/09/2019  06:10            713 Roti.java
06/01/2017  15:04            83.291 ServiceLogin.htm
21/09/2019  09:01    <DIR>      Video
02/12/2016  16:08        51.841.223 videoplayback_4
                           11 File(s)   2.677.101.229 bytes
                           7 Dir(s)    8.379.207.680 bytes free

C:\Users\ASUS_White\Downloads>javac -version
javac 1.8.0_111

C:\Users\ASUS_White\Downloads>javac RotiDemo.java
javac: file not found: RotiDemo.java
Usage: javac <options> <source files>
use -help for a list of possible options

C:\Users\ASUS_White\Downloads>javac BungaDemo.java

C:\Users\ASUS_White\Downloads>java BungaDemo
warna : hijau
harum Bunga : 20
berat Bunga: 30
grharga Bunga : Rp. 6000.0

C:\Users\ASUS_White\Downloads>
```

ScreenShot Car

```
C:\ Command Prompt
Microsoft Windows [Version 6.3.9600]
(c) 2013 Microsoft Corporation. All rights reserved.

C:\Users\ASUS_White>cd Downloads

C:\Users\ASUS_White\Downloads>dir
Volume in drive C has no label.
Volume Serial Number is B03B-D6E4

Directory of C:\Users\ASUS_White\Downloads

23/09/2019  10:18    <DIR>          .
23/09/2019  10:18    <DIR>          ..
23/09/2019  10:11           1.348 Bunga.class
23/09/2019  10:15           775 Bunga.java
23/09/2019  10:11           519 BungaDemo.class
23/09/2019  09:59           237 BungaDemo.java
20/09/2019  16:00           946 car.class
20/09/2019  15:59           431 car.java
20/09/2019  16:00           469 cardemo.class
20/09/2019  15:59           309 cardemo.java
22/09/2019  11:21    <DIR>          Compressed
27/05/2019  08:21    <DIR>          Documents
11/09/2019  18:29    <DIR>          Music
14/09/2019  07:04      2.625.171.456 OpenMandrivaLx.4.0-plasma.x86_64.iso
20/09/2019  16:22           419 Program.class
13/09/2019  20:29           108 Program.java
14/09/2019  05:48    <DIR>          Programs
23/09/2019  10:05           1.343 Roti.class
19/09/2019  06:10           713 Roti.java
06/01/2017  15:04           83.291 ServiceLogin.htm
21/09/2019  09:01    <DIR>          Video
02/12/2016  16:08      51.841.223 videoplayback_4
                           15 File(s)  2.677.103.587 bytes
                           7 Dir(s)   8.379.064.320 bytes free

C:\Users\ASUS_White\Downloads>javac -version
javac 1.8.0_111

C:\Users\ASUS_White\Downloads>javac cardemo.java

C:\Users\ASUS_White\Downloads>java cardemo
cadence : 50
speed : 20km/hourscd..
gear : 2

cadence : 30
speed : 10km/hourscd..
gear : 1

C:\Users\ASUS_White\Downloads>
```

The image shows a Windows desktop environment with two Notepad windows open side-by-side. The left window is titled "car.java - Notepad" and contains the following Java code:

```
public class car {
    int cadence;
    int speed;
    int gear;

    void changecadence (int gantiirama){
        cadence = gantiirama;
    }

    void speedup(int tambahkecepatan){
        speed = tambahkecepatan;
    }

    void changegear(int tambahgigi){
        gear = tambahgigi;
    }

    void printinfo(){
        System.out.println(
            "cadence : " + cadence + "\n" +
            "speed : " + speed +"km/hourscd.." + "\n" +
            "gear : " + gear + "\n");
    }
}
```

The right window is titled "cardemo.java - Notepad" and contains the following Java code:

```
public class cardemo{
    public static void main(String[] args) {
        car car1 = new car();
        car car2 = new car();

        car1.changecadence(50);
        car1.speedup(20);
        car1.changegear(2);
        car1.printinfo();

        car2.changecadence(30);
        car2.speedup(10);
        car2.changegear(1);
        car2.printinfo();
    }
}
```

Below the windows, the Windows taskbar is visible, showing various pinned icons and the system tray.

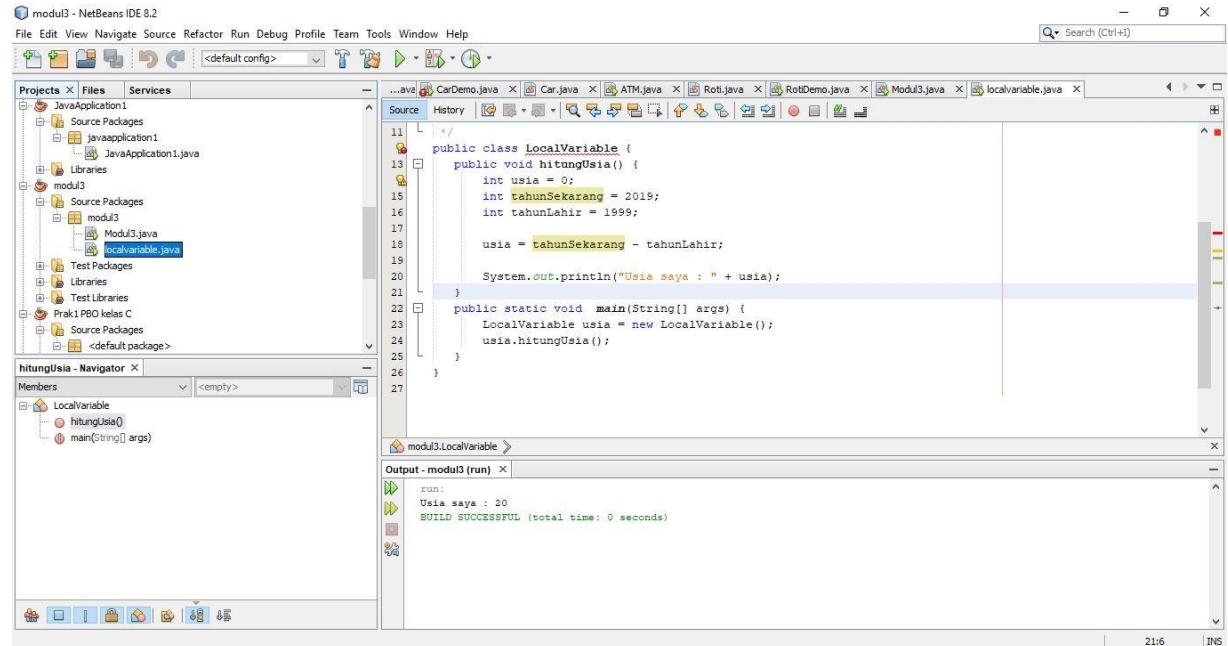
Modul 3

Class Member: Variable dan Method

3.1 Variable

3.1.1 Local Variable

Program 1. Penerapan variable local



The screenshot shows the NetBeans IDE interface with the following details:

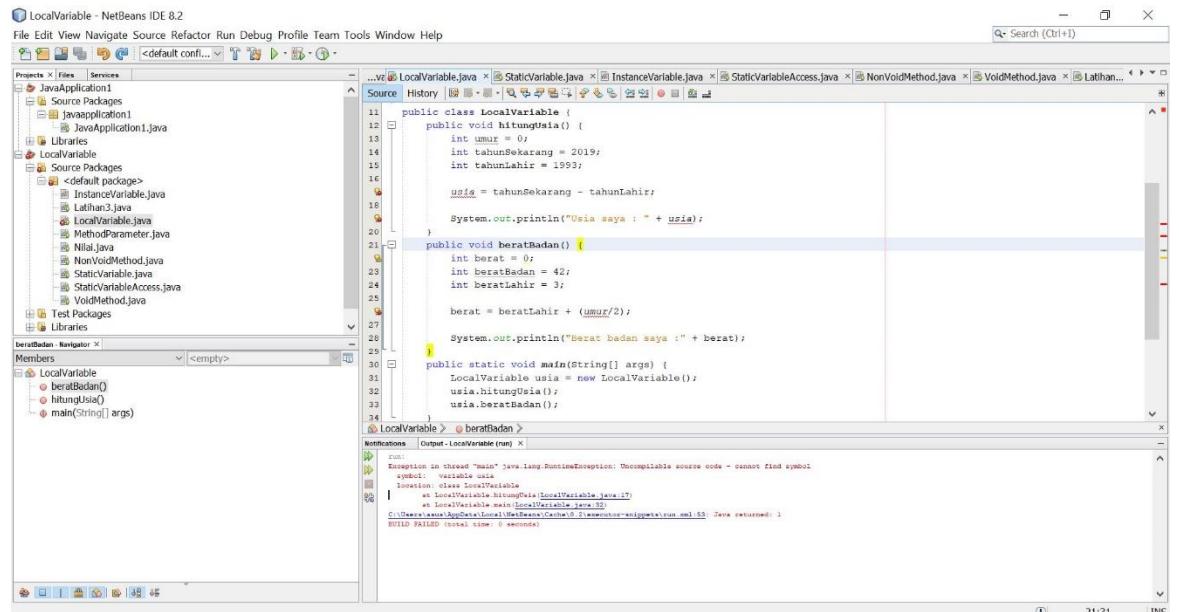
- File Menu:** File, Edit, View, Navigate, Source, Refactor, Run, Debug, Profile, Team, Tools, Window, Help.
- Toolbar:** Standard NetBeans toolbar.
- Project Explorer:** Shows JavaApplication1 and modul3 projects. modul3 contains Source Packages (modul3) and Test Packages (modul3). modul3 contains LocalVariable.java.
- Code Editor:** Displays the LocalVariable.java code:

```
11  /*
12   * To change this license header, choose License Headers in Project Properties.
13   * To change this template file, choose Tools | Templates.
14   * To enable Java code completion, select Tools | Preferences | Code Completion.
15   */
16  public class LocalVariable {
17      public void hitungUsia() {
18          int usia = 0;
19          int tahunSekarang = 2019;
20          int tahunLahir = 1999;
21
22          usia = tahunSekarang - tahunLahir;
23
24          System.out.println("Usia saya : " + usia);
25      }
26
27      public static void main(String[] args) {
28          LocalVariable usia = new LocalVariable();
29          usia.hitungUsia();
30      }
31  }
```
- Output Window:** Shows the run output:

```
run:
Usia saya : 20
BUILD SUCCESSFUL (total time: 0 seconds)
```
- Bottom Status Bar:** 21:06 IN5

Latihan 1

1. Method baru



The screenshot shows the NetBeans IDE interface with the following details:

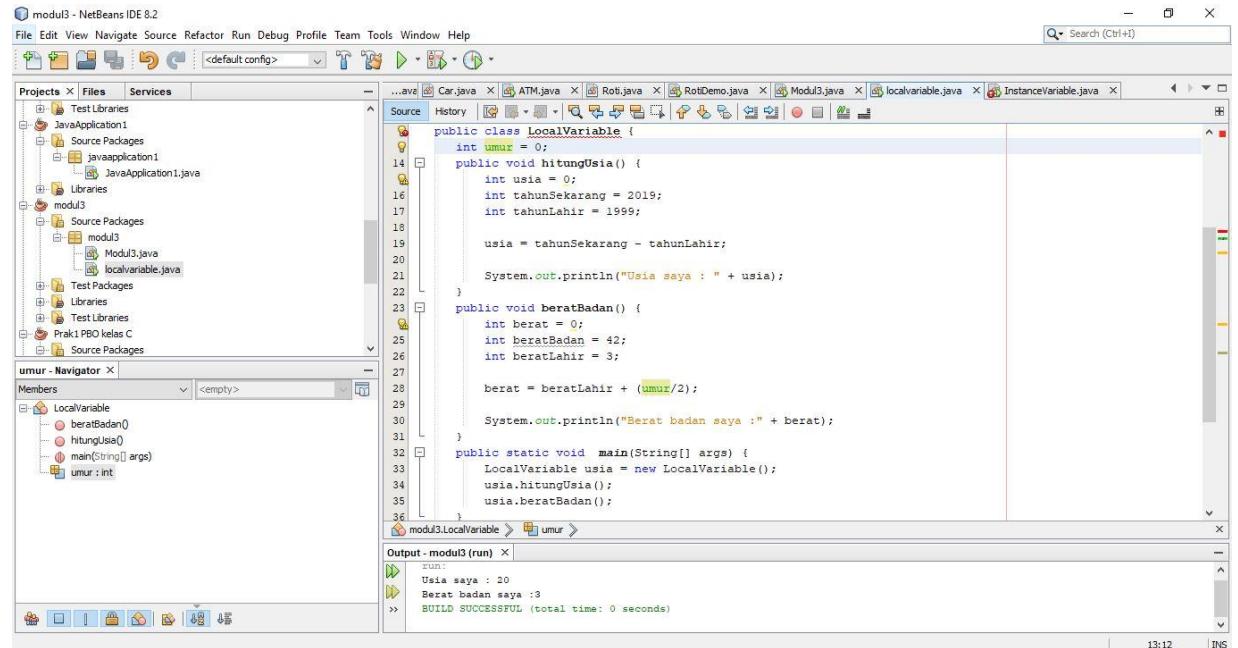
- File Menu:** File, Edit, View, Navigate, Source, Refactor, Run, Debug, Profile, Team, Tools, Window, Help.
- Toolbar:** Standard NetBeans toolbar.
- Project Explorer:** Shows JavaApplication1 and beratBadan projects. beratBadan contains Source Packages (beratBadan) and Test Packages (beratBadan). beratBadan contains LocalVariable.java.
- Code Editor:** Displays the LocalVariable.java code:

```
11  public class LocalVariable {
12      public void hitungUsia() {
13          int umur = 0;
14          int tahunSekarang = 2019;
15          int tahunLahir = 1993;
16
17          usia = tahunSekarang - tahunLahir;
18
19          System.out.println("Usia saya : " + usia);
20
21      }
22
23      public void beratBadan() {
24          int berat = 0;
25          int beratBadan = 42;
26          int beratLahir = 3;
27
28          berat = beratLahir + (umur/2);
29
30          System.out.println("Berat badan saya :" + berat);
31
32      }
33
34      public static void main(String[] args) {
35          LocalVariable usia = new LocalVariable();
36          usia.hitungUsia();
37          usia.beratBadan();
38      }
39  }
```
- Output Window:** Shows the run output and an error message:

```
run:
Exception in thread "main" java.lang.NoClassDefFoundError: Uncompilable source code - cannot find symbol
  symbol:  variable usia
  location: class LocalVariable
    at LocalVariable.main(LocalVariable.java:17)
    at LocalVariable.main(LocalVariable.java:32)
C:\Users\asus\MyData\Local\NetBeans\Cache\8.2\executor-snippets\run.xml:15: Java returned: 1
BUILD FAILED (total time: 0 seconds)
```
- Bottom Status Bar:** 21:31 IN5

2. Tidak bisa, karena usia berada pada method yang berbeda maka terjadi error.

3.1.2. Instance variable

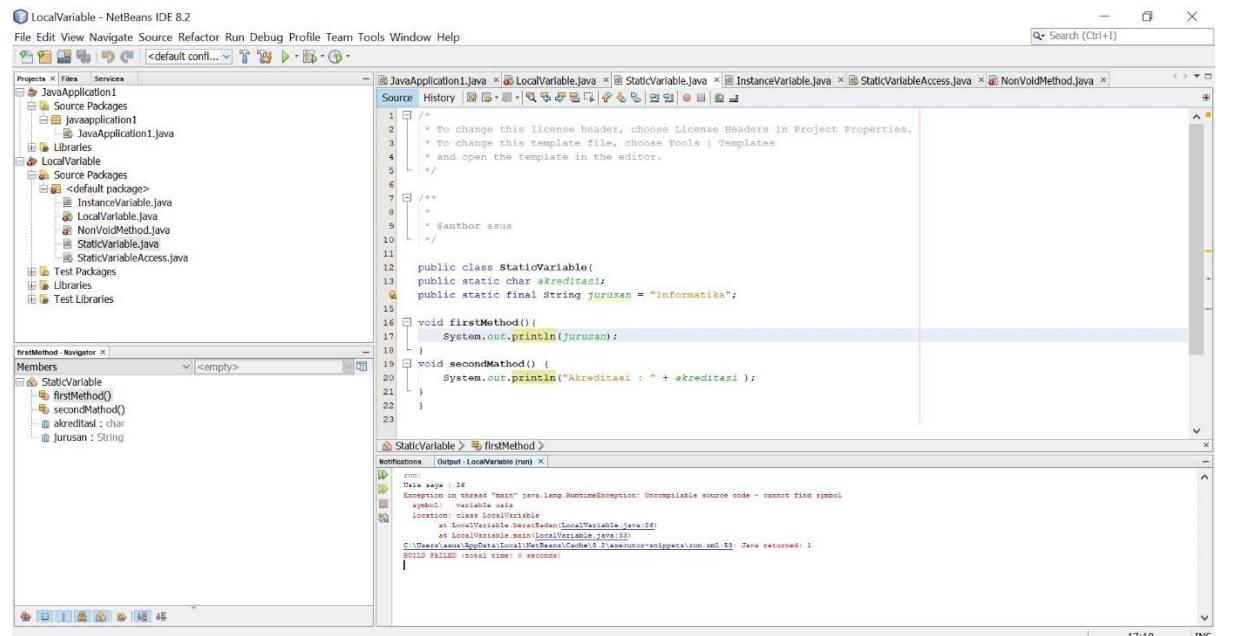


The screenshot shows the NetBeans IDE interface with the title "modul3 - NetBeans IDE 8.2". The left pane displays the project structure under "Projects" with "modul3" selected. The right pane shows the code editor with LocalVariable.java open. The code defines a class LocalVariable with methods hitungUsia() and beratBadan(). It also contains a main() method. The output window at the bottom shows the execution results:

```
run:
Usia saya : 20
Berat badan saya :3
BUILD SUCCESSFUL (total time: 0 seconds)
```

3.1.3. Static Variable

Program 3. Penerapan variable statis



The screenshot shows the NetBeans IDE interface with the title "LocalVariable - NetBeans IDE 8.2". The left pane displays the project structure under "Projects" with "LocalVariable" selected. The right pane shows the code editor with StaticVariable.java open. The code defines a class StaticVariable with static variables akreditasi and jurusan, and methods firstMethod() and secondMethod(). The output window at the bottom shows the execution results:

```
run:
Akreditasi : informatika
BUILD FAILED (total time: 0 seconds)
```

Program 4. Contoh pengaksesan variable statis

```

LocalVariable - NetBeans IDE 8.2
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
Source History <default config... > Search (Ctrl+F)
Projects Files Services
JavaApplication1
  Source Packages
    Javaapplication1
      JavaApplication1.java
  Libraries
  LocalVariable
    Source Packages
      <default package>
        InstanceVariable.java
        LocalVariable.java
        NonVoidMethod.java
        NonVoidMethodAccess.java
    Test Packages
    Libraries
    Test Libraries
main - Navigator >
Members <empty>
StaticVariable
  firstMethod()
  main(String[] args)
  secondMethod()
  akredlati : char
  jurusan : String
JavaApplication1.java x LocalVariable.java x StaticVariable.java x InstanceVariable.java x StaticVariableAccess.java x NonVoidMethod.java x
Source History <default config... > Search (Ctrl+F)
7 /**
8 * @author asus
9 */
10
11
12 public class StaticVariable{
13     public static char akredlati;
14     public static final String jurusan = "informatika";
15
16     void firstMethod(){
17         System.out.println(jurusan);
18     }
19     void secondMethod(){
20         System.out.println("akredlati : " + akredlati );
21     }
22
23     public static void main(String[] args) {
24         StaticVariable.akredlati = 'B';
25         StaticVariable billy = new StaticVariable();
26         billy.firstMethod();
27         billy.secondMethod();
28     }
29
StaticVariable > main >
Notifications Output LocalVariable (run) x
Info: Informatica
Info: Akredlati : B
Info: BUILD SUCCESSFUL (total time: 0 seconds)
|

```

3.2 . Method

3.2.1. Method Non-Void

```

LocalVariable - NetBeans IDE 8.2
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
Source History <default config... > Search (Ctrl+F)
Projects Files Services
JavaApplication1
  Source Packages
    Javaapplication1
      JavaApplication1.java
  Libraries
  LocalVariable
    Source Packages
      <default package>
        InstanceVariable.java
        LocalVariable.java
        NonVoidMethod.java
        NonVoidMethodAccess.java
        StaticVariable.java
        StaticVariableAccess.java
    Test Packages
    Libraries
    Test Libraries
main - Navigator >
Members <empty>
NonVoidMethod
  getName()
  getNama()
  main(String[] args)
  tampil()
  nama : String
  nim : String
JavaApplication1.java x LocalVariable.java x StaticVariable.java x InstanceVariable.java x StaticVariableAccess.java x NonVoidMethod.java x
Source History <default config... > Search (Ctrl+F)
13     String nim = "L200180034";
14     public String getNama() {
15         return nama;
16     }
17     public String getNIM() {
18         return nim;
19     }
20     public void tampil() {
21         System.out.println(nama);
22         System.out.println(nim);
23     }
24     public static void main(String[] args) {
25         NonVoidMethod sku = new NonVoidMethod();
26         sku.tampil();
27     }
28
NonVoidMethod > main >
Notifications Output LocalVariable (run) x
Info: Aisyah Govvara
Info: L200180034
Info: BUILD SUCCESSFUL (total time: 0 seconds)
|

```

3.2.2. Parameter Method

LocalVariable - NetBeans IDE 8.2

```

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
7  /**
8  * 
9  * @author asus
10 */
11 public class MethodParameter {
12     String nama;
13     public String setNama (String nama) {
14         return this.nama = nama;
15     }
16
17     public static void main(String[] args) {
18         MethodParameter mp = new MethodParameter();
19         mp.setNama("Oey");
20         System.out.println(mp.nama);
21     }
22 }
23

```

MethodParameter > main >

Notifications Output - LocalVariable (run) >

run

Output

WORLD SUCCESSFUL (total time: 0 seconds)

Latihan 3

LocalVariable - NetBeans IDE 8.2

```

11  public class Latihan3 {
12      String nama;
13      int nip;
14      double gaji;
15
16      public String SetNama(String nama) {
17          return this.nama = nama;
18      }
19      public int setNip(int nip) {
20          return this.nip = nip;
21      }
22      public double setGaji(double gaji) {
23          return this.gaji = gaji;
24      }
25
26      public void infoPegawai() {
27          System.out.println(
28              "Nama: " + nama + "\n" +
29              "NIP: " + nip + "\n" +
30              "Gaji: " + gaji + "\n");
31      }
32
33      public static void main(String[] args) {
34          Latihan3 pl = new Latihan3();
35          pl.setNama("Ais");
36          pl.infoPegawai();
37      }
38  }
39

```

Latihan3 > infoPegawai >

Notifications Output - LocalVariable (run) >

Run

Name: Ais
NIP: 9999
Gaji: 999.9

Name: Syah
NIP: 0
Gaji: 0.0

Name: Oey
NIP: 0
Gaji: 2.5

Name: Goy
NIP: 2345
Gaji: 2.5

LocalVariable - NetBeans IDE 8.2

```

33     Latihan3 p1 = new Latihan3();
34     p1.setNama("Ais");
35     p1.setNip(9999);
36     p1.setGaji(999.9);

37     Latihan3 p2 = new Latihan3();
38     p2.setNama("Syah");
39     p2.setNip(1999);
40     p2.setGaji(5.0);

41     Latihan3 p3 = new Latihan3();
42     p3.setNama("Goe");
43     p3.setNip(0000);
44     p3.setGaji(2.5);

45     Latihan3 p4 = new Latihan3();
46     p4.setNama("Goev");
47     p4.setNip(2345);
48     p4.setGaji(2.5);

49     Latihan3 p5 = new Latihan3();
50     p5.setNama("Vara");
51     p5.setNip(5678);
52     p5.setGaji(6.7);

```

LocalVariable (run) |

Name	NIP	Gaji
Ais	9999	999.9
Syah	1999	5.0
Goe	0	2.5
Goev	2345	2.5
Vara	5678	6.7

LocalVariable - NetBeans IDE 8.2

```

42     Latihan3 p3 = new Latihan3();
43     p3.setNama("Goe");
44     p3.setNip(0000);
45     p3.setGaji(2.5);

46     Latihan3 p4 = new Latihan3();
47     p4.setNama("Goev");
48     p4.setNip(2345);
49     p4.setGaji(2.3);

50     Latihan3 p5 = new Latihan3();
51     p5.setNama("Vara");
52     p5.setNip(5678);
53     p5.setGaji(6.7);

54     p1.infoPegawai();
55     p2.infoPegawai();
56     p3.infoPegawai();
57     p4.infoPegawai();
58     p5.infoPegawai();

```

LocalVariable (run) |

Name	NIP	Gaji
Goe	0	2.5
Goev	2345	2.5
Vara	5678	6.7

BUILD SUCCESSFUL (total time: 0 seconds)

3.2.3. Method Void

LocalVariable - NetBeans IDE 8.2

```

1  package LocalVariable;
2
3  public class VoidMethod {
4      int hour, minute, second;
5
6      public void duration(int hour, int minute, int second) {
7          this.hour = hour;
8          this.minute = minute;
9          this.second = second;
10     }
11
12     public void info() {
13         System.out.println("Total waktu \n" + hour + " jam " + minute + " menit " + second + " detik ");
14     }
15
16     public static void main(String[] args) {
17         VoidMethod vm = new VoidMethod();
18         vm.duration(1, 30, 15);
19         vm.info();
20     }
21 }
22
23
24
25
26

```

Output - LocalVariable (run) x

```

run:
Total waktu
1 jam 30 menit 15 detik
BUILD SUCCESSFUL (total time: 0 seconds)

```

3.3. Pekerjaan Rumah

LocalVariable - NetBeans IDE 8.2

```

1  package LocalVariable;
2
3  public class Nilai {
4      double nilaiUTS, nilaiUAS, nilaiTugas, nilaiTotal;
5
6      public double setNilaiUTS(double nilaiUTS) {
7          return this.nilaiUTS = nilaiUTS;
8      }
9
10     public double setNilaiUAS(double nilaiUAS) {
11         return this.nilaiUAS = nilaiUAS;
12     }
13
14     public double setNilaiTugas(double nilaiTugas) {
15         return this.nilaiTugas = nilaiTugas;
16     }
17
18     public void hitungNilai() {
19         nilaiTotal = (nilaiUTS + nilaiUAS + nilaiTugas) / 3;
20         System.out.println("Nilai akhir: " + nilaiTotal);
21     }
22
23     public static void main(String[] args) {
24         Nilai ku = new Nilai();
25         ku.nilaiUTS = 89;
26         ku.nilaiUAS = 85;
27         ku.nilaiTugas = 95;
28         ku.hitungNilai();
29     }
30
31
32
33

```

Output - LocalVariable (run) x

```

run:
Nilai akhir: 89.66666666666667
BUILD SUCCESSFUL (total time: 0 seconds)

```

Modul 4

Acces Modifier

4.1 Private Modification

4.1.1 Latihan

The screenshot shows the NetBeans IDE interface with the following details:

- Title Bar:** bab4 - NetBeans IDE 8.2
- Menu Bar:** File Edit View Navigate Source Refactor Run Debug Profile Tools Window Help
- Search Bar:** Search (Ctrl+F)
- Projects Tab:** Shows the project structure with Source Packages (bab4), Test Packages, Libraries, and Test Libraries.
- Code Editor:** Displays the content of `PrivateModifier.java`. The code defines a class `PrivateModifier` with a private attribute `name` and a private method `printInfo()`. It also contains a static main method that creates an instance of `PrivateModifier` and calls its `printInfo()` method.

```
7  /**
8  *
9  * @author LABRPL-12
10 */
11 public class PrivateModifier {
12     private String name;
13     private int umur;
14     public void printInfo() {
15         System.out.println("private modifier");
16     }
17     public static void main(String[] args) {
18         PrivateModifier ab = new PrivateModifier();
19         ab.printInfo();
20     }
21 }
22
23
```

- Navigator Tab:** Shows the members of the `PrivateModifier` class, including `main`, `printInfo`, `name`, and `umur`.
- Output Tab:** Shows the run output for the project `bab4` (run). The output shows the application was run, printed "private modifier", and the build was successful (total time: 1 second).

```
run:
private modifier
BUILD SUCCESSFUL (total time: 1 second)
```

The screenshot shows the NetBeans IDE interface with the following details:

- Title Bar:** bab4 - NetBeans IDE 8.2
- Menu Bar:** File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
- Toolbar:** Includes icons for New Project, Open Project, Save, Undo, Redo, Cut, Copy, Paste, Find, Replace, and others.
- Projects Panel:** Shows the project structure:
 - Source Packages:
 - <default package>
 - bab4
 - Private.java
 - privatemodifier
 - PrivateModifier.java
 - private1.java
 - Test Packages
 - Libraries
 - Test Libraries
- Editor Panel:** Displays the content of `PrivateModifier.java`:

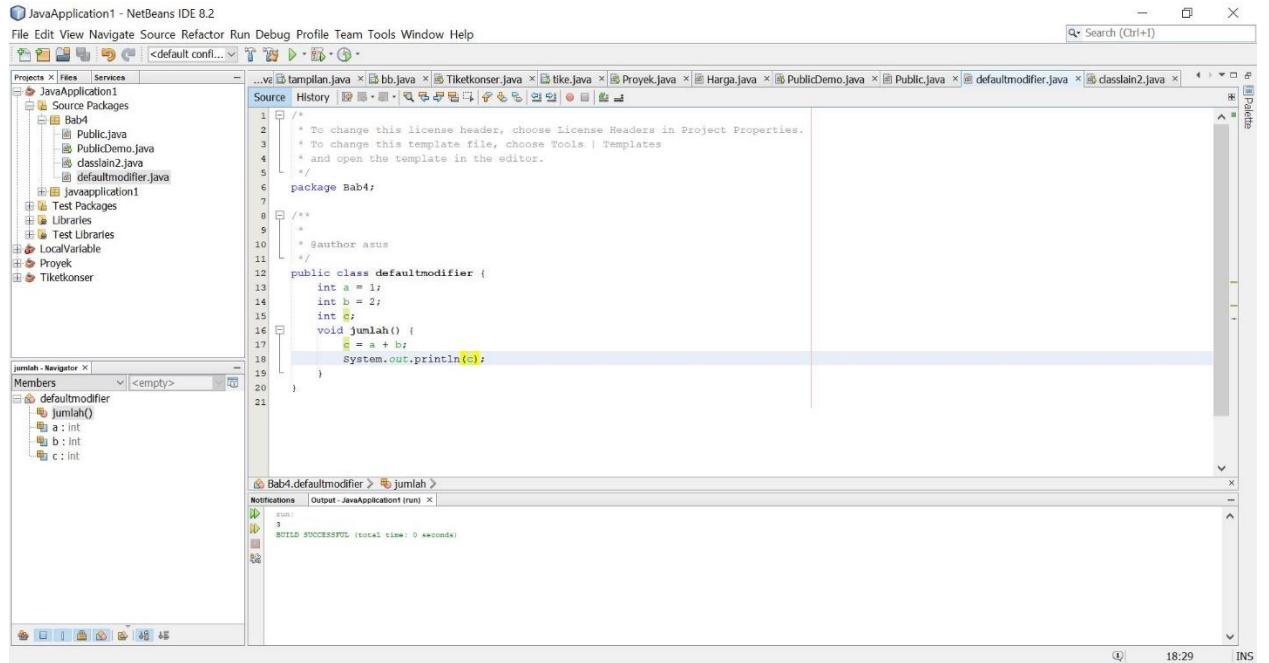
```
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
package privatemodifier;

/**
 *
 * @author LABRPL-12
 */
public class PrivateModifier {
    public static void main(String[] args){
        private1 ab = new private1();
        ab.printInfo();
    }
}
```
- Navigator Panel:** Shows the Members of the current class:
 - Members
 - privatemodifier.PrivateModifier
 - main(String[] args)
- Output Panel:** Shows the output of the run command:

```
run:
private modifier
BUILD SUCCESSFUL (total time: 0 seconds)
```
- Bottom Status Bar:** Shows the time as 14:35 and an INS indicator.

4.2 Default Modifier

4.2.1 Latihan



The screenshot shows the NetBeans IDE interface with the following details:

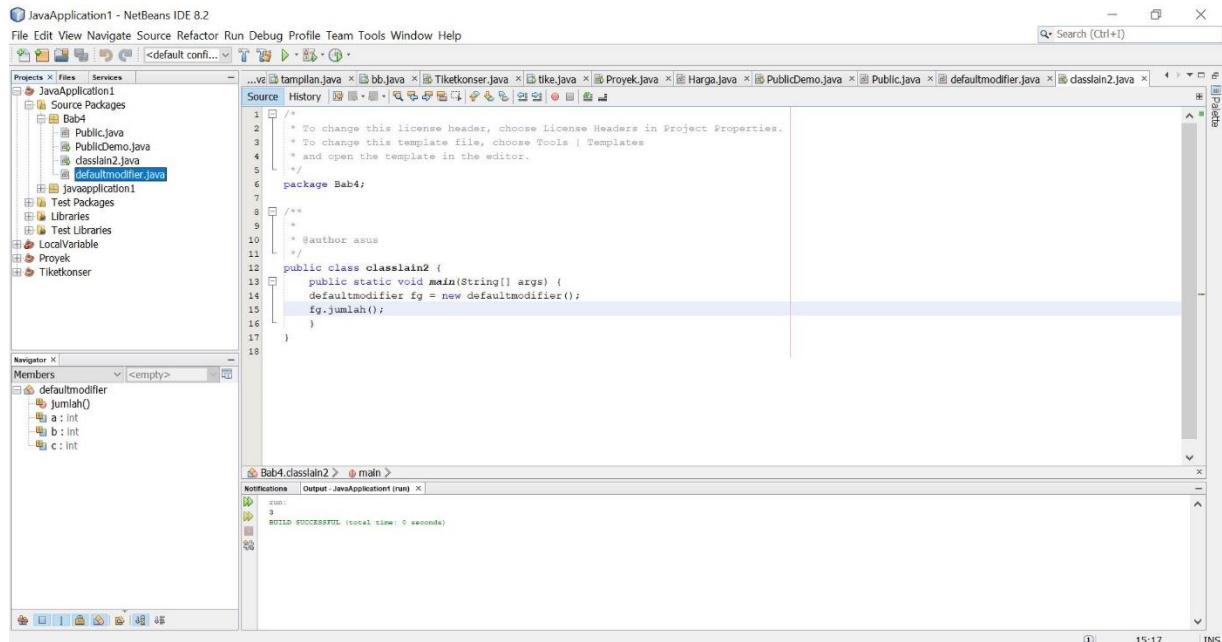
- Project:** JavaApplication1
- Source Packages:** Bab4 (containing Public.java, PublicDemo.java, classain2.java, defaultmodifier.java)
- Java Code (defaultmodifier.java):**

```
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 Bab4;
7
8 /**
9  * 
10 * @author asus
11 */
12 public class defaultmodifier {
13     int a = 1;
14     int b;
15     int c;
16     void jumlah() {
17         c = a + b;
18         System.out.println(c);
19     }
20 }
```

- Navigator:** Shows members of defaultmodifier: jumlah(), a: int, b: int, c: int.
- Output:** Notifications: 3, BUILD SUCCESSFUL (total time: 0 seconds).

1. Akses dalam satu package

- Bisa diakses karena class tersebut terdapat dalam package yang sama



The screenshot shows the NetBeans IDE interface with the following details:

- Project:** JavaApplication1
- Source Packages:** Bab4 (containing Public.java, PublicDemo.java, classain2.java, defaultmodifier.java)
- Java Code (classain2.java):**

```
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 Bab4;
7
8 /**
9  * 
10 * @author asus
11 */
12 public class classain2 {
13     public static void main(String[] args) {
14         defaultmodifier fg = new defaultmodifier();
15         fg.jumlah();
16     }
17 }
```

- Navigator:** Shows members of defaultmodifier: jumlah(), a: int, b: int, c: int.
- Output:** Notifications: 3, BUILD SUCCESSFUL (total time: 0 seconds).

2. Mengakses pada package yang lain

- Tidak bisa diakses karena method tersebut terdapat dalam package yang berbeda

JavaApplication1 - NetBeans IDE 8.2

```

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 javaapplication1;
7
8  import Bab4.defaultmodifier;
9
10 /**
11 *
12 * @author asus
13 */
14 public class classlain {
15     public static void main(String[] args) {
16         defaultmodifier fg = new defaultmodifier();
17         fg.jumlah();
18     }
19 }

```

Output - JavaApplication1 (run) :

```

run:
Exception in thread "main" java.lang.RuntimeException: Uncompilable source code - jumlah() is not public in Bab4.defaultmodifier; cannot be accessed from outside package
    at javaapplication1.classlain.main(classlain.java:17)
C:\Users\asus\AppData\Local\NetBeans\Cache\8.2\executor-snippets\run.xml:13: Java returned: 1
BUILD FAILED (total time: 0 seconds)

```

Build of JavaApplication1 (run) failed.

4.3. Protected Modifier

4.3.1. Latihan

JavaApplication1 - NetBeans IDE 8.2

```

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 Bab4;
7
8  /**
9  *
10 * @author asus
11 */
12 public class protectedmodifier {
13     protected void printinfo() {
14         System.out.println("protected modifier");
15     }
16     protected void sendmessage() {
17         System.out.println("this a is message");
18     }
19 }

```

Bab4.protectedmodifier > printinfo >

Output - JavaApplication1 (run) :

```

run:
protected modifier
this a is message
BUILD SUCCESSFUL (total time: 0 seconds)

```

- Bias diakses dalam satu package yang sama

4.4. Public Modifier

4.4.1. Latihan

1. Diakses dalam satu package

- Bisa diakses karena didalam package yang sama

```

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 Bab4;
7
8 /**
9 *
10 * @author asus
11 */
12 public class classain4 {
13     public static void main(String[] args) {
14         Public Kali = new Public();
15         Kali.Kali();
16     }
17 }

```

Notifications Output - JavaApplication1 (run)

```

run:
Kali.kali =>
BUILD SUCCESSFUL (total time: 0 seconds)

```

2. Akses dalam package lain

- Tidak bisa diakses karena berada diluar package

```

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
7 /**
8 *
9 * @author asus
10 */
11 public class classain5 {
12     public static void main(String[] args) {
13         Public Kali = new Public();
14         Kali.Kali();
15     }
16 }

```

Notifications Output - LocalVariable (run)

```

run:
Exception in thread "main" java.lang.RuntimeException: Uncompilable source code - cannot find symbol
  symbol:   class Public
  location: class classain5
    at classain5.main(classain5.java:13)
C:\Users\asus\AppData\Local\NetBeans\Cache\7.1\executor-snippets\run_001.bat: Java returned: 1
BUILD FAILED (total time: 0 seconds)

```

Latihan 4

JavaApplication1 - NetBeans IDE 8.2

```

    package Bab4;
    /*
     * To change this license header, choose License Headers in Project Properties.
     * To change this template file, choose Tools | Templates.
     * Author: asus
     */
    public class Public {
        public int a = 2;
        public int b = 5;
        public int c = 9;
        public void kali() {
            int d = a*b*c;
            System.out.println("Hasil kali = " + d);
        }
        public void bagi() {
            int e = a*b*c/b;
            System.out.println("Hasil bagi = " + e);
        }
        public void tambah() {
            int f = a+b;
            System.out.println("Hasil tambah = " + f);
        }
        public void kurang() {
            int g = a-b;
            System.out.println("Hasil kurang = " + g);
        }
        public void rata() {
            int h = a+b+c/3;
            System.out.println("Hasil rata-rata = " + h);
        }
    }

```

Notifications Output JavaApplication1 (run) x

```

run:
Hasil kali = 90
Hasil bagi = 18
Hasil tambah = 7
Hasil kurang = -3
Hasil rata-rata = 10
BUILD SUCCESSFUL (total time: 0 seconds)
|
```

13:22 INS

JavaApplication1 - NetBeans IDE 8.2

```

    package Bab4;
    /*
     * To change this license header, choose License Headers in Project Properties.
     * To change this template file, choose Tools | Templates.
     * Author: asus
     */
    public class PublicDemo {
        public static void main(String[] args) {
            Public kali = new Public();
            Kali.kali();
            Kali.bagi();
            Kali.tambah();
            Kali.kurang();
            Kali.rata();
        }
    }

```

Notifications Output JavaApplication1 (run) x

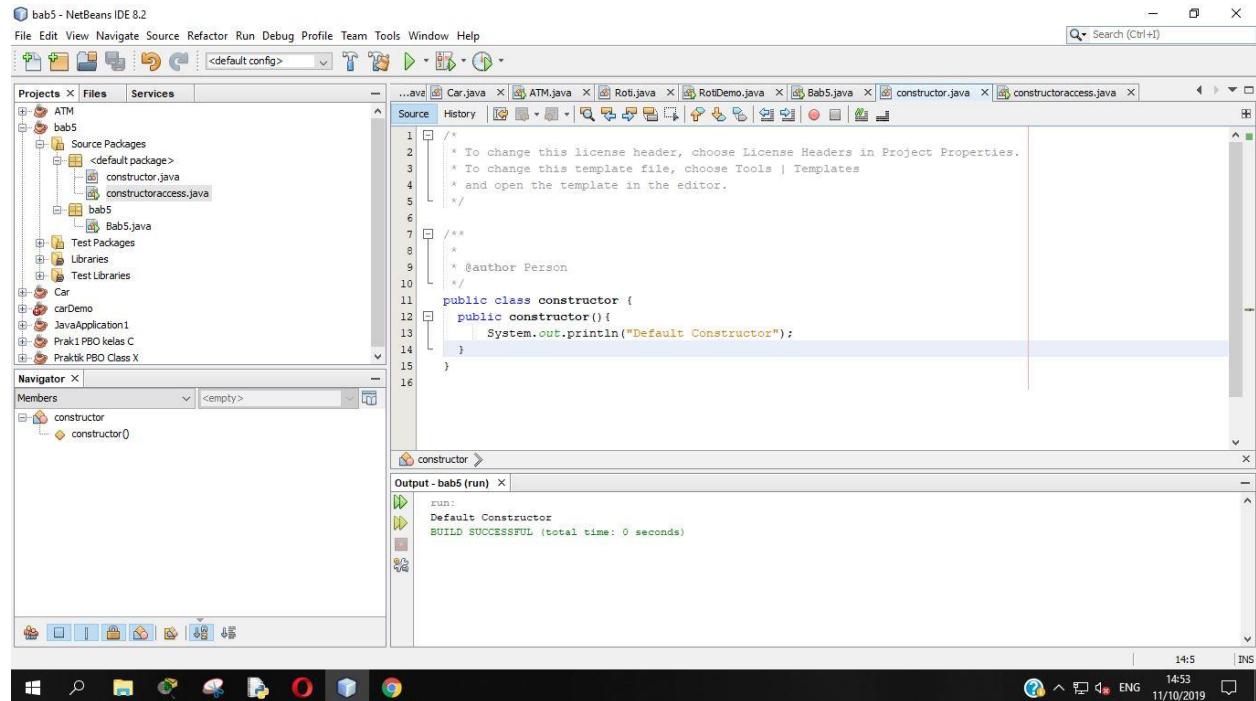
```

run:
Hasil kali = 90
Hasil bagi = 18
Hasil tambah = 7
Hasil kurang = -3
Hasil rata-rata = 10
BUILD SUCCESSFUL (total time: 0 seconds)
|
```

14:15 INS

Laporan Modul 5 Constructor

5.1. Default Constructor

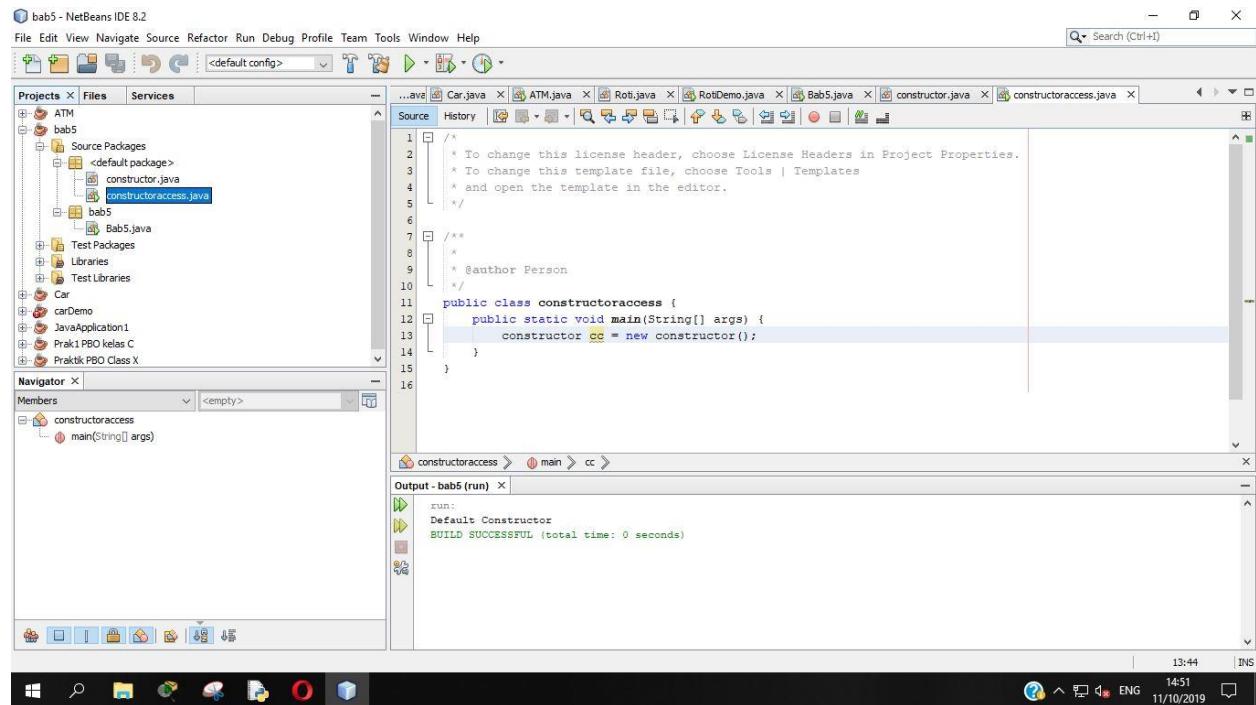


The screenshot shows the NetBeans IDE interface with the following details:

- Project:** bab5 - NetBeans IDE 8.2
- File Menu:** File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
- Search Bar:** Search (Ctrl+I)
- Projects Tab:** Shows the project structure with packages like ATM, bab5, and others.
- Source Editor:** Displays the code for the `constructor.java` file. The code defines a public constructor that prints "Default Constructor".

```
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
7 /**
8 *
9 * @author Person
10 */
11 public class constructor {
12     public constructor() {
13         System.out.println("Default Constructor");
14     }
15 }
```
- Output Window:** Shows the run output for the `bab5` project, indicating a successful build.

```
run:
Default Constructor
BUILD SUCCESSFUL (total time: 0 seconds)
```
- System Tray:** Shows the date and time as 11/10/2019 14:53.



The screenshot shows the NetBeans IDE interface with the following details:

- Project:** bab5 - NetBeans IDE 8.2
- File Menu:** File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
- Search Bar:** Search (Ctrl+I)
- Projects Tab:** Shows the project structure with packages like ATM, bab5, and others.
- Source Editor:** Displays the code for the `constructoraccess.java` file. It contains a main method that creates an instance of the `constructor` class.

```
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
7 /**
8 *
9 * @author Person
10 */
11 public class constructoraccess {
12     public static void main(String[] args) {
13         constructor cc = new constructor();
14     }
15 }
```
- Output Window:** Shows the run output for the `bab5` project, indicating a successful build.

```
run:
Default Constructor
BUILD SUCCESSFUL (total time: 0 seconds)
```
- System Tray:** Shows the date and time as 11/10/2019 13:44.

5.1.1 Latihan 1

The screenshot shows the NetBeans IDE interface with the following details:

- Project:** bab5
- Source Packages:** Source Packages (default package), bab5
- Files:** RotiDemo.java, Bab5.java, constructor.java, constructoraccess.java, Lathan1.java, demolatihan.java
- Code Editor:** The Lathan1.java file contains the following code:

```
4  * and open the template in the editor.
5  */
6  /*
7  */
8  /*
9  * @author Person
10 */
11 public class Lathan1 {
12     String Nama = "Aisyah Goevara";
13     String NIM = "1200180034";
14     String Alamat = "Surakarta";
15
16     public Lathan1() {
17         System.out.println("Nama :" + Nama);
18         System.out.println("NIM :" + NIM);
19         System.out.println("Alamat :" + Alamat);
20     }
21 }
22
```
- Output:** The output window shows the results of running the program:

```
run:
Nama :Aisyah Goevara
NIM :1200180034
Alamat :Surakarta
BUILD SUCCESSFUL (total time: 0 seconds)
```

The screenshot shows the NetBeans IDE interface with the following details:

- Project:** bab5
- Source Packages:** Source Packages (default package), bab5
- Files:** RotiDemo.java, Bab5.java, constructor.java, constructoraccess.java, Lathan1.java, demolatihan.java
- Code Editor:** The demolatihan.java file contains 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
7 /**
8  *
9  * @author Person
10 */
11 public class demolatihan {
12     public static void main(String[] args) {
13         Lathan1 hh = new Lathan1();
14     }
15 }
```
- Output:** The output window shows the results of running the program:

```
run:
Nama :Aisyah Goevara
NIM :1200180034
Alamat :Surakarta
BUILD SUCCESSFUL (total time: 0 seconds)
```

5.2. Parameterized Constructor

bab5 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services

Source Packages <default package>

- ATM
- bab5
 - Source Packages
 - <default package>
 - Lathan1.java
 - constructor.java
 - constructoraccess.java
 - demolathan.java
 - param.java
 - paramconstructor.java
 - bab5
 - Bab5.java
 - Test Packages
 - Libraries
 - Test Libraries
 - Car

Navigator Members

```

paramconstructor
  - paramconstructor(String nama, int semester, String nim)
    - info()
      - nama : String
      - nim : String
      - semester : int
  
```

Source History

```

5 /**
6  *
7  * @author Person
8  */
9
10 public class paramconstructor {
11     String nama, nim;
12     int semester;
13
14     public paramconstructor(String nama, int semester, String nim) {
15         this.nama = nama;
16         this.semester = semester;
17         this.nim = nim;
18     }
19
20     public void info() {
21         System.out.println("Nama : " + nama + "\nNim : " + nim + "\nSemester : " + semester);
22     }
23 }
  
```

Output - bab5 (run)

```

run:
Nama : Goevara
Nim :L200180034
Semester : 3
BUILD SUCCESSFUL (total time: 0 seconds)
  
```

12:22 11/10/2019

bab5 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services

Source Packages <default package>

- ATM
- bab5
 - Source Packages
 - <default package>
 - Lathan1.java
 - constructor.java
 - constructoraccess.java
 - demolathan.java
 - param.java
 - paramconstructor.java
 - bab5
 - Bab5.java
 - Test Packages
 - Libraries
 - Test Libraries
 - Car

Navigator Members

```

param
  - main(String[] args)
  
```

Source History

```

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
7 /**
8  *
9  * @author Person
10 */
11 public class param {
12     public static void main(String[] args) {
13         paramconstructor bb = new paramconstructor("Goevara", 3, "L200180034");
14         bb.info();
15     }
16 }
  
```

Output - bab5 (run)

```

run:
Nama : Goevara
Nim :L200180034
Semester : 3
BUILD SUCCESSFUL (total time: 0 seconds)
  
```

14:11 11/10/2019

5.2.1. Latihan 2

LocalVariable - NetBeans IDE 8.2

```

public class Buku {
    String namaPengarang;
    String judulBuku;
    int tahunTerbit;
    int cetakanKe;
    double hargaJual;
}

public Buku(String nama, String judulBuku) {
    this.namaPengarang = nama;
    this.judulBuku = judulBuku;
}
public Buku(int tahun, int cetakanKe) {
    this.tahunTerbit = tahun;
    this.cetakanKe = cetakanKe;
}
public Buku(double hargaJual) {
    this.hargaJual = hargaJual;
}
public void infol() {
    System.out.println("namaPengarang : " + namaPengarang + "\njudulBuku : " + judulBuku);
}
public void info2() {
    System.out.println("tahunTerbit : " + tahunTerbit + "\ncetakanKe : " + cetakanKe);
}
public void info3() {
    System.out.println("hargaJual : " + hargaJual);
}

public static void main(String[] args) {
    Buku hh = new Buku("Aisyah Goewara", "Kisah Cintaku");
    Buku hh1 = new Buku(1999,1);
    Buku hh2 = new Buku(100000);
    hh.infol();
    hh.info2();
    hh.info3();
}

```

Output - LocalVariable (run)

```

run:
namaPengarang : Aisyah Goewara
judulBuku : Kisah Cintaku
tahunTerbit : 0
cetakanKe : 0
hargaJual : 0.0
BUILD SUCCESSFUL (total time: 0 seconds)

```

LocalVariable - NetBeans IDE 8.2

```

public class Buku {
    String namaPengarang;
    String judulBuku;
    int tahunTerbit;
    int cetakanKe;
    double hargaJual;
}

public Buku(String nama, String judulBuku) {
    this.namaPengarang = nama;
    this.judulBuku = judulBuku;
}
public Buku(int tahun, int cetakanKe) {
    this.tahunTerbit = tahun;
    this.cetakanKe = cetakanKe;
}
public Buku(double hargaJual) {
    this.hargaJual = hargaJual;
}
public void infol() {
    System.out.println("namaPengarang : " + namaPengarang + "\njudulBuku : " + judulBuku);
}
public void info2() {
    System.out.println("tahunTerbit : " + tahunTerbit + "\ncetakanKe : " + cetakanKe);
}
public void info3() {
    System.out.println("hargaJual : " + hargaJual);
}

public static void main(String[] args) {
    Buku hh = new Buku("Aisyah Goewara", "Kisah Cintaku");
    Buku hh1 = new Buku(1999,1);
    Buku hh2 = new Buku(100000);
    hh.infol();
    hh.info2();
    hh.info3();
}

```

Output - LocalVariable (run)

```

run:
namaPengarang : Aisyah Goewara
judulBuku : Kisah Cintaku
tahunTerbit : 0
cetakanKe : 0
hargaJual : 0.0
BUILD SUCCESSFUL (total time: 0 seconds)

```

5.3. TUGAS

LocalVariable - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services <default config...> Search (Ctrl+F)

Source History < default package> Buku.java InstanceVariable.java Lathan3.java LocalVariable.java MethodParameter.java Nilai.java NonVoidMethod.java StaticVariable.java StaticVariableAccess.java VoidMethod.java dasslain3.java dasslain5.java demo0.java tugas.java Test Packages Libraries

...\\..\\dasslain3.java \\ publicclass.java \\ dasslain4.java \\ dass5.java \\ dasslain5.java \\ ket.java \\ lk.java \\ Buku.java \\ tugas.java \\ demo0.java

4 * and open the template in the editor.
5
6 /*
7 * @author asus
8 */
9
10 public class tugas {
11 public tugas(){
12 System.out.println("Aisyah Goewara");
13 }
14 String nama, alamat;
15 int umur;
16
17 public tugas(String nama, int umur, String alamat){
18 this.nama = nama;
19 this.umur = umur;
20 this.alamat = alamat;
21 }
22 public void info(){
23 System.out.println("nama : " + nama + "\\n umur : " + umur + "\\n alamat : " + alamat);
24 }
25 }
26
27

tugas > info >

Notifications Output - LocalVariable (run) x

run: Aisyah Goewara
nama : varsa
umur : 20
alamat : surakarta
BUILD SUCCESSFUL (total time: 0 seconds)

24:07 18:04 17/10/2019

LocalVariable - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services <default config...> Search (Ctrl+F)

Source History < default package> Buku.java InstanceVariable.java Lathan3.java LocalVariable.java MethodParameter.java Nilai.java NonVoidMethod.java StaticVariable.java StaticVariableAccess.java VoidMethod.java dasslain3.java dasslain5.java demo0.java tugas.java Test Packages Libraries

...\\..\\dasslain3.java \\ publicclass.java \\ dasslain4.java \\ dass5.java \\ dasslain5.java \\ ket.java \\ lk.java \\ Buku.java \\ tugas.java \\ demo0.java

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
7 /*
8 * @author asus
9 */
10
11 public class demo0 {
12 public static void main(String[] args){
13 tugas aa = new tugas("varsa", 20, "surakarta");
14 tugas aa2 = new tugas();
15 aa.info();
16 }
17 }

demo0 > main > aa >

Notifications Output - LocalVariable (run) x

run: Aisyah Goewara
nama : varsa
umur : 20
alamat : surakarta
BUILD SUCCESSFUL (total time: 0 seconds)

13:29 18:05 17/10/2019

Laporan Praktikum PBO Modul 6

Inheritance

6.1.1 single inheritance

The screenshot shows the NetBeans IDE interface with a project named "inheritance". The "Sources" tab is selected, displaying the code for "programer.java". The code defines a class "programer" that extends "pegawai". It includes a main method that calculates a salary based on basic pay and overtime hours. The output window shows the program ran successfully and printed "5005000.0".

```
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
public class programer extends pegawai {
    public static void main(String[] args){
        double lemburperjam = 5000;
        double gajiperbulan;
        pegawai pegawai = new pegawai();
        gajiperbulan = pegawai.gajipokok + lemburperjam; System.out.println(gajiperbulan);
    }
}
```

Output - inheritance (run) :

```
run:
5005000.0
BUILD SUCCESSFUL (total time: 0 seconds)
```

6.1.2 Hierarchical inheritance

The screenshot shows the NetBeans IDE interface with a project named "inheritance". The "Sources" tab is selected, displaying the code for "teknisi.java". The code defines a class "teknisi" that extends "pegawai". It includes a main method that calculates a salary based on basic pay and overtime hours. The output window shows the program ran successfully and printed "6000000.0".

```
/*
 * To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
public class teknisi extends pegawai {
    public static void main(String[] args){
        double lemburperjam = 1000000;
        double gajiperbulan;
        pegawai pegawai = new pegawai();
        gajiperbulan = pegawai.gajipokok + lemburperjam; System.out.println(gajiperbulan);
    }
}
```

Output - inheritance (run) :

```
run:
6000000.0
BUILD SUCCESSFUL (total time: 0 seconds)
```

6.1.3. Multilevel inheritance

inheritance - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Search (Ctrl+F)

Projects Files Services

Source History

...java pegawai.java programer.java teknisi.java a.java b.java c.java inheritancetest.java

Projects

- inheritance
 - <default package>
 - a.java
 - b.java
 - c.java
 - inheritancetest.java
 - pegawai.java
 - programer.java
 - teknisi.java
 - inheritance
 - Test Packages
 - Libraries
 - Test Libraries

Source

```
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
7 /**
8  *
9  * @author LABRPL-9
10 */
11 public class a {
12     public void Messagea(){
13         System.out.println("Info dari Class A");
14     }
15 }
```

a > Messages >

Output - inheritance (run) ■

```
Info dari Class A
Info dari Class B
Info dari Class A
Info dari Class C
Info dari Class B
Info dari Class A
BUILD SUCCESSFUL (total time: 0 seconds)
```

13:49 INS

inheritance - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services

Source Packages <default package>

- a.java
- b.java
- c.java
- inheritancetest.java
- pegawai.java
- programer.java
- teknisi.java

Test Packages Libraries Test Libraries

Source History

```
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
7 /**
8  *
9  * @author LABRPL-9
10 */
11 public class b extends a {
12     public void Messageb() {
13         System.out.println("Info dari Class B");
14     }
15 }
```

b > Messageb >

Output - inheritance (run) :

- Info dari Class A
- Info dari Class B
- Info dari Class A
- Info dari Class C
- Info dari Class B
- Info dari Class A

BUILD SUCCESSFUL (total time: 0 seconds)

13:46 INS

inheritance - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services

Source Packages <default package>

- a.java
- b.java
- c.java
- inheritancetest.java
- pegawai.java
- programer.java
- teknisi.java

Test Packages Libraries Test Libraries

Source History

```
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
7 /**
8  *
9  * @author LABRPL-9
10 */
11 public class c extends b {
12     public void Messagec() {
13         System.out.println("Info dari Class C");
14     }
15 }
```

c > Messagec >

Output - inheritance (run) :

- Info dari Class A
- Info dari Class B
- Info dari Class A
- Info dari Class C
- Info dari Class B
- Info dari Class A

BUILD SUCCESSFUL (total time: 0 seconds)

13:46 INS

inheritance - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services

Source Packages <default package>

a.java b.java c.java inheritanceinheritancetest.java pegawai.java programer.java teknisi.java

Test Packages Libraries Test Libraries

Source History

```
7  /**
8  * @author LABRPL-9
9  */
10 public class inheritancetest {
11     public static void main(String[] args){
12         a a = new a();
13         b b = new b();
14         c c = new c();
15
16         a.Messagea();
17         b.Messageb();
18         b.Messagea();
19         c.Messagec();
20         c.Messageb();
21         c.Messagea();
22     }
23 }
24
25
```

inheritancetest > main >

Output - inheritance (run) :

```
Info dari Class A
Info dari Class B
Info dari Class A
Info dari Class C
Info dari Class B
Info dari Class A
BUILD SUCCESSFUL (total time: 0 seconds)
```

22:21 INS

6.2. Tugas

inheritance - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services

Source Packages <default package>

a.java b.java c.java inheritanceinheritancetest.java kendaraan.java mobil.java pesawat.java demo.java

Test Packages Libraries Test Libraries

Source History

```
3  /*
4  * To change this template file, choose Tools | Templates
5  * and open the template in the editor.
6  */
7 /**
8 *
9 * @author LABRPL-9
10 */
11 public class kendaraan {
12     int jumlahkursi = 4;
13     int jumlahroda = 4;
14     int berat = 1000;
15     public void aa(){
16         System.out.println("Jumlah roda kendaraan : " + jumlahroda + "\nJumlah Kursi kendaraan : " +
17             jumlahkursi + "\nBerat kendaraan : " + berat);
18     }
19 }
```

kendaraan > aa >

Output - inheritance (run) :

```
run:
Jumlah roda kendaraan : 4
Jumlah Kursi kendaraan : 4
Berat kendaraan : 1000
Bahan bakar mobil : bensin
jumlahkursi4
Bahan bakar pesawat : avtur
Berat pesawat : 60
BUILD SUCCESSFUL (total time: 1 second)
```

17:34 INS

inheritance - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services

Source Packages <default package>

- a.java
- b.java
- c.java
- demo.java
- inheritancetest.java
- kendaraan.java
- mobil.java
- pegawai.java
- pesawat.java
- programer.java
- teknis.java

inheritance Test Packages Libraries Test Libraries

Source History

```
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
7 /**
8 *
9 * @author LABRPL-9
10 */
11 public class mobil extends kendaraan {
12     String bahanbakar = "bensin";
13     int jumlahkursi = 4;
14     public void bb(){
15         System.out.println("Bahan bakar mobil : " + bahanbakar + "\nJumlah kursi : " + jumlahkursi);
16     }
17 }
```

mobil > jumlhkursi >

Output - inheritance (run) :

```
run:
Jumlah roda kendaraan : 4
Jumlah Kursi kendaraan : 4
Berat kendaraan : 1000
Bahan bakar mobil : bensin
jumlahkursi4
Bahan bakar pesawat : avtur
Berat pesawat : 60
BUILD SUCCESSFUL (total time: 1 second)
```

13:13 INS

inheritance - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services

Source Packages <default package>

- a.java
- b.java
- c.java
- demo.java
- inheritancetest.java
- kendaraan.java
- mobil.java
- pegawai.java
- pesawat.java
- programer.java
- teknis.java

inheritance Test Packages Libraries Test Libraries

Source History

```
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
7 /**
8 *
9 * @author LABRPL-9
10 */
11 public class pesawat {
12     String bahanbakar = "avtur";
13     int berat = 60;
14     public void cc(){
15         System.out.println("Bahan bakar pesawat : " + bahanbakar + "\nBerat pesawat : " + berat);
16     }
17 }
```

pesawat > cc >

Output - inheritance (run) :

```
run:
Jumlah roda kendaraan : 4
Jumlah Kursi kendaraan : 4
Berat kendaraan : 1000
Bahan bakar mobil : bensin
jumlahkursi4
Bahan bakar pesawat : avtur
Berat pesawat : 60
BUILD SUCCESSFUL (total time: 1 second)
```

15:71 INS

inheritance - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services

Source History

```

4  * and open the template in the editor.
5  */
6
7 /**
8 *
9 * @author LABRPL-9
10 */
11 public class demo {
12     public static void main(String[] args){
13         kendaraan a = new kendaraan();
14         mobil b = new mobil();
15         pesawat c = new pesawat();
16
17         a.aa();
18         b.bb();
19         c.cc();
20     }
21 }
22

```

Output - inheritance (run) :

```

run:
Jumlah roda kendaraan : 4
Jumlah Kursi kendaraan : 4
Berat kendaraan : 1000
Bahan bakar mobil : bensin
jumlahkursi4
Bahan bakar pesawat : avtur
Berat pesawat : 60
BUILD SUCCESSFUL (total time: 1 second)

```

14:24 INS

6.3. Tugas

modul6 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services

Source History

```

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 modul6;
7
8 /**
9 *
10 * @author assus
11 */
12 public class bangundatar {
13     double luas;
14     double keliling;
15     public hitungluas(){
16         System.out.println("ini method untuk menghitung luas");
17     }
18     public hitungkeliling(){
19         System.out.println("ini method untuk menghitung keliling");
20     }
21 }
22

```

Output - modul6 (run) :

```

run:
luas persegi:14.0
keliling persegi:14.0
BUILD SUCCESSFUL (total time: 0 seconds)

```

19:55 20/06 12/11/2019

modul6 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services <default config...>

Source History

...V Mammal.java Modul6.java bangundatar.java persegi.java persegipanjang.java segitiga.java segitigasamakali.java segitigasamasasi.java

modul6

Source Packages modul6

Mammal.java bangundatar.java persegi.java persegipanjang.java segitiga.java segitigasamakali.java segitigasamasasi.java

Test Packages Libraries Test Libraries Projek Tiketkonser Tugas interface

main - Navigator

Members <empty>

modul6.persegi :: bangundatar

hitungkelling() : bangundatar hitungluas() : bangundatar main(String[] args)

s : int

modul6.persegi > @ main >

modul6 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services <default config...>

Source History

...V Mammal.java Modul6.java bangundatar.java persegi.java persegipanjang.java segitiga.java segitigasamakali.java segitigasamasasi.java

modul6

Source Packages modul6

Mammal.java bangundatar.java persegi.java persegipanjang.java segitiga.java segitigasamakali.java segitigasamasasi.java

Test Packages Libraries Test Libraries Projek Tiketkonser Tugas interface

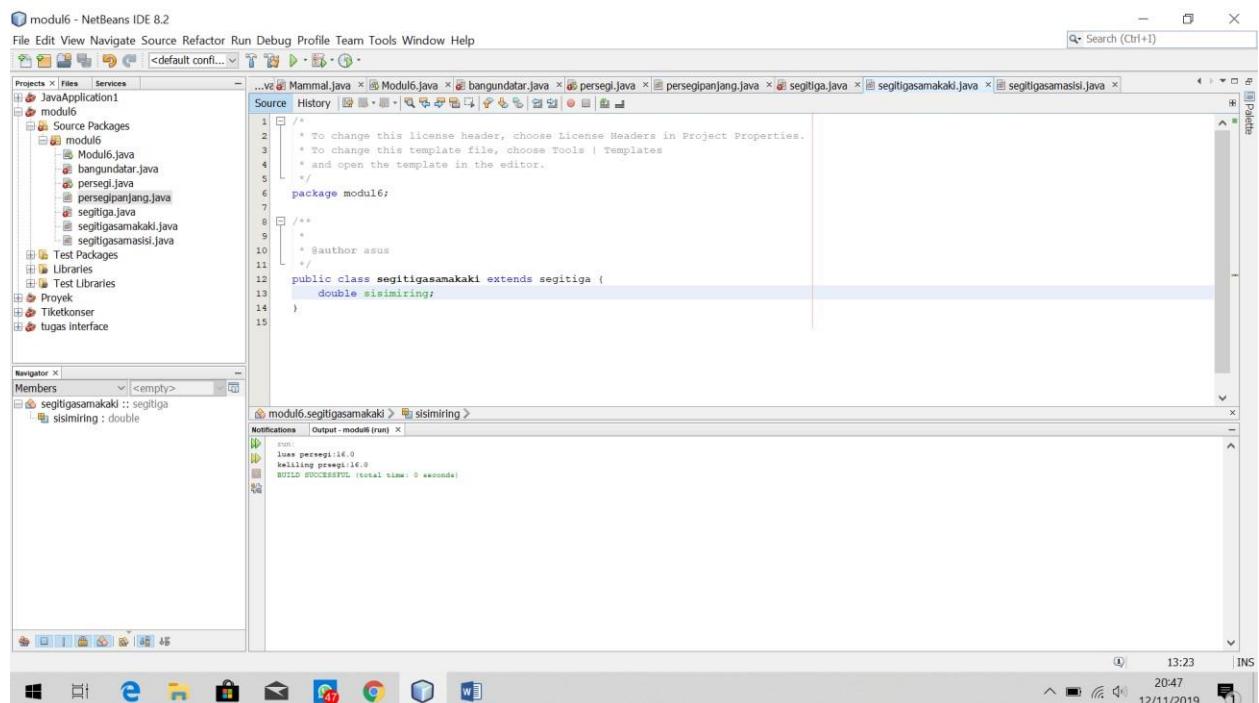
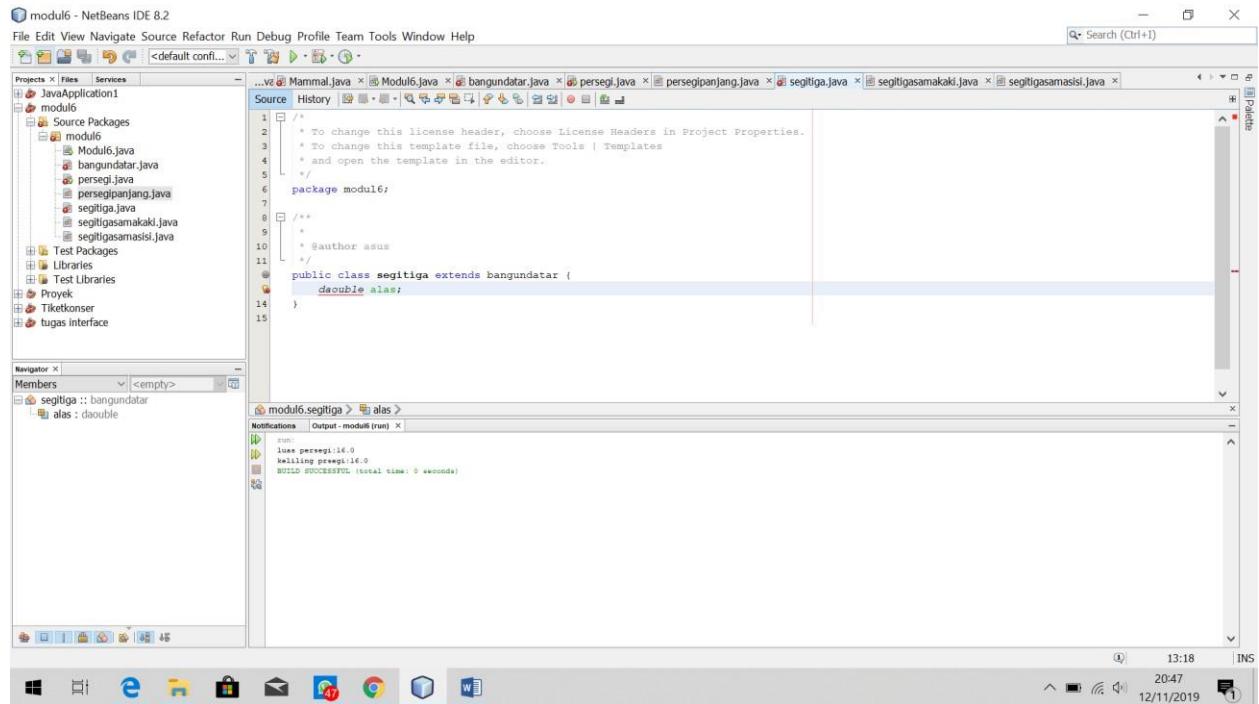
modul6 - Navigator

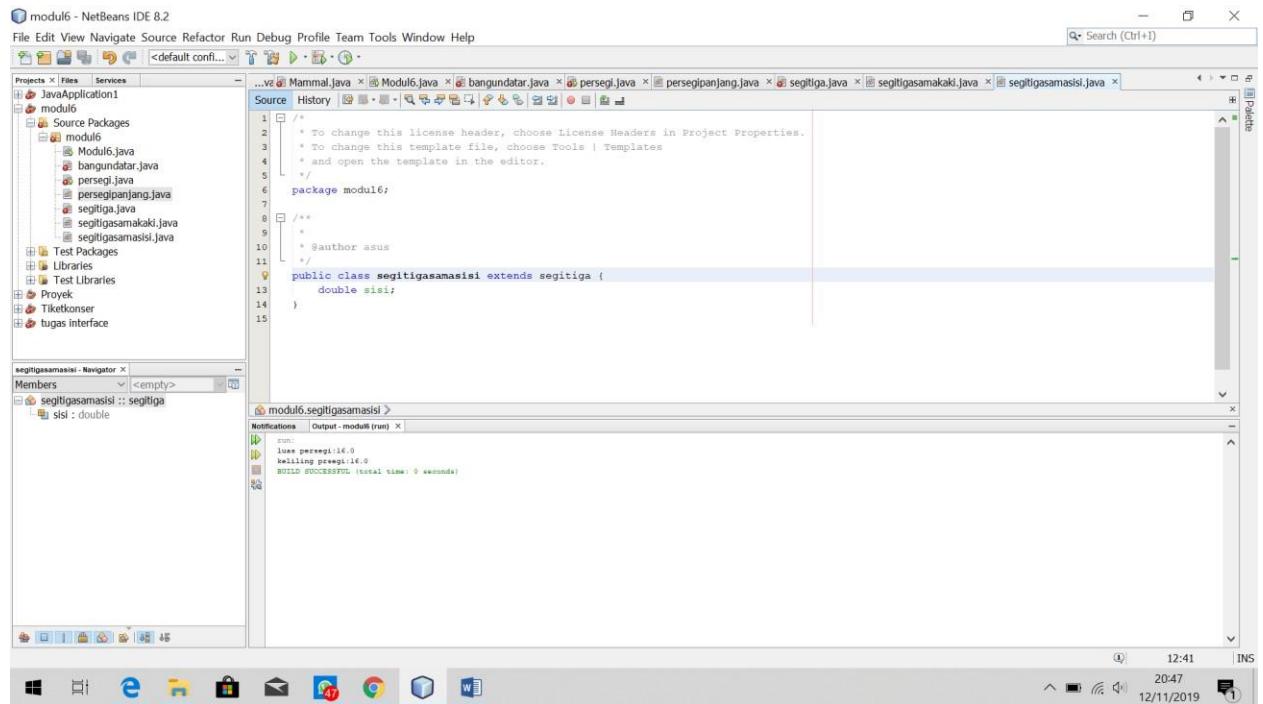
Members <empty>

modul6.persegi :: bangundatar

lebar : double panjang : int

modul6.persegi > @ main >

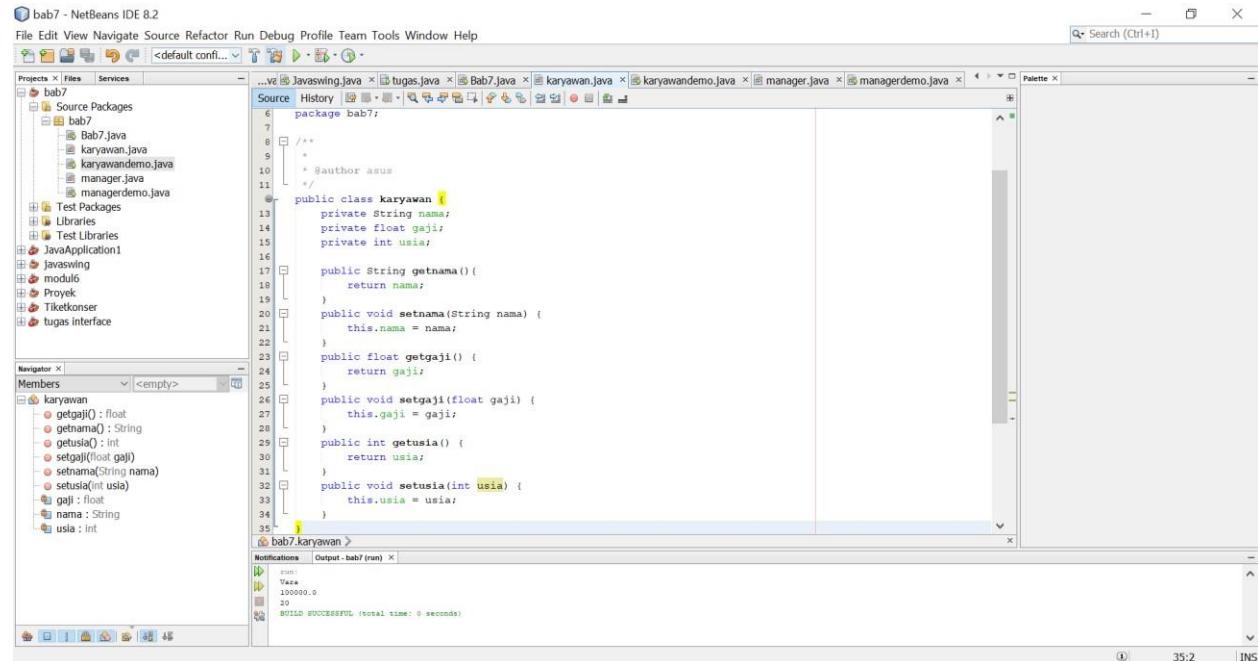




Laporan Praktikum BAB 7 Encapsulation

7.1. Gambaran Umum

Class Karyawan

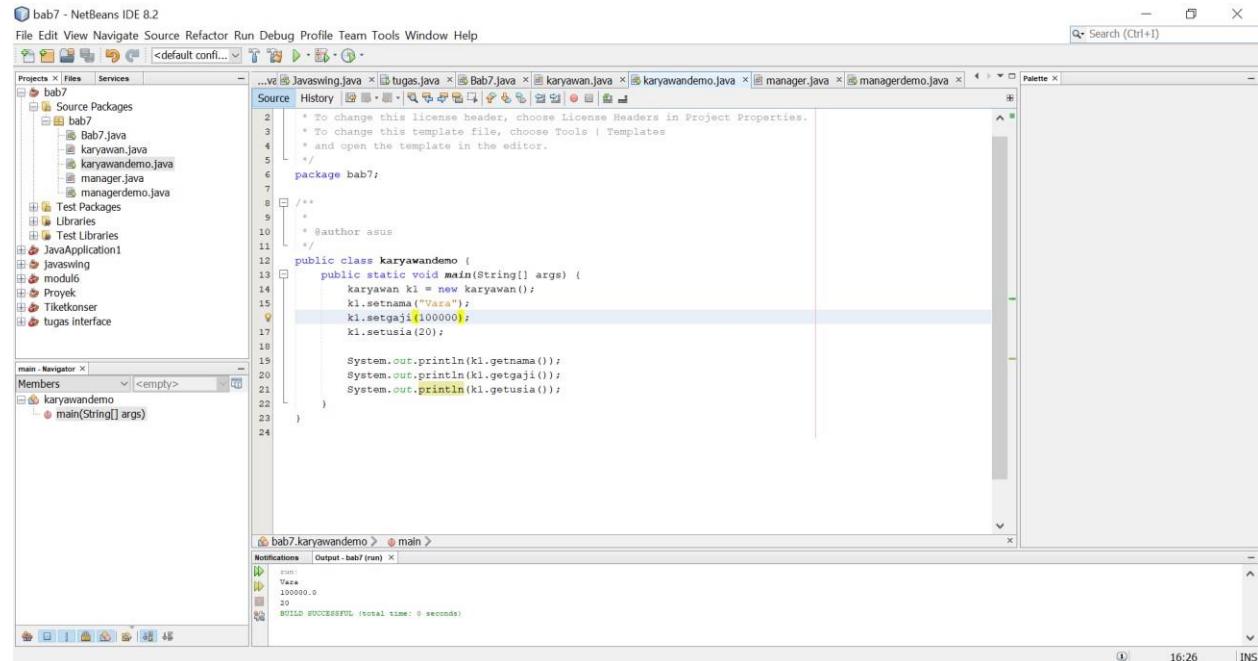


The screenshot shows the NetBeans IDE interface with the project 'bab7' selected. The 'Source Packages' node contains 'bab7' which has 'Bab7.java', 'karyawan.java', 'karyawandemo.java', 'manager.java', and 'managerdemo.java'. The 'Test Packages' node contains 'JavaApplication1'. The 'Libraries' and 'Test Libraries' nodes are empty. The 'Proyek' node contains 'modul6', 'Tiketkonser', and 'Tugas Interface'. The 'File' menu is open, showing options like File, Edit, View, Navigate, Source, Refactor, Run, Debug, Profile, Team, Tools, Window, Help. The 'Search (Ctrl+I)' field is at the top right. The central editor pane displays the 'karyawan.java' code:

```
6 package bab7;
7
8 /**
9 * @author asus
10 */
11
12 public class karyawan {
13     private String nama;
14     private float gaji;
15     private int usia;
16
17     public String getnama() {
18         return nama;
19     }
20     public void setnama(String nama) {
21         this.nama = nama;
22     }
23     public float getgaji() {
24         return gaji;
25     }
26     public void setgaji(float gaji) {
27         this.gaji = gaji;
28     }
29     public int getusia() {
30         return usia;
31     }
32     public void setusia(int usia) {
33         this.usia = usia;
34     }
35 }
```

The 'Members' panel on the left shows the class members: getgaji(): float, getnama(): String, getusia(): int, setgaji(float gaji), setnama(String nama), setusia(int usia), gaji : float, nama : String, and usia : int. The 'Notifications' and 'Output - bab7 (run)' panes at the bottom show build logs.

Class karyawandemo



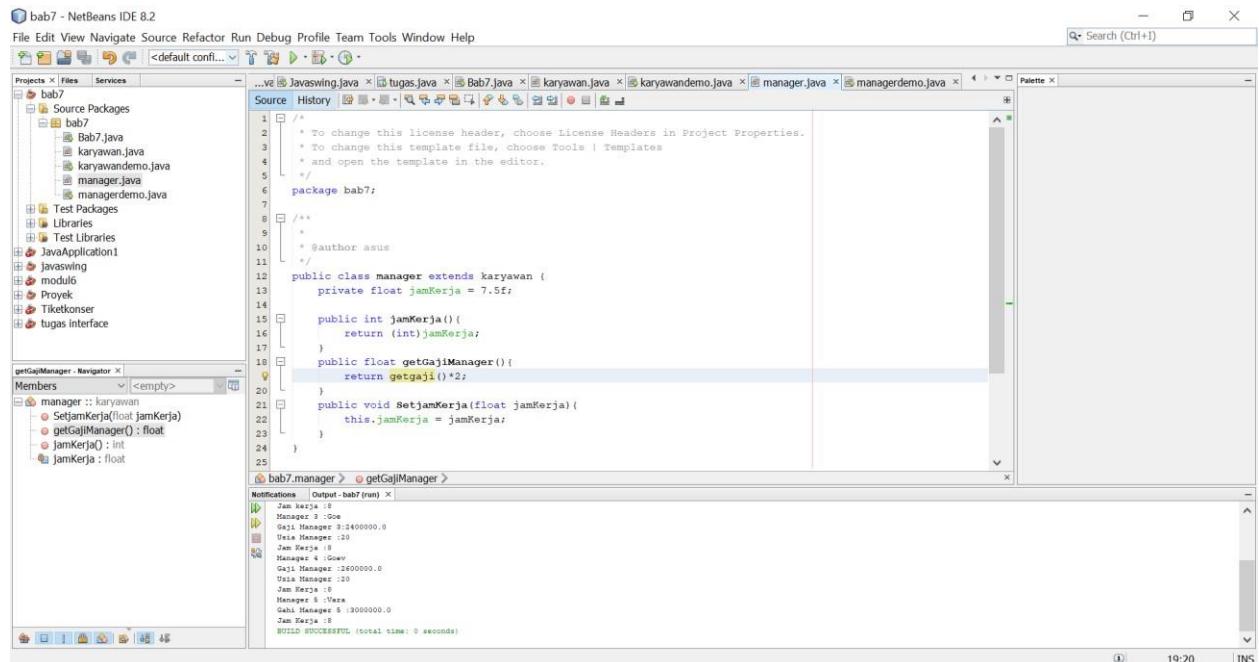
The screenshot shows the NetBeans IDE interface with the project 'bab7' selected. The 'Source Packages' node contains 'bab7' which has 'Bab7.java', 'karyawan.java', 'karyawandemo.java', 'manager.java', and 'managerdemo.java'. The 'Test Packages' node contains 'JavaApplication1'. The 'Libraries' and 'Test Libraries' nodes are empty. The 'Proyek' node contains 'modul6', 'Tiketkonser', and 'Tugas Interface'. The 'File' menu is open, showing options like File, Edit, View, Navigate, Source, Refactor, Run, Debug, Profile, Team, Tools, Window, Help. The 'Search (Ctrl+I)' field is at the top right. The central editor pane displays the 'karyawandemo.java' code:

```
2 * To change this license header, choose License Headers in Project Properties.
3 * To change this template file, choose Tools | Templates.
4 * @author asus
5 */
6 package bab7;
7
8 /**
9 * @author asus
10 */
11
12 public class karyawandemo {
13     public static void main(String[] args) {
14         karyawan kl = new karyawan();
15         kl.setnama("Vara");
16         kl.setgaji(100000);
17         kl.setusia(20);
18
19         System.out.println(kl.getnama());
20         System.out.println(kl.getgaji());
21         System.out.println(kl.getusia());
22     }
23 }
```

The 'Members' panel on the left shows the class member: main(String[] args). The 'Notifications' and 'Output - bab7 (run)' panes at the bottom show build logs.

7.2. Latihan

Class Manager



bab7 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services <default config... >

Source History Search (Ctrl+F)

Java Swing Java Tugas Java Bab7 Java karyawan.java karyawandemo.java manager.java managerdemo.java

bab7 Source Packages

- Bab7
 - karyawan.java
 - karyawandemo.java
 - manager.java
 - managerdemo.java
- Test Packages
- Libraries
- Test Libraries
- Java Application1
- Javawing
- modul6
- Projek
- Tiketkonser
- Tugas Interface

main - Navigator Members <empty>

managerdemo main(String[] args)

```

5  /*
6   * 
7   */
8  /*
9   * @author asus
10  */
11
12 public class managerdemo {
13     public static void main(String[] args){
14         manager m1 = new manager();
15         manager m2 = new manager();
16         manager m3 = new manager();
17         manager m4 = new manager();
18         manager m5 = new manager();
19
20         m1.setnama("Aisyah Goev");
21         m1.setgaji(1000000);
22         m1.setusia(20);
23         m1.setjamKerja(8f);
24         System.out.println("Manager 1 :" + m1.getnama());
25         System.out.println("Gaji Manager 1 :" + m1.getGajiManager());
26         System.out.println("Usia Manager :" + m1.getusia());
27         System.out.println("Jam Kerja :" + m1.jamKerja());
28
29         m2.setnama("Aisyah");
30         m2.setgaji(1100000);
31         m2.setusia(20);
32         m2.setjamKerja(8f);
33         System.out.println("Manager 2 :" + m2.getnama());
34         System.out.println("Gaji Manager 2 :" + m2.getGajiManager());
35         System.out.println("Usia Manager :" + m2.getusia());
36         System.out.println("Jam kerja :" + m2.jamKerja());
37
38         m3.setnama("Goev");
39         m3.setgaji(1200000);
40         m3.setusia(20);
41         m3.setjamKerja(8f);
42         System.out.println("Manager 3 :" + m3.getnama());
43         System.out.println("Gaji Manager 3 :" + m3.getGajiManager());
44         System.out.println("Usia Manager :" + m3.getusia());
45         System.out.println("Jam kerja :" + m3.jamKerja());
46
47         m4.setnama("Goev");
48         m4.setgaji(1300000);
49         m4.setusia(20);
50         m4.setjamKerja(8f);
51         System.out.println("Manager 4 :" + m4.getnama());
52         System.out.println("Gaji Manager 4 :" + m4.getGajiManager());
53         System.out.println("Usia Manager :" + m4.getusia());
54
55     }
56 }

```

Notifications Output - bab7 (run) x

Jan Kerja : 1
Manager 3 - Goev
Gaji Manager 3:1400000.0
Usia Manager :20
Man Kerja : 1
Manager 4 - Goev
Gaji Manager 4:1600000.0
Usia Manager :20
Man Kerja : 1
Manager 5 - Vara
Gaji Manager 5:1800000.0
Jan Kerja : 8
BUILD SUCCESSFUL (total time: 0 seconds)

bab7.managerdemo > main >

57:26 INS

bab7 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services <default config... >

Source History Search (Ctrl+F)

Java Swing Java Tugas Java Bab7 Java karyawan.java karyawandemo.java manager.java managerdemo.java

bab7 Source Packages

- Bab7
 - karyawan.java
 - karyawandemo.java
 - manager.java
 - managerdemo.java
- Test Packages
- Libraries
- Test Libraries
- Java Application1
- Javawing
- modul6
- Projek
- Tiketkonser
- Tugas Interface

main - Navigator Members <empty>

managerdemo main(String[] args)

```

29         m2.setnama("Aisyah");
30         m2.setgaji(1100000);
31         m2.setusia(20);
32         m2.setjamKerja(8f);
33         System.out.println("Manager 2 :" + m2.getnama());
34         System.out.println("Gaji Manager 2 :" + m2.getGajiManager());
35         System.out.println("Usia Manager :" + m2.getusia());
36         System.out.println("Jam kerja :" + m2.jamKerja());
37
38         m3.setnama("Goev");
39         m3.setgaji(1200000);
40         m3.setusia(20);
41         m3.setjamKerja(8f);
42         System.out.println("Manager 3 :" + m3.getnama());
43         System.out.println("Gaji Manager 3 :" + m3.getGajiManager());
44         System.out.println("Usia Manager :" + m3.getusia());
45         System.out.println("Jam kerja :" + m3.jamKerja());
46
47         m4.setnama("Goev");
48         m4.setgaji(1300000);
49         m4.setusia(20);
50         m4.setjamKerja(8f);
51         System.out.println("Manager 4 :" + m4.getnama());
52         System.out.println("Gaji Manager 4 :" + m4.getGajiManager());
53         System.out.println("Usia Manager :" + m4.getusia());
54
55     }
56 }

```

Notifications Output - bab7 (run) x

Jan Kerja : 1
Manager 3 - Goev
Gaji Manager 3:1400000.0
Usia Manager :20
Man Kerja : 1
Manager 4 - Goev
Gaji Manager 4:1600000.0
Usia Manager :20
Man Kerja : 1
Manager 5 - Vara
Gaji Manager 5:1800000.0
Jan Kerja : 8
BUILD SUCCESSFUL (total time: 0 seconds)

bab7.managerdemo > main >

57:26 INS

The screenshot shows the NetBeans IDE interface with the following details:

- MenuBar:** File, Edit, View, Navigate, Source, Refactor, Run, Debug, Profile, Team, Tools, Window, Help.
- Toolbar:** Standard NetBeans toolbar icons.
- Project Explorer (Projects Tab):** Shows the project structure with packages like `bab7`, `javaapplication1`, `modul6`, and `Tiketkonser`, and files like `Bab7.java`, `karyawan.java`, `karyawandemo.java`, `manager.java`, `managerdemo.java`, and `tugas.java`.
- Code Editor (Source Tab):** Displays the Java code for the `Manager` class and its subclasses (`m1` through `m5`). The code includes methods for setting names, salaries, and working hours, and printing them out.
- Output Window (Output Tab):** Shows the console output of the application running. It displays the names, salaries, and working hours for each manager instance.
- Bottom Status Bar:** Shows the build status as "BUILD SUCCESSFUL (total time: 0 seconds)".

The screenshot shows the NetBeans IDE interface with the following details:

- Title Bar:** bab7 - NetBeans IDE 8.2
- Menu Bar:** File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
- Toolbar:** Standard NetBeans toolbar with icons for file operations.
- Project Explorer:** Shows the project structure under the `bab7` node, including source packages like `bab7`, `javawsing`, `modul6`, `Proyek`, `Tiketkonser`, and test packages like `tugas interface`.
- Code Editor:** The `managerdemo.java` file is open, containing the following code:

```
42 System.out.println("Manager 3 :" + m3.getnama());
43 System.out.println("Gaji Manager 3 :" + m3.getGajiManager());
44 System.out.println("Usia Manager 3 :" + m3.getusia());
45 System.out.println("Jam Kerja :" + m3.jamKerja());
```
- Output Window:** Shows the execution results of the code:

```
Manager 1 :Aisyah Sivers
Gaji Manager 1 :2000000.0
Usia Manager 1 :20
Jan Kerja :5

Manager 2:Aisyah
Gaji Manager 2:2100000.0
Usia Manager 2:20
Jan Kerja :5

Manager 3 :Doe
Gaji Manager 3:2400000.0
Usia Manager 3:20
Jan Kerja :8

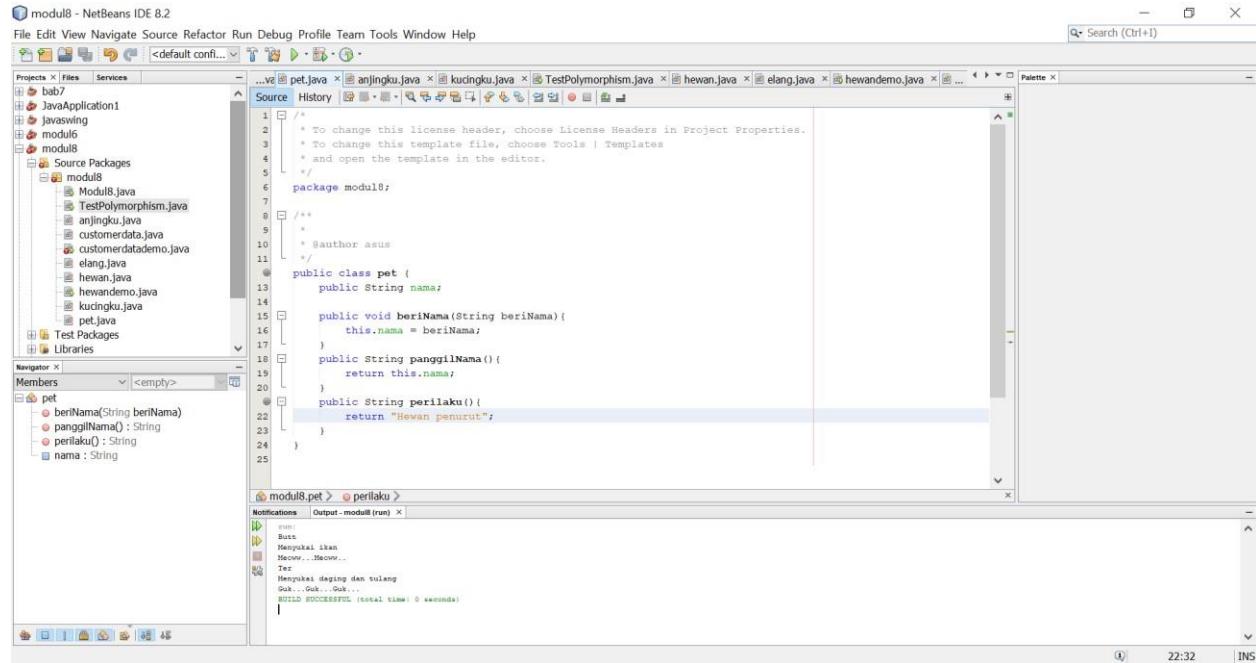
Manager 4 :Gwei
Gaji Manager 4 :2600000.0
Usia Manager 4:20
Jan Kerja :10

Manager 5 :Vera
Gaji Manager 5 :3000000.0
Jan Kerja :9

SELamat PERTUGASAN (total time: 0 seconds)
```
- Notifications:** A notification for `bab7 (run)` is present.
- Bottom Status Bar:** Shows the status `SELamat PERTUGASAN (total time: 0 seconds)`.

Latihan dan Tugas Praktikum PBO Modul 8 Polymorphism

Latihan



modul8 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services

Source History

```
1 /* To change this license header, choose License Headers in Project Properties.
2  * To change this template file, choose Tools | Templates
3  * and open the template in the editor.
4 */
5 package modul8;
6
7 /**
8  * @author asus
9  */
10 public class pet {
11     public String nama;
12
13     public void beriNama(String beriNama) {
14         this.nama = beriNama;
15     }
16
17     public String panggilNama() {
18         return this.nama;
19     }
20
21     public String perilaku() {
22         return "Hewan penurut";
23     }
24 }
25
```

Navigator

Members <empty>

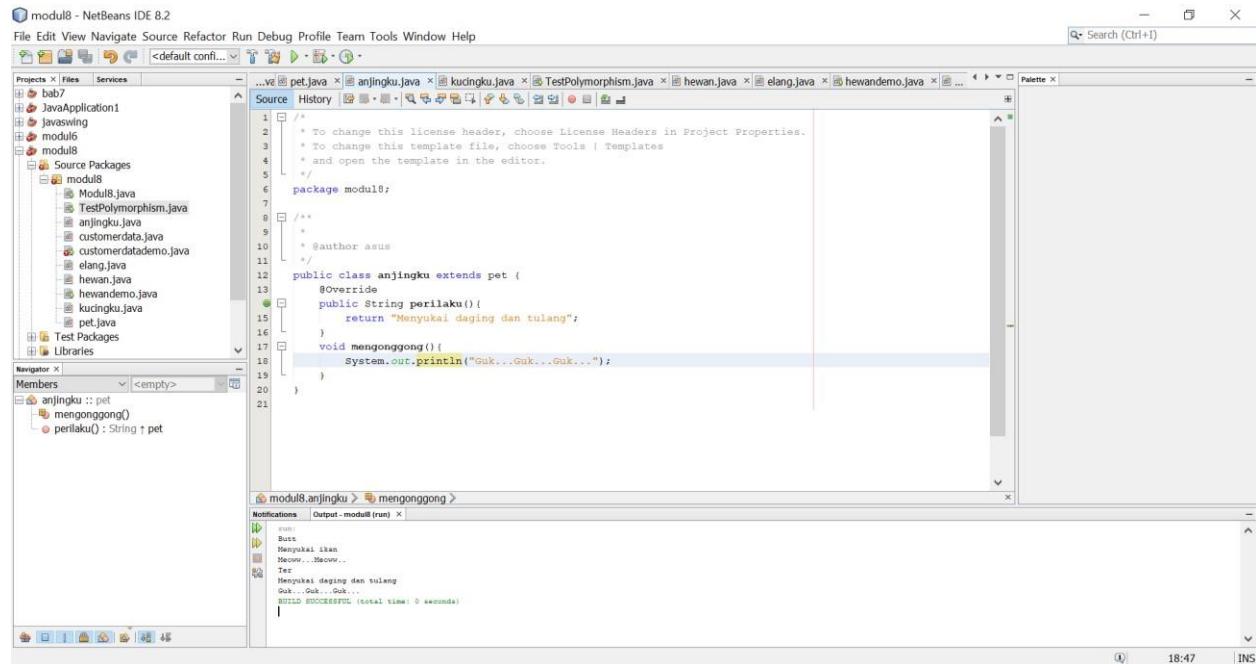
modul8.pet > perilaku >

Notifications Output - modul8 (run) x

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

22:32 INS

This screenshot shows the NetBeans IDE interface with the project 'modul8' open. The 'Source' tab is selected, displaying the code for the 'pet' class. The code defines a class 'pet' with a private attribute 'nama', a method 'beriNama' to set the name, a method 'panggilNama' to get the name, and a method 'perilaku' to return a string indicating it's a 'Hewan penurut'. The 'Output' tab at the bottom shows a successful build message.



modul8 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services

Source History

```
1 /* To change this license header, choose License Headers in Project Properties.
2  * To change this template file, choose Tools | Templates
3  * and open the template in the editor.
4 */
5 package modul8;
6
7 /**
8  * @author asus
9  */
10 public class anjingku extends pet {
11     @Override
12     public String perilaku() {
13         return "Menyukai daging dan tulang";
14     }
15
16     void mengonggong() {
17         System.out.println("Guk...Guk...");
18     }
19 }
20
21
```

Navigator

Members <empty>

modul8.anjingku > mengonggong >

Notifications Output - modul8 (run) x

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

18:47 INS

This screenshot shows the NetBeans IDE interface with the project 'modul8' open. The 'Source' tab is selected, displaying the code for the 'anjingku' class, which extends the 'pet' class. It overrides the 'perilaku' method to return 'Menyukai daging dan tulang' and adds a 'mengonggong' method that prints 'Guk...Guk...'. The 'Output' tab at the bottom shows a successful build message.

modul8 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services <default config...>

Source History Palettes

```

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 modul8;
7
8 /**
9  *
10 * @author asus
11 */
12 public class kucingku extends pet {
13     @Override
14     public String perilaku(){
15         return "Menyukai ikan";
16     }
17     void mengong(){
18         System.out.println("Meoww...Meoww..");
19     }
20     void makan(){
21         System.out.println("Menyukai ikan");
22     }
23 }

```

modul8.kucingku >

Notifications Output - modul8 (run)

```

run:
Butt
Menyukai ikan
Meoww...
Ter
Menyukai daging dan tulang
Guk..Guk...
BUILD SUCCESSFUL (total time: 0 seconds)

```

12:34 INS

modul8 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services <default config...>

Source History Palettes

```

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 modul8;
7
8 /**
9  *
10 * @author asus
11 */
12 public class TestPolymorphism {
13     public static void main(String[] args) {
14         pet aa = new pet();
15         kucingku bb = new kucingku();
16         anjingku cc = new anjingku();
17         aa.beriNama("Butt");
18         System.out.println(aa.panggilNama());
19         System.out.println(bb.perilaku());
20         bb.mengong();
21         aa.beriNama("Ter");
22         System.out.println(aa.panggilNama());
23         System.out.println(cc.perilaku());
24         cc.mengong();
25     }
26 }

```

modul8.TestPolymorphism > main >

Notifications Output - modul8 (run)

```

run:
Butt
Menyukai ikan
Meoww...
Ter
Menyukai daging dan tulang
Guk..Guk...
BUILD SUCCESSFUL (total time: 0 seconds)

```

25:6 INS

Tugas

1.

The screenshot shows the NetBeans IDE interface with the following details:

- Title Bar:** modul8 - NetBeans IDE 8.2
- Menu Bar:** File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
- Toolbar:** Standard NetBeans toolbar with icons for file operations.
- Projects Tab:** Shows the project structure with modules like bab7, JavaApplication1, modul6, and modul8, and source packages modul8 containing files Modul8.java, TestPolymorphism.java, anjingku.java, kucingku.java, hewan.java, elang.java, pet.java, and Test Packages.
- Navigator Tab:** Shows the members of the hewan class: hewan and jalan().
- Source Editor:** The current file is TestPolymorphism.java. The code defines a class hewan with a method jalan() that prints "Hewan bisa jalan". A tooltip for System.out.println("Hewan bisa jalan") is visible.
- Output Tab:** Shows the build and run logs:

```
modul8:hewan > jalan >
Notifications Output - modul8 (run) >
[INFO] Jalan dengan gagah
Hewan bisa jalan
BUILD SUCCESSFUL (total time: 0 seconds)
```
- Bottom Status Bar:** Shows the date and time as 14:45.

The screenshot shows the NetBeans IDE interface with the following details:

- Title Bar:** modul8 - NetBeans IDE 8.2
- Menu Bar:** File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
- Toolbar:** Includes icons for New, Open, Save, Cut, Copy, Paste, Find, and others.
- Project Explorer:** Shows packages: bab7, JavaApplication1, Javawising, modul6, and modul8. modul8 contains Source Packages (Modul8.java, TestPolymorphism.java, anjingku.java, customerdata.java, customerdatademo.java, elang.java, hewan.java, hewandemo.java, kucingku.java, pet.java) and Test Packages.
- Code Editor:** Displays the content of TestPolymorphism.java. The code defines a class `elang` that extends `hewan`. The `jalan()` method prints "Jalan dengan gagah".
- Output Window:** Shows the results of running the `elang` class. It outputs "Jalan dengan gagah" and "Hewan bisa jalan". The build status is "BUILD SUCCESSFUL (total time: 0 seconds)".

```

modul8 - NetBeans IDE 8.2
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
.../modul8/hewandemo.java <default config> ...
Source History | Search (Ctrl+F) ...
Projects Files Services ...
modul8
  + Source Packages
    + modul8
      + Modul8.java
      + TestPolymorphism.java
      + anjingku.java
      + customerdata.java
      + customerdatademo.java
      + elang.java
      + hewan.java
      + hewandemo.java
      + kucingku.java
      + pet.java
      + Test Packages
      + Libraries
  + Members <empty>
  + modul8
    + hewandemo
      + main(String[] args)
  + Palettes
  + Notifications Output - modul8 (run) ...
  + Jalan dengan gagah
  + Hewan bisa jalan
  + BUILD SUCCESSFUL (total time: 0 seconds)
  + 17:19 | INS

```

2. membuat class customer data

```

modul8 - NetBeans IDE 8.2
File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
.../modul8/customerdata.java <default config> ...
Source History | Search (Ctrl+F) ...
Projects Files Services ...
modul8
  + Source Packages
    + modul8
      + Modul8.java
      + TestPolymorphism.java
      + anjingku.java
      + customerdata.java
      + customerdatademo.java
      + elang.java
      + hewan.java
      + hewandemo.java
      + kucingku.java
      + pet.java
      + Test Packages
      + Libraries
  + Members <empty>
  + modul8
    + customerdatademo
      + main(String[] args)
  + Palettes
  + Notifications Output - modul8 (run) ...
  + customerdata.java(1)
  + nama: dotter
  + alamat: surakarta
  + pekerjaan: dokter
  + gaji: 300000
  + nama: gerry
  + alamat: surakarta
  + tglahir: 2
  + pekerjaan: pegawai
  + gaji: 200000
  + nama: ais
  + alamat: surakarta
  + tglahir: 3
  + 27:00 | INS

```

3. membuat class main

modul8 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Source History <default config...> Source & Search (Ctrl+F)

Projects > Files > Services > modul8 > Source Packages > modul8 > customerdatademo > customerdatademo.java

```
11 7
12 public class customerdatademo {
13     public static void main(String[] args) {
14         customerdata dd = new customerdata();
15         dd.overloading("vara", "surakarta", 10, "pengusaha", 5000000);
16
17         customerdata ee = new customerdata();
18         ee.overloading("eo", "surakarta", 05, "pns", 2500000);
19
20         customerdata ff = new customerdata();
21         ff.overloading("goe", "surakarta", 01, "dokter", 3000000);
22
23         customerdata gg = new customerdata();
24         gg.overloading("gev", "surakarta", 02, "pegawai", 2000000);
25
26         customerdata hh = new customerdata();
27         hh.overloading("ais", "surakarta", 03, "pns", 2500000);
28
29         customerdata ii = new customerdata();
30         ii.overloading("aisy", "surakarta", 04, "pengusaha", 3000000);
31
32         customerdata jj = new customerdata();
33         jj.overloading("aisyah", "surakarta", 05, "dokter", 4000000);
34
35         customerdata kk = new customerdata();
36         kk.overloading("var", "surakarta", 06, "pegawai", 1500000);
37
38
39
40
41
42
43
44
45
```

modul8.customerdatademo > Notifications Output - modul8 (run) >

43:7 INS

modul8 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Source History <default config...> Source & Search (Ctrl+F)

Projects > Files > Services > modul8 > Source Packages > modul8 > customerdatademo > customerdatademo.java

```
20
21     customerdata ff = new customerdata();
22     ff.overloading("goe", "surakarta", 01, "dokter", 3000000);
23
24     customerdata gg = new customerdata();
25     gg.overloading("gev", "surakarta", 02, "pegawai", 2000000);
26
27     customerdata hh = new customerdata();
28     hh.overloading("ais", "surakarta", 03, "pns", 2500000);
29
30     customerdata ii = new customerdata();
31     ii.overloading("aisy", "surakarta", 04, "pengusaha", 3000000);
32
33     customerdata jj = new customerdata();
34     jj.overloading("aisyah", "surakarta", 05, "dokter", 4000000);
35
36     customerdata kk = new customerdata();
37     kk.overloading("var", "surakarta", 06, "pegawai", 1500000);
38
39     customerdata ll = new customerdata();
40     ll.overloading("ra", "surakarta", 07, "pns", 2000000);
41
42     customerdata mm = new customerdata();
43     mm.overloading("sy", "surakarta", 10, "pengusaha", 4500000);
44 }
```

modul8.customerdatademo > Notifications Output - modul8 (run) >

42:45 INS

Hasilnya

The screenshot shows the NetBeans IDE interface with the title "modul8 - NetBeans IDE 8.2". The menu bar includes File, Edit, View, Navigate, Source, Refactor, Run, Debug, Profile, Team, Tools, Window, Help. The toolbar has icons for file operations like Open, Save, and Build. The Projects tab shows a tree view of the project structure under "modul8". The Services tab is also visible. The code editor displays `TestPolymorphism.java` with the following content:

```
...ve ... TestPolymorphism.java x hewan.java x elang.java x hewandemo.java x customerdata.java x customerdatademo.java x
Source History > modul8.customerdatademo > main >
Notifications x Output - modul8 (run) x

public class TestPolymorphism {
    public static void main(String[] args) {
        Elang elang = new Elang("var", "surakarta", 10, "pengusaha", 2000000);
        Kucingku kucingku = new Kucingku("go", "surakarta", 1, "peternakan", 2500000);
        Gajah gajah = new Gajah("ges", "surakarta", 1, "peternakan", 3000000);
        Gorila gorila = new Gorila("gawi", "surakarta", 3, "peternakan", 2000000);
        Ape ape = new Ape("ayu", "surakarta", 4, "peternakan", 4000000);
        Siswi siswi = new Siswi("asyiqah", "surakarta", 7, "peternakan", 1500000);
        Var var = new Var("var", "surakarta", 5, "peternakan", 2000000);
        Sya sya = new Sya("sy", "surakarta", 6, "peternakan", 1800000);

        System.out.println("Data Elang");
        System.out.println("Nama : " + elang.getNama());
        System.out.println("Alamat : " + elang.getAlamat());
        System.out.println("Umur : " + elang.getUmur());
        System.out.println("Pekerjaan : " + elang.getPekerjaan());
        System.out.println("Gaji : " + elang.getGaji());
        System.out.println();

        System.out.println("Data Kucingku");
        System.out.println("Nama : " + kucingku.getNama());
        System.out.println("Alamat : " + kucingku.getAlamat());
        System.out.println("Umur : " + kucingku.getUmur());
        System.out.println("Pekerjaan : " + kucingku.getPekerjaan());
        System.out.println("Gaji : " + kucingku.getGaji());
        System.out.println();

        System.out.println("Data Gajah");
        System.out.println("Nama : " + gajah.getNama());
        System.out.println("Alamat : " + gajah.getAlamat());
        System.out.println("Umur : " + gajah.getUmur());
        System.out.println("Pekerjaan : " + gajah.getPekerjaan());
        System.out.println("Gaji : " + gajah.getGaji());
        System.out.println();

        System.out.println("Data Gorila");
        System.out.println("Nama : " + gorila.getNama());
        System.out.println("Alamat : " + gorila.getAlamat());
        System.out.println("Umur : " + gorila.getUmur());
        System.out.println("Pekerjaan : " + gorila.getPekerjaan());
        System.out.println("Gaji : " + gorila.getGaji());
        System.out.println();

        System.out.println("Data Ape");
        System.out.println("Nama : " + ape.getNama());
        System.out.println("Alamat : " + ape.getAlamat());
        System.out.println("Umur : " + ape.getUmur());
        System.out.println("Pekerjaan : " + ape.getPekerjaan());
        System.out.println("Gaji : " + ape.getGaji());
        System.out.println();

        System.out.println("Data Siswi");
        System.out.println("Nama : " + siswi.getNama());
        System.out.println("Alamat : " + siswi.getAlamat());
        System.out.println("Umur : " + siswi.getUmur());
        System.out.println("Pekerjaan : " + siswi.getPekerjaan());
        System.out.println("Gaji : " + siswi.getGaji());
        System.out.println();

        System.out.println("Data Var");
        System.out.println("Nama : " + var.getNama());
        System.out.println("Alamat : " + var.getAlamat());
        System.out.println("Umur : " + var.getUmur());
        System.out.println("Pekerjaan : " + var.getPekerjaan());
        System.out.println("Gaji : " + var.getGaji());
        System.out.println();

        System.out.println("Data Sya");
        System.out.println("Nama : " + sya.getNama());
        System.out.println("Alamat : " + sya.getAlamat());
        System.out.println("Umur : " + sya.getUmur());
        System.out.println("Pekerjaan : " + sya.getPekerjaan());
        System.out.println("Gaji : " + sya.getGaji());
        System.out.println();
    }
}
```

The Navigator pane shows the members of the `main` method. The Output pane displays the results of the application's execution, listing details for each animal object (Elang, Kucingku, Gajah, Gorila, Ape, Siswi, Var, Sya) including name, address, age, profession, and salary.

The screenshot shows the NetBeans IDE interface with the title "modul8 - NetBeans IDE 8.2". The menu bar includes File, Edit, View, Navigate, Source, Refactor, Run, Debug, Profile, Team, Tools, Window, Help. The toolbar has icons for New Project, Open, Save, Run, Stop, and others. The Projects tab shows a tree view of the project structure:

- ...v1
- bab7
- JavaApplication1
- Javawising
- modul6
- modul8

 - Source Packages
 - modul8
 - Modul8.java
 - TestPolymorphism.java
 - anjingku.java
 - customerdata.java
 - customerdatademo.java
 - elang.java
 - hewan.java
 - hewandemo.java
 - kucingku.java
 - pet.java
 - Test Packages
 - Libraries

The Navigator tab shows the members of the main class:

- Members <empty>
- customerdatademo
- main(String[] args)

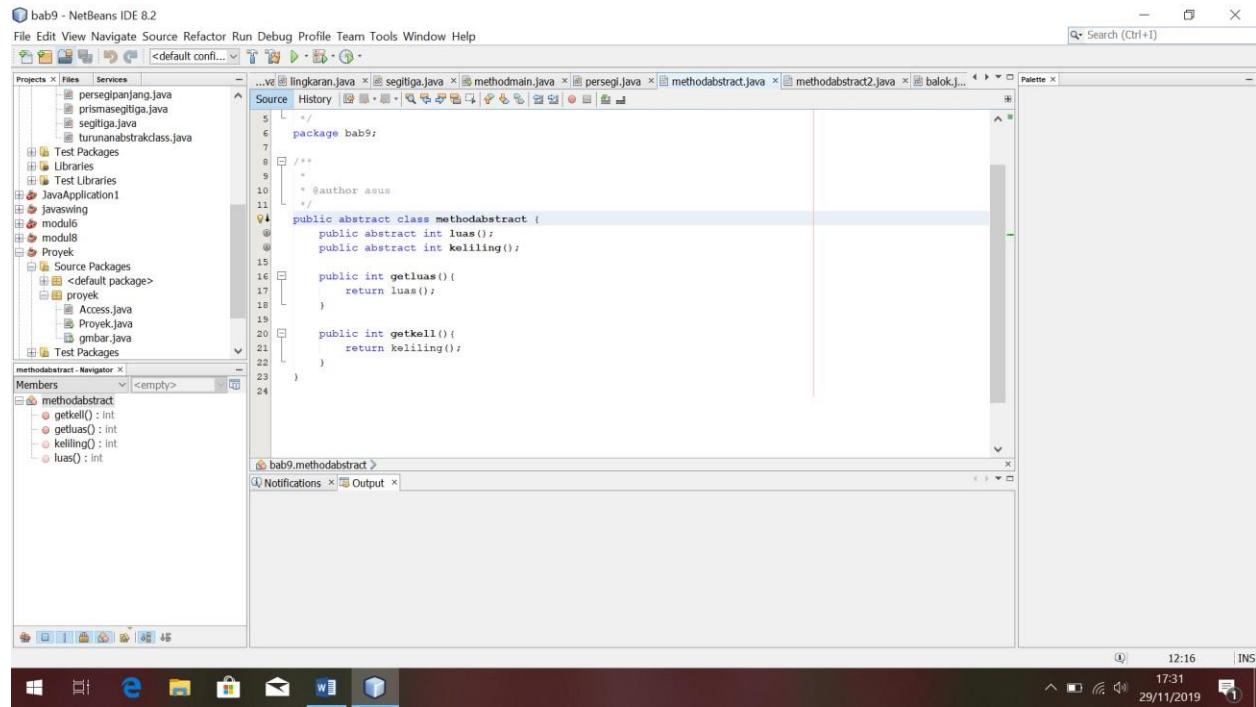
The Editor tab shows the content of the main class:java package modul8.customerdatademo; public class main { public static void main(String[] args) { System.out.println("gaji: 5000000"); System.out.println("nam: vix"); System.out.println("alamat: surakarta"); System.out.println("tlhlahir: 5"); System.out.println("pekerjaan: pmk"); System.out.println("gaji: 2000000"); System.out.println("nam: gow"); System.out.println("alamat: surakarta"); System.out.println("tlhlahir: 1"); System.out.println("pekerjaan: dokter"); System.out.println("gaji: 3000000"); System.out.println("nam: gow"); System.out.println("alamat: surakarta"); System.out.println("tlhlahir: 1"); System.out.println("pekerjaan: pegawai"); System.out.println("gaji: 2000000"); System.out.println("nam: aik"); System.out.println("alamat: surakarta"); System.out.println("tlhlahir: 1"); System.out.println("pekerjaan: pmk"); System.out.println("gaji: 2500000"); System.out.println("nam: aik"); System.out.println("alamat: surakarta"); System.out.println("tlhlahir: 4"); System.out.println("pekerjaan: pengusaha"); System.out.println("gaji: 3000000"); System.out.println("nam: aik"); System.out.println("alamat: surakarta"); System.out.println("tlhlahir: 5"); System.out.println("pekerjaan: dokter"); System.out.println("gaji: 4000000"); System.out.println("nam: vix"); System.out.println("alamat: surakarta"); System.out.println("tlhlahir: 1"); System.out.println("pekerjaan: pegawai"); System.out.println("gaji: 1500000"); System.out.println("nam: re"); System.out.println("alamat: surakarta"); System.out.println("tlhlahir: 10"); System.out.println("pekerjaan: pengusaha"); System.out.println("gaji: 4500000"); } }

The Output tab shows the build results:

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

Laporan Praktikum PBO Modul 9 Abstract Class

Latihan



The screenshot shows the NetBeans IDE interface with the following details:

- File Menu:** File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help
- Toolbar:** Standard NetBeans toolbar with icons for file operations.
- Project Explorer:** Shows various Java files and packages under the project "bab9".
- Code Editor:** Displays the code for the abstract class `methodabstract.java`. The code is as follows:

```
1 package bab9;
2
3 /**
4 * @author susus
5 */
6 public abstract class methodabstract {
7     public abstract int luas();
8     public abstract int keliling();
9
10    public int getluas() {
11        return luas();
12    }
13
14    public int getkell() {
15        return keliling();
16    }
17}
18
19
20
21
22}
```

- Navigator:** Shows the members of the `methodabstract` class, which include `getkell()`, `getluas()`, `kelling()`, and `luas()`.
- Output:** Shows the output of the build process.
- System Tray:** Shows the date (29/11/2019), time (12:16), and battery level (17:31).

bab9 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services <default config...> T S D C P

Source History ... Search (Ctrl+F) Palette

...Vc objekabstrakclass.java turunanabstrakclass.java persegiapanjang.java jajargenjang.java lingkaran.java segitiga.java...

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 bab9;
7
8 /**
9 *
10 * @author asus
11 */
12 public class persegiapanjang extends methodabstract {
13 int panjang = 3;
14 int lebar = 5;
15
16 public int luas(){
17 return panjang * lebar;
18 }
19
20 public int keliling(){
21 return 2 * (panjang + lebar);
22 }
23 }
bab9.persegiapanjang >

persegiapanjang - Navigator
Members <empty>
persegiapanjang :: methodabstract
- kelling(): int
- luas(): int
- lebar : int
- panjang : int

Notifications Output

12:28 29/11/2019

bab9 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services <default config...> T S D C P

Source History ... Search (Ctrl+F) Palette

...Vc objekabstrakclass.java turunanabstrakclass.java persegiapanjang.java jajargenjang.java lingkaran.java segitiga.java...

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 bab9;
7
8 /**
9 *
10 * @author asus
11 */
12 public class jajargenjang extends methodabstract {
13 int a = 3;
14 int b = 5;
15 int t = 0;
16
17 public int luas(){
18 return a * t;
19 }
20
21 public int keliling(){
22 return 2 * (a+b);
23 }
24 }
bab9.jajargenjang >

jajargenjang - Navigator
Members <empty>
jajargenjang :: methodabstract
- kelling(): int
- luas(): int
- a : int
- t : int

Notifications Output

12:49 29/11/2019

bab9 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services

Source History ... Search (Ctrl+F)

...Vc objekabstrakclass.java turunanabstrakclass.java persegiapanjang.java jalargenjang.java lingkarang.java segitiga.java...

Palettes

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 bab9;
7
8 /**
9 *
10 * @author asus
11 */
12 public class lingkarang extends methodabstrack {
13 int r = 20;
14 double phi = 3.14f;
15
16 public int luas(){
17 return (int) (phi * r * r);
18 }
19
20 public int keliling(){
21 return (int) (2 * phi * r);
22 }
23 }
bab9.lingkarang >

Notifications Output

12:46 29/11/2019

bab9 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services

Source History ... Search (Ctrl+F)

...Vc turunanabstrakclass.java persegiapanjang.java jalargenjang.java lingkarang.java segitiga.java methodmain.java...

Palettes

4 /*
5 * To change this license header, choose License Headers in Project Properties.
6 * To change this template file, choose Tools | Templates
7 * and open the template in the editor.
8 */
9 package bab9;
10
11 /**
12 *
13 * @author asus
14 */
15 public class segitiga extends methodabstrack{
16 int a = 3;
17 int b = 5;
18 int c = 4;
19 int t = 7;
20 double stgh = 0.5f;
21
22 public int luas(){
23 return (int) (stgh * a * t);
24 }
25
26 public int keliling(){
27 return a + b + c;
28 }
bab9.segitiga >

Notifications Output

12:45 29/11/2019

bab9 - NetBeans IDE 8.2

The screenshot shows the NetBeans IDE interface with the following details:

- Projects:** bab9, JavaApplication1, Javawsing, modul6, modul8, Proyek.
- Source Packages:** <default package>, proyek, Access.java, Proyek.java, gmbar.java.
- Code Editor:** The current file is `persegi.java`, which extends `methodabstract`. It contains methods `kelling()` and `luas()`.
- Navigator:** Shows members of the `persegi` class.
- Output:** No output is present.
- System Tray:** Shows the date and time as 29/11/2019 17:31.

```

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 bab9;
7
8 /**
9  *
10 * @author asus
11 */
12 public class persegi extends methodabstract{
13     int sisi = 5;
14
15     public int luas(){
16         return sisi*sisi;
17     }
18
19     public int kelling(){
20         return 4*sisi;
21     }
22 }

```

bab9 - NetBeans IDE 8.2

The screenshot shows the NetBeans IDE interface with the following details:

- Projects:** bab9, JavaApplication1, Javawsing, modul6, modul8, Proyek.
- Source Packages:** <default package>, proyek, Access.java, Proyek.java, gmbar.java.
- Code Editor:** The current file is `methodmain.java`, which contains a `main` method that creates instances of `persegi`, `persegiPanjang`, `lingkaran`, and `segitiga` and prints their perimeters and areas.
- Output:** The output window shows the following text:

```

Kelling persegi : 20
Luas persegi : 25
Kelling persegiPanjang : 16
Luas persegiPanjang : 25
Kelling lingkaran : 31.42
Luas lingkaran : 78.54
Kelling segitiga : 15
Luas segitiga : 10

```

System Tray: Shows the date and time as 29/11/2019 17:32.

Hasil output

bab9 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects **JavaApplication1**

Files Services

```

...\\|_ Jajargenjang.java |_ lingkaran.java |_ segitiga.java |_ methodmain.java |_ persegi.java |_ methodabstract.java |_ methodabstr...
|_ bola.java
|_ jajargenjang.java
|_ kerucut.java
|_ kubus.java
|_ lingkaran.java
|_ methodabstract.java
|_ methodabstract2.java
|_ methodmain.java
|_ methodmain2.java
|_ objekabstrakclass.java
|_ persegi.java
|_ persegiapanjang.java
|_ prismssegitiga.java
|_ turunanabstrakclass.java

```

Navigator x Members <empty>

Members methodmain

- main(String[] args)

Q Notifications x Output - bab9 (run) x

```

Kelling persegi : 20
Luas persegi : 28
Kelling persegiapanjang : 16
Luas persegiapanjang : 16
Luas jajargenjang : 16
Luas jajargenjang : 24
Kelling lingkaran : 128
Luas lingkaran : 128
Luas persegi : 12
Luas segitiga : 10
BUILD SUCCESSFUL (total time: 0 seconds)

```

Palettes x

Search (Ctrl+F)

17:19 INS

Tugas

bab9 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects **JavaApplication1**

Files Services

```

...\\|_ methodabstract2.java |_ balok.java |_ kubus.java |_ bola.java |_ kerucut.java |_ methodmain2.java |_ prismssegitiga.java
|_ bola.java
|_ jajargenjang.java
|_ kerucut.java
|_ kubus.java
|_ lingkaran.java
|_ methodabstract.java
|_ methodabstract2.java
|_ methodmain.java
|_ methodmain2.java
|_ objekabstrakclass.java
|_ persegi.java
|_ persegiapanjang.java
|_ prismssegitiga.java
|_ segitiga.java
|_ turunanabstrakclass.java

```

Test Packages Libraries Test Libraries

getluaspermukaan - Navigator x Members <empty>

Members methodabstract2

- getluaspermukaan() : int
- getvolume() : int
- luaspermukaan() : int
- volume() : int

bab9.methodabstract2 > getluaspermukaan >

Q Notifications x Output - bab9 (run) x

```

Volume balok : 24
Luas permukaan balok : 62
Volume Kubus : 216
Luaspermukaan kubus : 216
Volume kerucut : 402
Luas permukaan kerucut : 402
Luaspermukaan prismssegitiga : 92
BUILD SUCCESSFUL (total time: 0 seconds)

```

Palettes x

Search (Ctrl+F)

17:34 21:32 INS

bab9 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects JavaApplication1

Source History ... Search (Ctrl+F)

```

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 bab9;
7
8 /**
9  *
10  * @author asus
11  */
12 public class balok extends methodabstract2 {
13     int p = 4;
14     int l = 3;
15     int t = 2;
16
17     public int volume() {
18         return p * l * t;
19     }
20
21     public int luaspermukaan() {
22         return 2 * (p * t + p * l + l * t);
23     }
24 }

```

Notifications Output - bab9 (run) x

```

Volume balok : 24
Luas permukaan balok : 62
volume kubus : 216
luaspermukaan kubus : 216
Volume bola : 4196
Volume kerucut : 1256
Volume persegipanjang : 502
Volume prismsegitiga : 60
Luaspermukaan prismsegitiga : 92
BUILD SUCCESSFUL (total time: 0 seconds)

```

22:45 1735 29/11/2019

bab9 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects JavaApplication1

Source History ... Search (Ctrl+F)

```

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 bab9;
7
8 /**
9  *
10  * @author asus
11  */
12 public class kubus extends methodabstract2 {
13     int s = 6;
14
15     public int volume() {
16         return s * s * s;
17     }
18
19     public int luaspermukaan() {
20         return 6 * s * s;
21     }
22 }

```

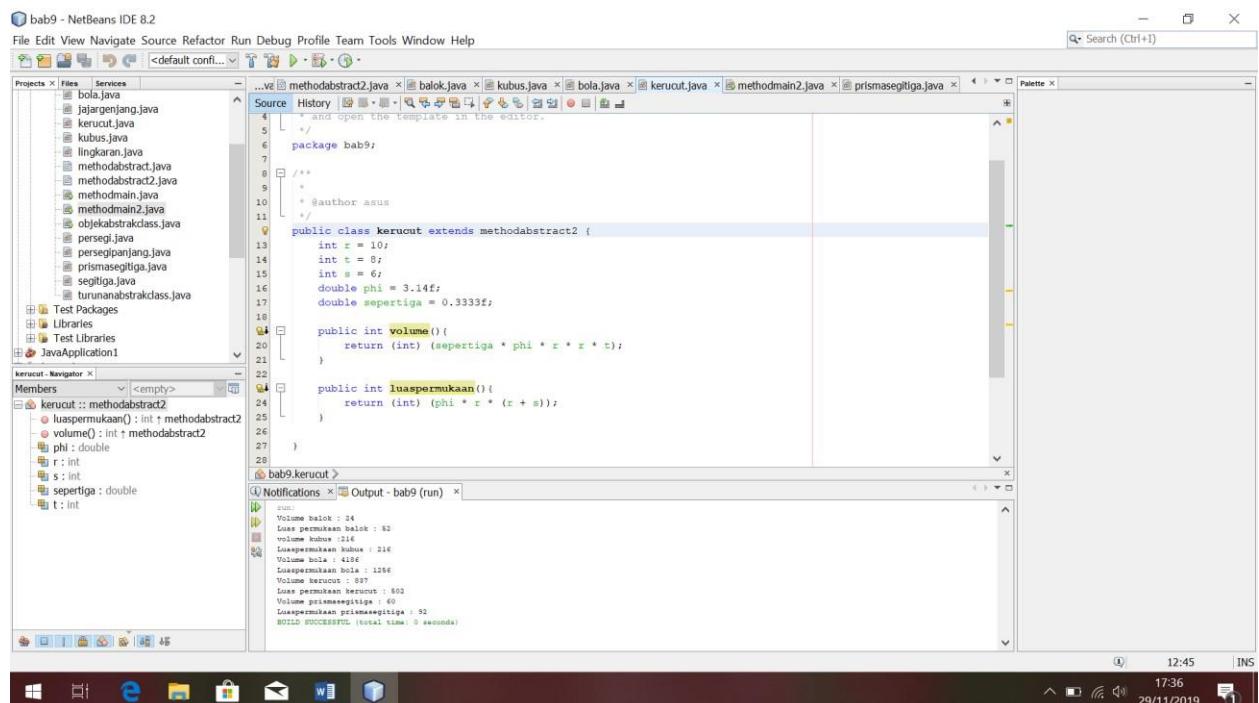
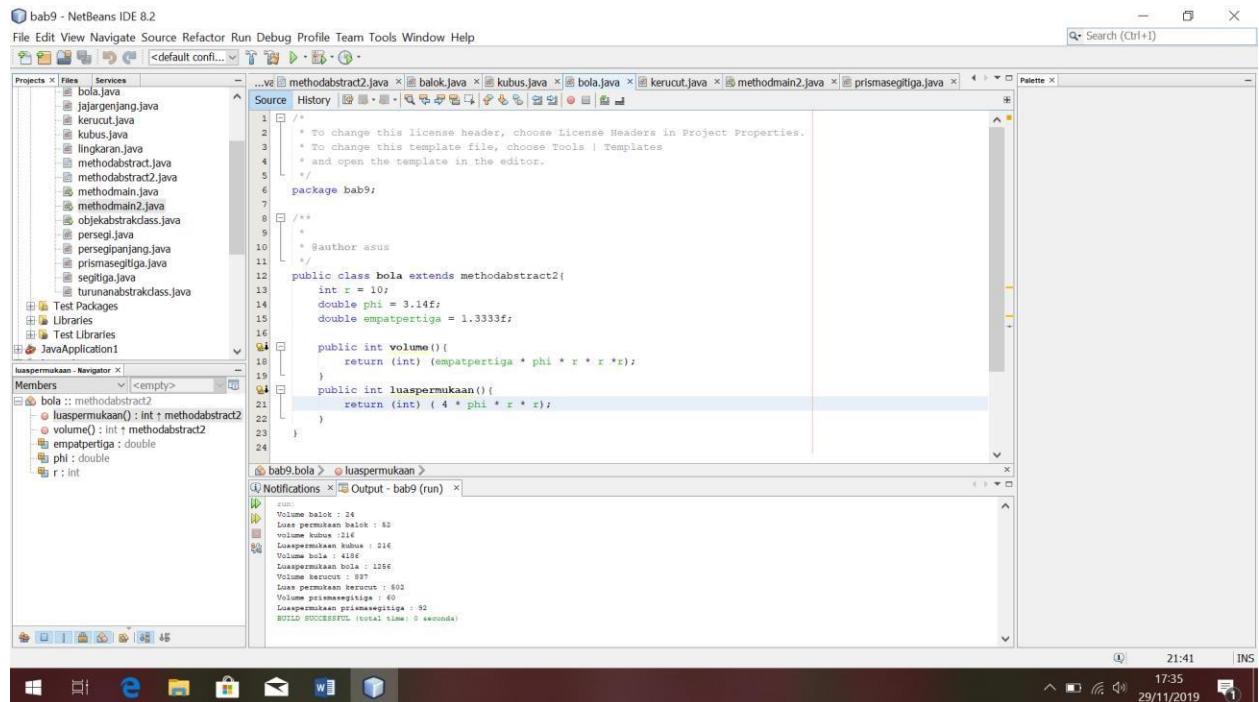
Notifications Output - bab9 (run) x

```

Volume balok : 24
Luas permukaan balok : 62
volume kubus : 216
luaspermukaan kubus : 216
Volume bola : 4196
Volume kerucut : 1256
Volume persegipanjang : 502
Volume prismsegitiga : 60
Luaspermukaan prismsegitiga : 92
BUILD SUCCESSFUL (total time: 0 seconds)

```

20:26 1735 29/11/2019



The screenshot shows the NetBeans IDE 8.2 interface with the following details:

- Project:** bab9 - NetBeans IDE 8.2
- Source Editor:** Shows the `methodmain2.java` file containing Java code to calculate the volume and surface area of a cube, rectangular prism, cylinder, and cone.
- Output Window:** Displays the command-line output of the program execution, showing the calculated volume and surface area for each shape.
- System Tray:** Shows the date (29/11/2019), time (17:36), and battery status.

```
bab9.methodmain2 > @ main >
bab9.methodmain2 > Output - bab9 (run) >
Volume balok : 24
Luas permukaan balok : 62
volume kubus : 216
Luas permukaan kubus : 216
Volume bola : 4196
Luaspermukaan bola : 1256
Volume kerucut : 897
Volume permukaan kerucut : 803
Volume prismssegitiga : 40
Luaspermukaan prismssegitiga : 92
BUILD SUCCESSFUL (total time: 0 seconds)
```

Hasil output

The screenshot shows the NetBeans IDE 8.2 interface with the following details:

- Project:** bab9 - NetBeans IDE 8.2
- Source Editor:** Shows the `methodmain2.java` file containing Java code to calculate the volume and surface area of a cube, rectangular prism, cylinder, and cone.
- Output Window:** Displays the command-line output of the program execution, showing the calculated volume and surface area for each shape.
- System Tray:** Shows the date (29/11/2019), time (17:37), and battery status.

```
bab9.methodmain2 > @ main >
bab9.methodmain2 > Output - bab9 (run) >
Volume balok : 24
Luas permukaan balok : 62
volume kubus : 216
Luaspermukaan kubus : 216
Volume bola : 4196
Luaspermukaan bola : 1256
Volume kerucut : 897
Volume permukaan kerucut : 803
Volume prismssegitiga : 40
Luaspermukaan prismssegitiga : 92
BUILD SUCCESSFUL (total time: 0 seconds)
```

Tugas Modul 10 Prak.PBO

Interface

Modul10 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services default config... Source History ... Output.java NamaInterface.java ActivityAnimal.java ActivityLampu.java AplikasiLampu.java Lampu.java Mammal.java

Source Packages <default package> ActivityAnimal.java ActivityLampu.java AplikasiLampu.java Lampu.java Mammal.java NamaInterface.java Test Packages Libraries Test Libraries modul6 modul8

Members <empty>

ActivityLampu :: none

- hidupkanLampu()
- matikanLampu()
- redupkanLampu()

LAMPU_HIDUP : int

LAMPU_MATI : int

LAMPU_REDUP : int

ActivityLampu > redupkanLampu

Modul10 (run) x Modul10 (run) #2 x

```
1 /* To change this license header, choose License Headers in Project Properties.
2 * To change this template file, choose Tools | Templates
3 * and open the template in the editor.
4 */
5 /**
6  * @author ASUS_White
7 */
8 public interface ActivityLampu {
9     public static final int LAMPU_HIDUP=1;
10    public static final int LAMPU_MATI=0;
11    public abstract void matikanLampu();
12    public abstract void hidupkanLampu();
13    public abstract void redupkanLampu();
14 }
```

Modul10 (run) x Modul10 (run) #2 x

```
1 Status Lampu = 0
2 ketika 0 untuk menyalaikan lampu
3 0 untuk mematikan lampu
4 2 untuk meredupkan lampu
5 2 lampu sudah dalam kondisi redup
...
BUILD SUCCESSFUL (total time: 5 seconds)
```

Modul10 (run) running... (1 more...) 17:42 INS

Modul10 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services default config... Source History ... Output.java NamaInterface.java ActivityAnimal.java ActivityLampu.java AplikasiLampu.java Lampu.java Mammal.java

Source Packages <default package> ActivityAnimal.java ActivityLampu.java AplikasiLampu.java Lampu.java Mammal.java NamaInterface.java Test Packages Libraries Test Libraries modul6 modul8

main - Navigator > <empty>

Members <empty>

AplikasiLampu :: main(String[] args)

ActivityLampu > main > if (lampu.setSaklar(a) == 0) else if (lampu.setSaklar(a) == 1) else >

Modul10 (run) x Modul10 (run) #2 x

```
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 /**
7  * @author ASUS_White
8 */
9 public class AplikasiLampu {
10    public static void main(String[] args){
11        Lampu lampu = new Lampu();
12        Scanner sc = new Scanner(System.in);
13        lampu.setStatusLampu = lampu.setSaklar(10);
14        System.out.println("status Lampu = "+lampu.getStatusLampu+"\nketikkan");
15        System.out.println("1 untuk menyalaikan lampu\n0 untuk mematikan lampu\n2 untuk meredupkan lampu\n2 lampu sudah dalam kondisi redup");
16
17        int a = sc.nextInt();
18        if(lampu.setSaklar(a)==0){
19            lampu.matikanLampu();
20        }else if(lampu.setSaklar(a)==1){
21            lampu.hidupkanLampu();
22        }else{
23            lampu.redupkanLampu();
24        }
25    }
26}
27
28
29}
```

Modul10 (run) x Modul10 (run) #2 x

```
1 Status Lampu = 0
2 ketika 0 untuk menyalaikan lampu
3 0 untuk mematikan lampu
4 2 untuk meredupkan lampu
5 2 lampu sudah dalam kondisi redup
...
BUILD SUCCESSFUL (total time: 5 seconds)
```

Modul10 (run) running... (1 more...) 26:35 INS

Modul10 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services <default config...> Search (Ctrl+F)

Source History | ActivityAnimal.java | ActivityLampu.java | AplikasiLampu.java | Lampu.java | Main.java | Palette x

```

11 public class Lampu implements ActivityLampu {
12     public int statusLampu;
13
14     @Override
15     public void matikanLampu() {
16         if(statusLampu==0){
17             System.out.println("Lampu sudah dalam kondisi mati");
18         }else if(statusLampu==1){
19             statusLampu=-1;
20             System.out.println("Lampu sudah dimatikan");
21         }
22     }
23
24     @Override
25     public void hidupkanLampu() {
26         if(statusLampu==1){
27             System.out.println("Lampu sudah dinyalakan\n***");
28         }else{
29             statusLampu=1;
30             System.out.println("Lampu sudah dalam kondisi menyala");
31         }
32     }
33
34     @Override
35     public void redupkanLampu() {
36         if(statusLampu==2){
37             System.out.println("Lampu sudah dalam kondisi redup\n***");
38         }else{
39             statusLampu+=2;
40             System.out.println("Lampu sudah diredukan");
41         }
42     }
43
44     public int setSaklar(int saklar) {
45         return statusLampu = saklar;
46     }
47
48     Lampu > setSaklar >
49     Notifications x Output x
50 Modul10 (run) x Modul10 (run) #2 x

```

Modul10 (run) running... (1 more...) 43:6 INS

Hasil Output

Modul10 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Projects Files Services <default config...> Search (Ctrl+F)

Source History | ActivityAnimal.java | ActivityLampu.java | AplikasiLampu.java | Lampu.java | Main.java | Palette x

```

11 public class Lampu implements ActivityLampu {
12     public int statusLampu;
13
14     @Override
15     public void matikanLampu() {
16         Lampu > setSaklar >
17         Notifications x Output x
18         Modul10 (run) x Modul10 (run) #2 x
19
20         Status Lampu = 0
21         ketika...
22         untuk menyala lampu
23         0 untuk mematikan lampu
24         1 untuk meredupkan lampu
25         2 untuk hidupkan lampu
26         *** untuk sudah dalam kondisi redup
27         ***
28         BUILD SUCCESSFUL (total time: 5 seconds)

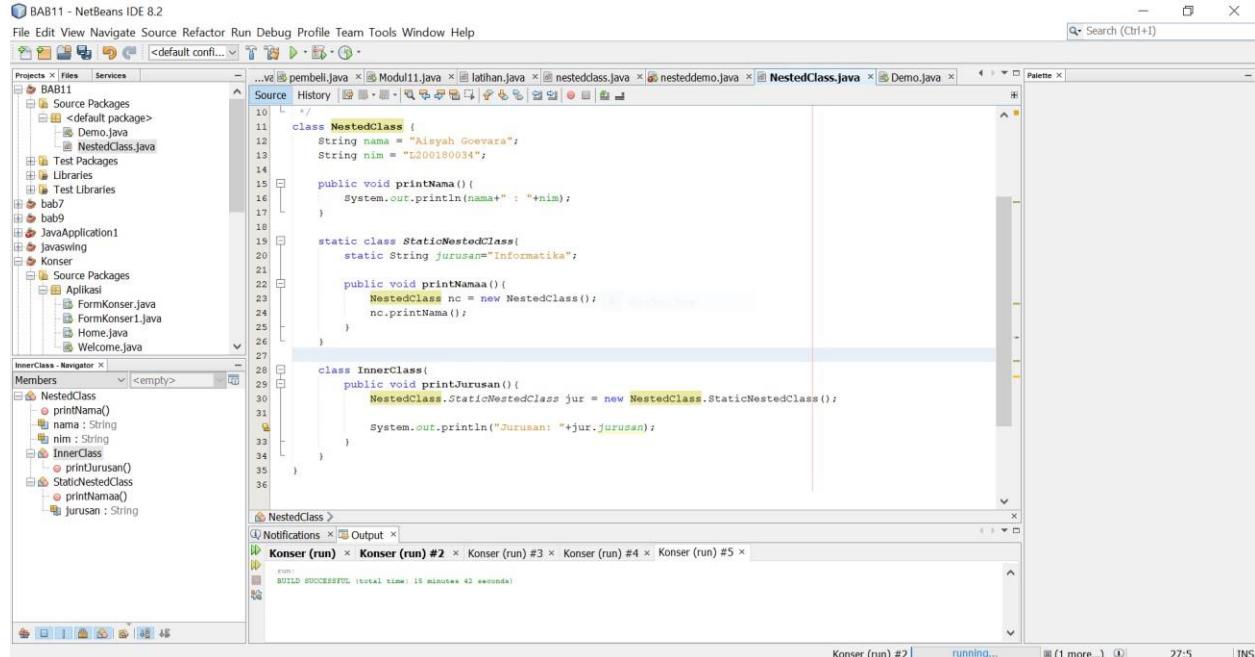
```

Modul10 (run) running... (1 more...) 43:6 INS

Laporan Modul 11 Praktikum PBO

Class Nested

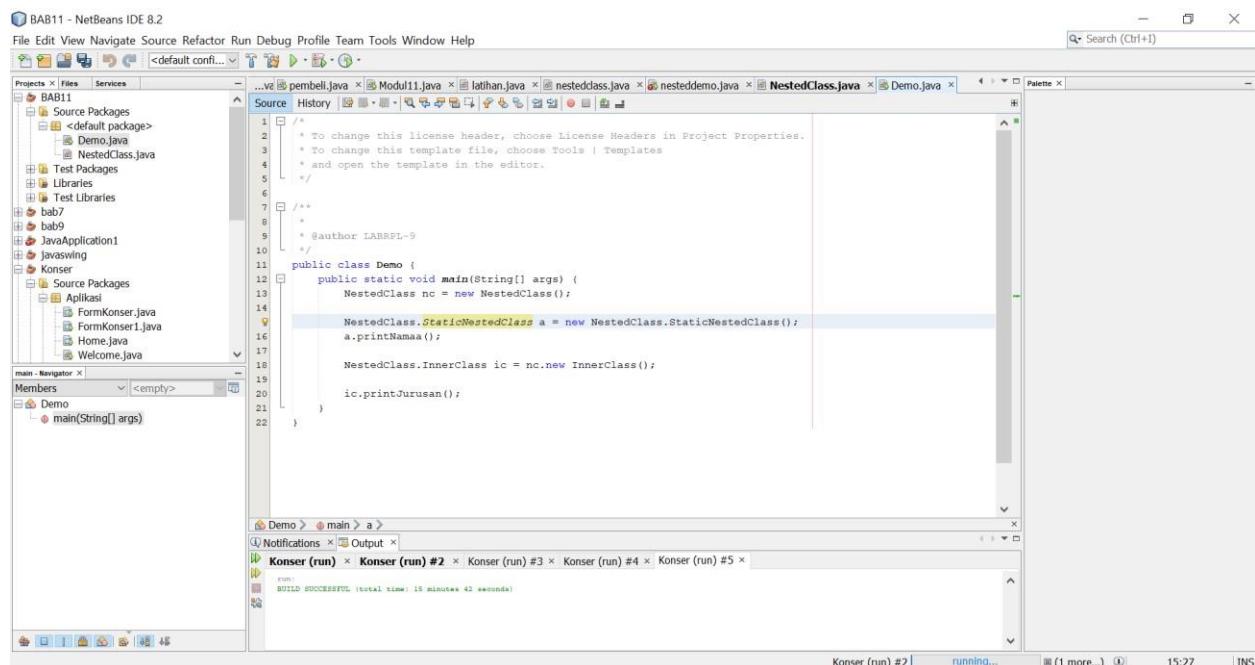
Latihan



```
10  /*
11   * To change this license header, choose License Headers in Project Properties.
12   * To change this template file, choose Tools | Templates
13   * and open the template in the editor.
14   */
15  class NestedClass {
16      String nama = "Aisyah Goewara";
17      String nim = "L200180034";
18
19      public void printNama() {
20          System.out.println(nama+" : "+nim);
21      }
22
23      static class StaticNestedClass{
24          static String jurusan="Informatika";
25
26          public void printNamaa(){
27              NestedClass nc = new NestedClass();
28              nc.printNama();
29          }
30
31          public void printJurusan(){
32              NestedClass.StaticNestedClass jur = new NestedClass.StaticNestedClass();
33
34              System.out.println("Jurusan: "+jur.jurusan);
35          }
36      }
37
38      class InnerClass{
39          public void printJurusan(){
40              NestedClass.StaticNestedClass jur = new NestedClass.StaticNestedClass();
41
42              System.out.println("Jurusan: "+jur.jurusan);
43          }
44      }
45  }
```

Konser (run) #2 | running... | (1 more...) | 27:5 | INS

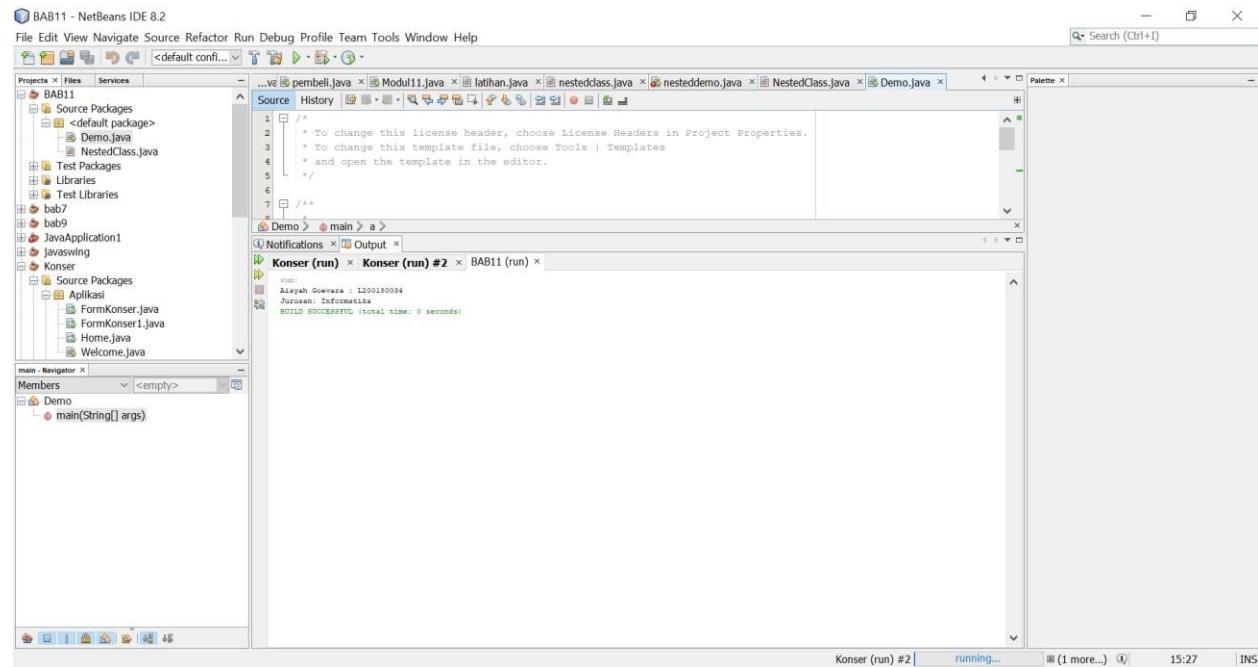
Class demo



```
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
7  /**
8   * @author LABRPL~9
9   */
10 public class Demo {
11     public static void main(String[] args) {
12         NestedClass nc = new NestedClass();
13
14         NestedClass.StaticNestedClass a = new NestedClass.StaticNestedClass();
15         a.printNamaa();
16
17         NestedClass.InnerClass ic = nc.new InnerClass();
18
19         ic.printJurusan();
20     }
21 }
22
```

Konser (run) #2 | running... | (1 more...) | 15:27 | INS

Output



```
/* To change this license header, choose License Headers in Project Properties.
 * To change this template file, choose Tools | Templates
 * and open the template in the editor.
 */
public class Demo {
    public static void main(String[] args) {
    }
}
```

Output pane content:

```
Konser (run) x Konser (run) #2 x BAB11 (run) x
...
Konser (run) #2 | running... | (1 more...) | 15:27 | INS
```

Laporan Praktikum PBO Modul 12

GUI

The screenshot shows the NetBeans IDE interface with the title "Modul 12 - NetBeans IDE 8.2". The left pane displays the Navigator with project structure: Assignment, GUI, LayoutManager, and Modul 12. Under Modul 12, Source Packages contains a default package with files: DemRadioButton.java, DemoLabel.java, DemoTextField.java, FrameA.java, FrameB.java, JComboBox.java, JMenu.java, and Utama.java. The right pane shows the code editor with the following Java code:

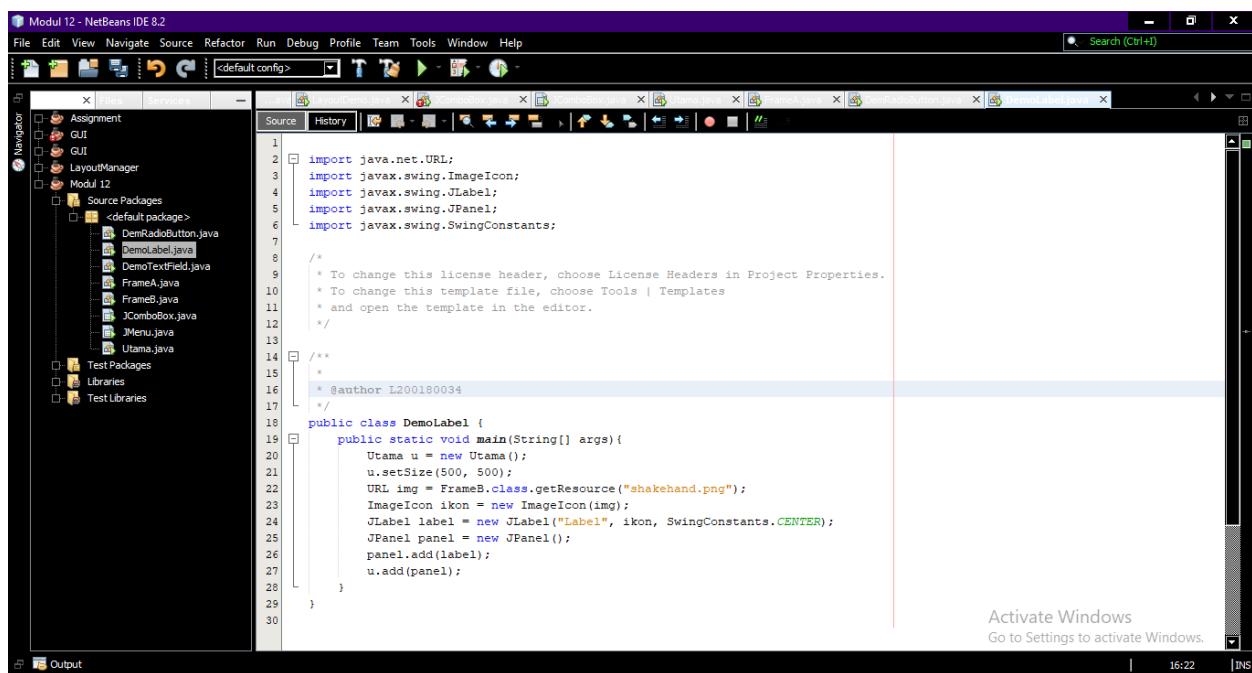
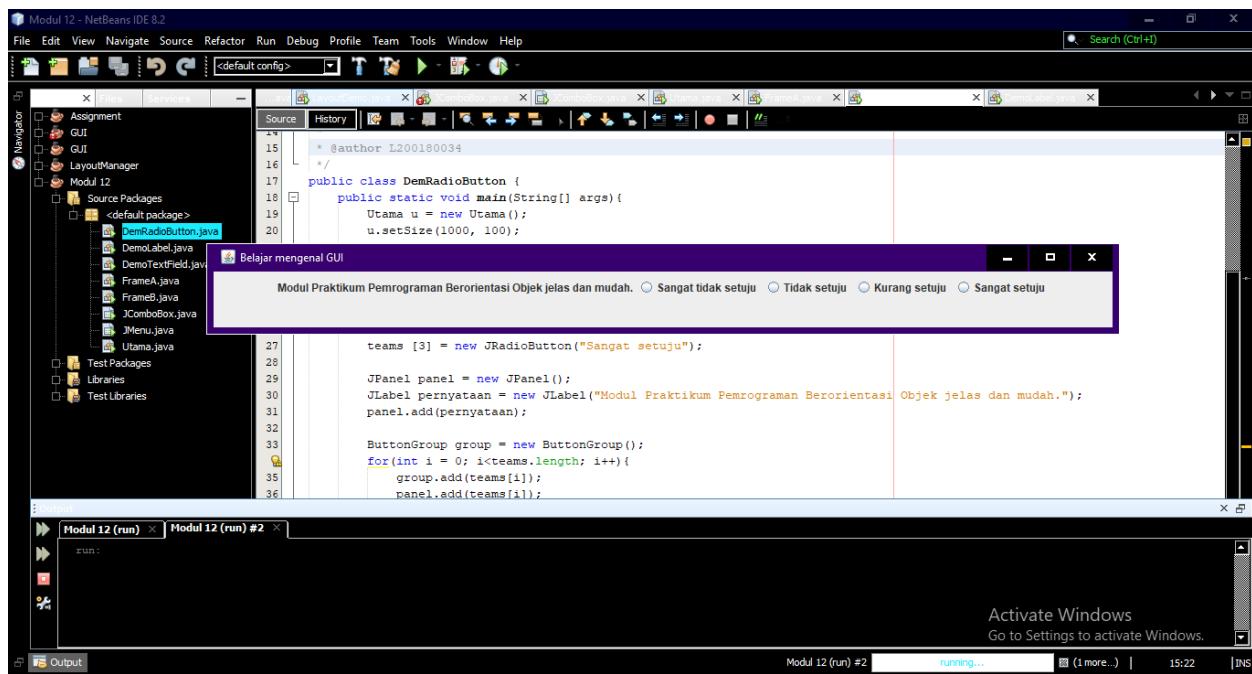
```
1 import javax.swing.ButtonGroup;
2 import javax.swing.JLabel;
3 import javax.swing.JPanel;
4 import javax.swing.JRadioButton;
5
6 /*
7  * To change this license header, choose License Headers in Project Properties.
8  * To change this template file, choose Tools | Templates
9  * and open the template in the editor.
10 */
11
12 /**
13  * @author L200180034
14  */
15
16 public class DemRadioButton {
17     public static void main(String[] args) {
18         Utama u = new Utama();
19         u.setSize(1000, 100);
20
21         JRadioButton[] teams = new JRadioButton[4];
22         teams [0] = new JRadioButton("Sangat tidak setuju");
23         teams [1] = new JRadioButton("Tidak setuju");
24         teams [2] = new JRadioButton("Kurang setuju");
25         teams [3] = new JRadioButton("Setuju", true);
26         teams [3] = new JRadioButton("Sangat setuju");
27
28         JPanel panel = new JPanel();
29         JLabel pernyataan = new JLabel("Modul Praktikum Pemrograman Berorientasi Objek jelas dan mudah.");
30         panel.add(pernyataan);
31
32         ButtonGroup group = new ButtonGroup();
33         for(int i = 0; i<teams.length; i++){
34             group.add(teams[i]);
35             panel.add(teams[i]);
36         }
37
38         u.add(panel);
39         u.setVisible(true);
40     }
41 }
42
43
```

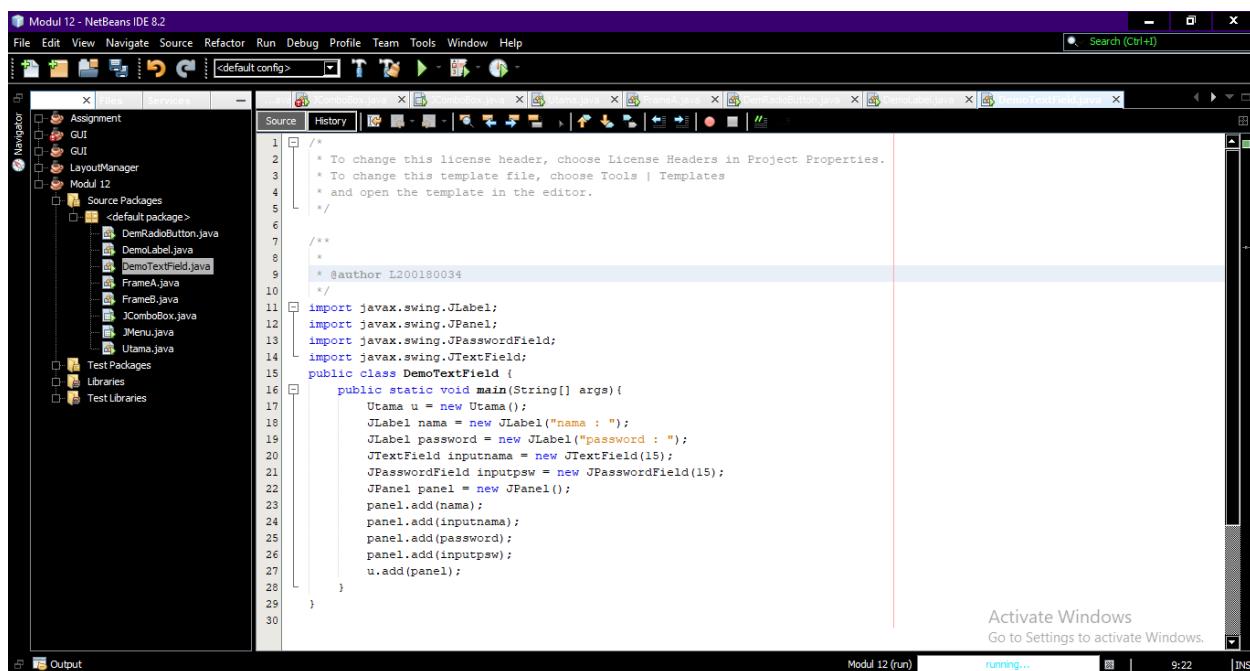
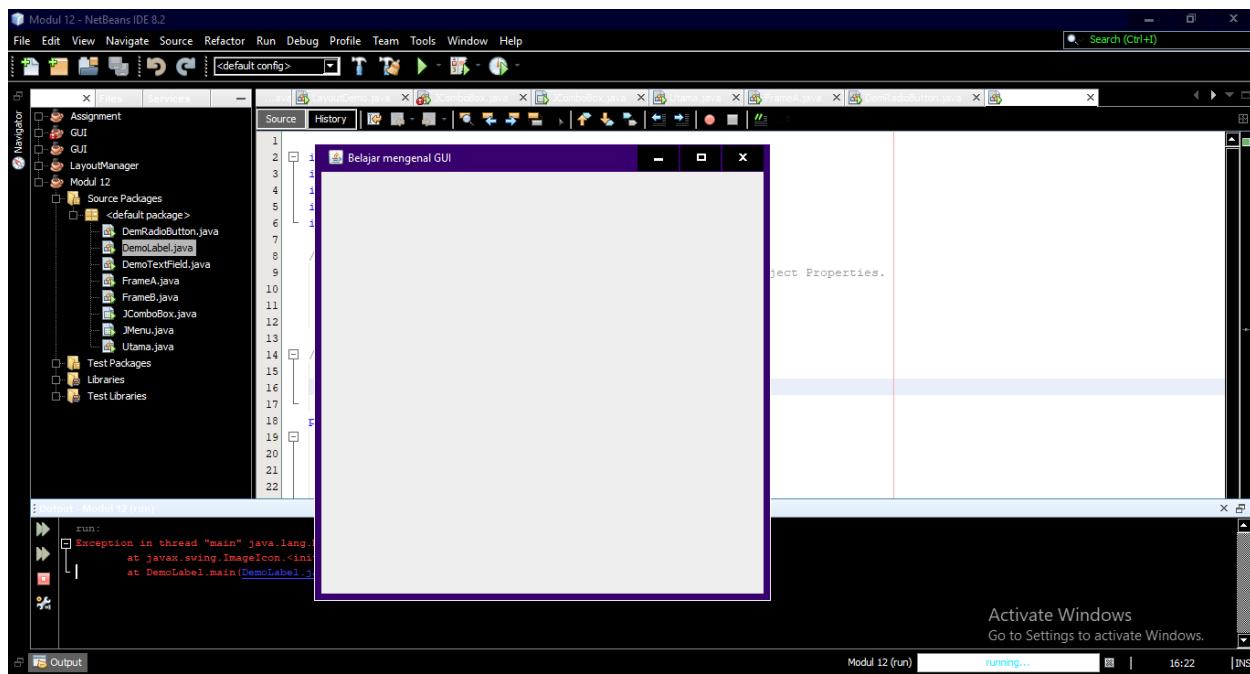
The status bar at the bottom indicates "Modul 12 (run) running... 15:22 INS". A watermark "Activate Windows Go to Settings to activate Windows." is visible in the center.

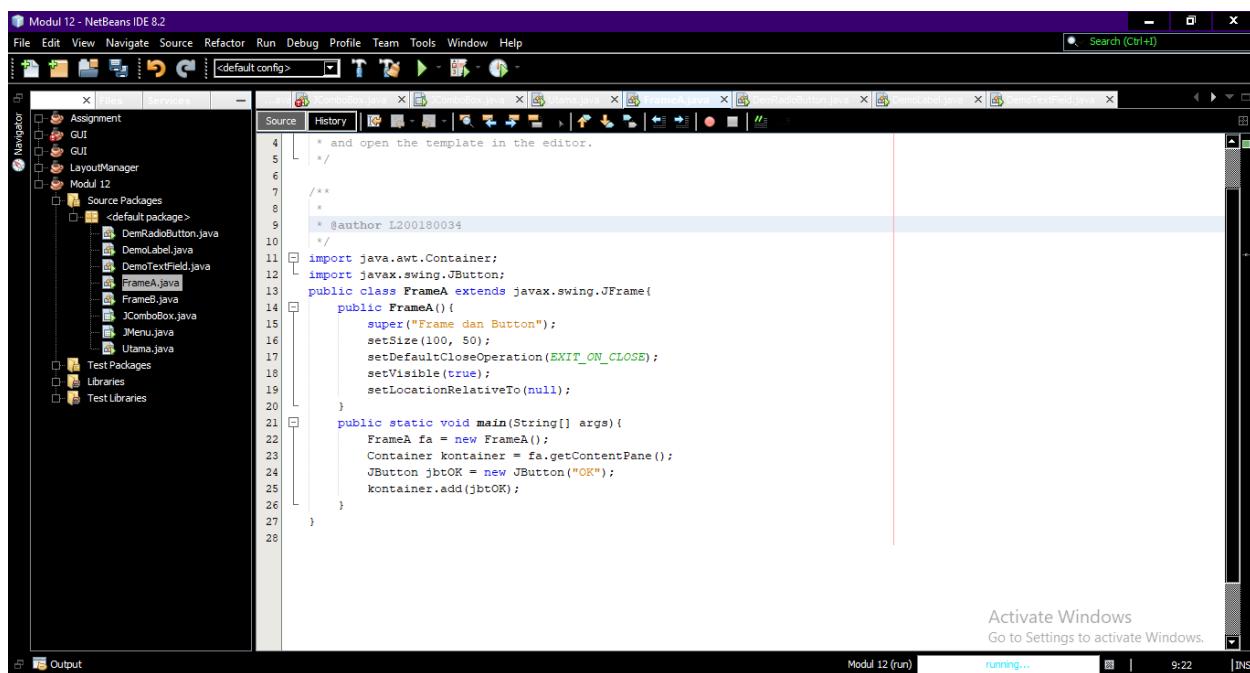
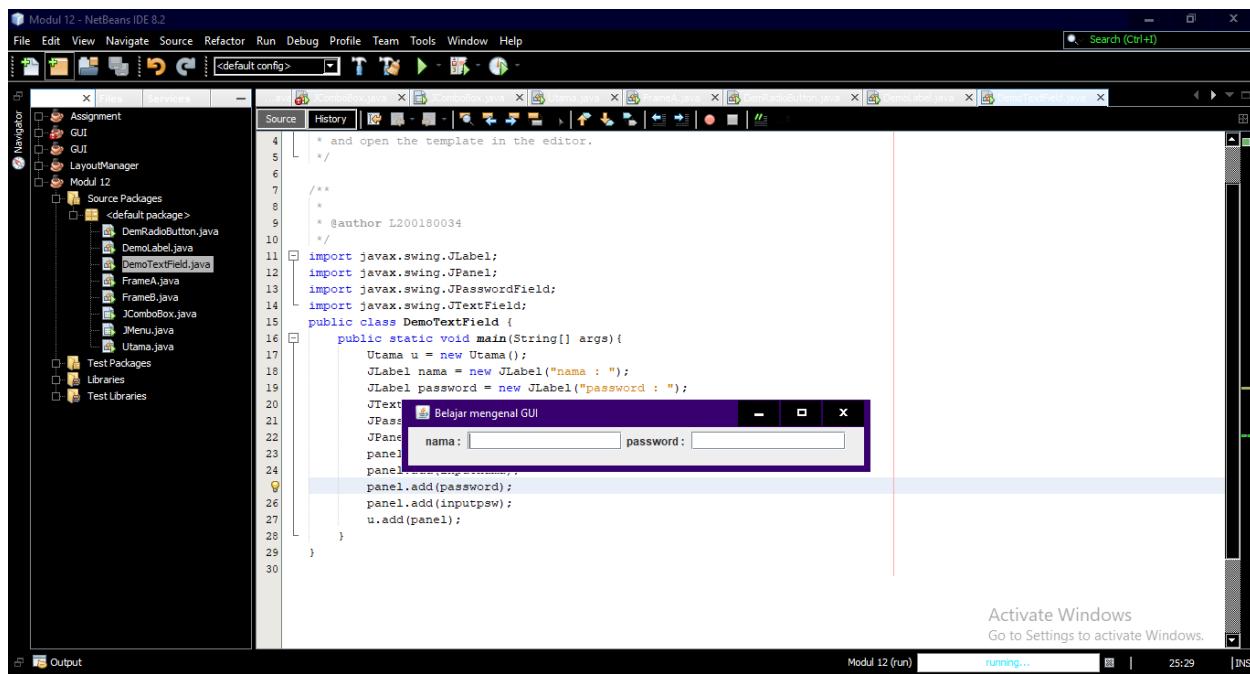
This screenshot shows the same NetBeans IDE environment as the first one, but with more code added to the DemRadioButton.java file. The additional code handles the button group and panel addition logic.

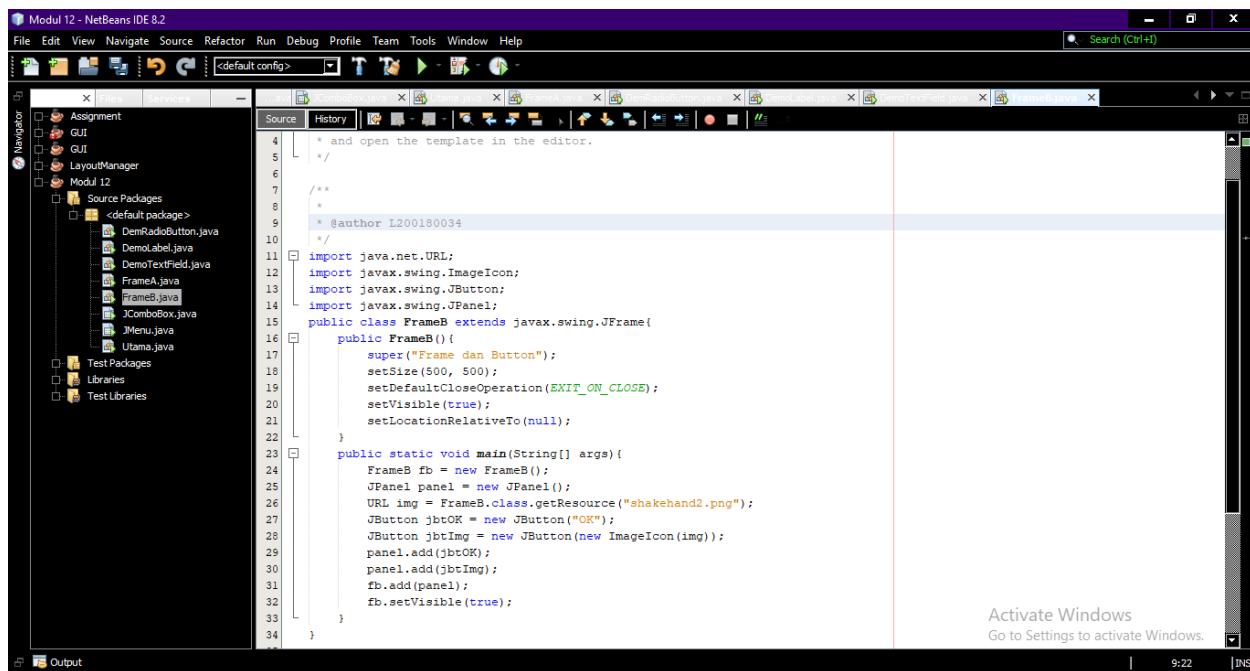
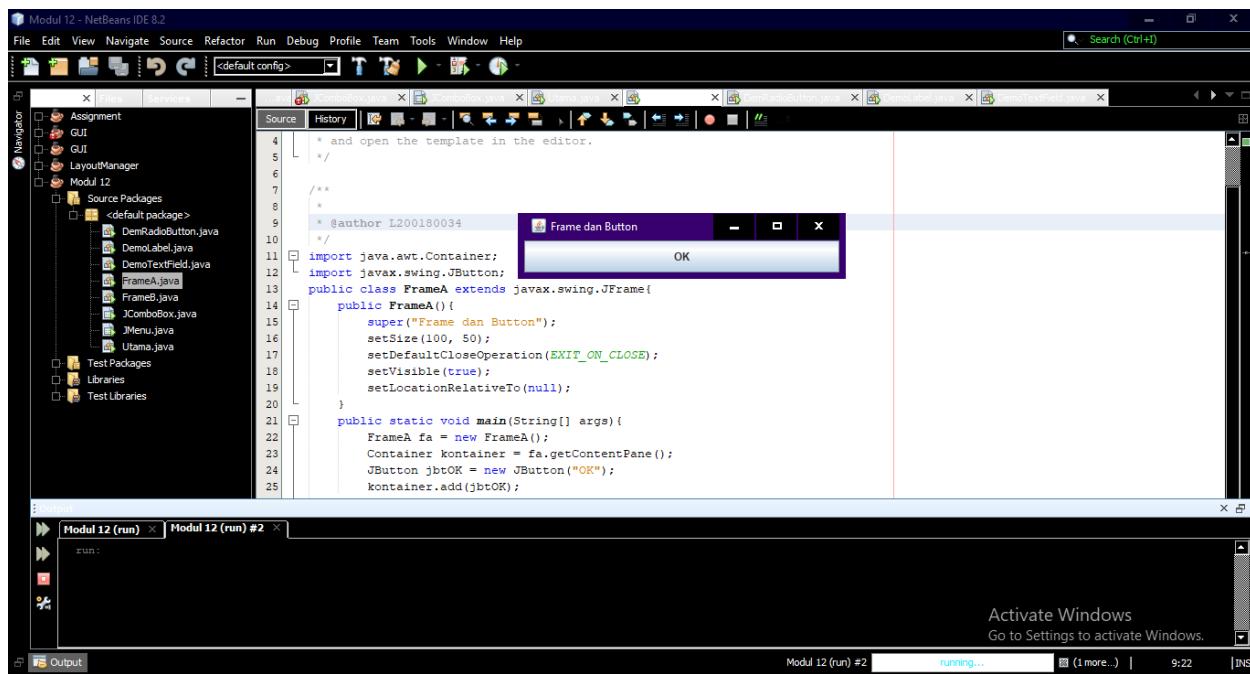
```
15 /**
16  * @author L200180034
17  */
18 public class DemRadioButton {
19     public static void main(String[] args) {
20         Utama u = new Utama();
21         u.setSize(1000, 100);
22
23         JRadioButton[] teams = new JRadioButton[4];
24         teams [0] = new JRadioButton("Sangat tidak setuju");
25         teams [1] = new JRadioButton("Tidak setuju");
26         teams [2] = new JRadioButton("Kurang setuju");
27         teams [3] = new JRadioButton("Setuju", true);
28         teams [3] = new JRadioButton("Sangat setuju");
29
30         JPanel panel = new JPanel();
31         JLabel pernyataan = new JLabel("Modul Praktikum Pemrograman Berorientasi Objek jelas dan mudah.");
32         panel.add(pernyataan);
33
34         ButtonGroup group = new ButtonGroup();
35         for(int i = 0; i<teams.length; i++){
36             group.add(teams[i]);
37             panel.add(teams[i]);
38         }
39
40         u.add(panel);
41         u.setVisible(true);
42     }
43 }
```

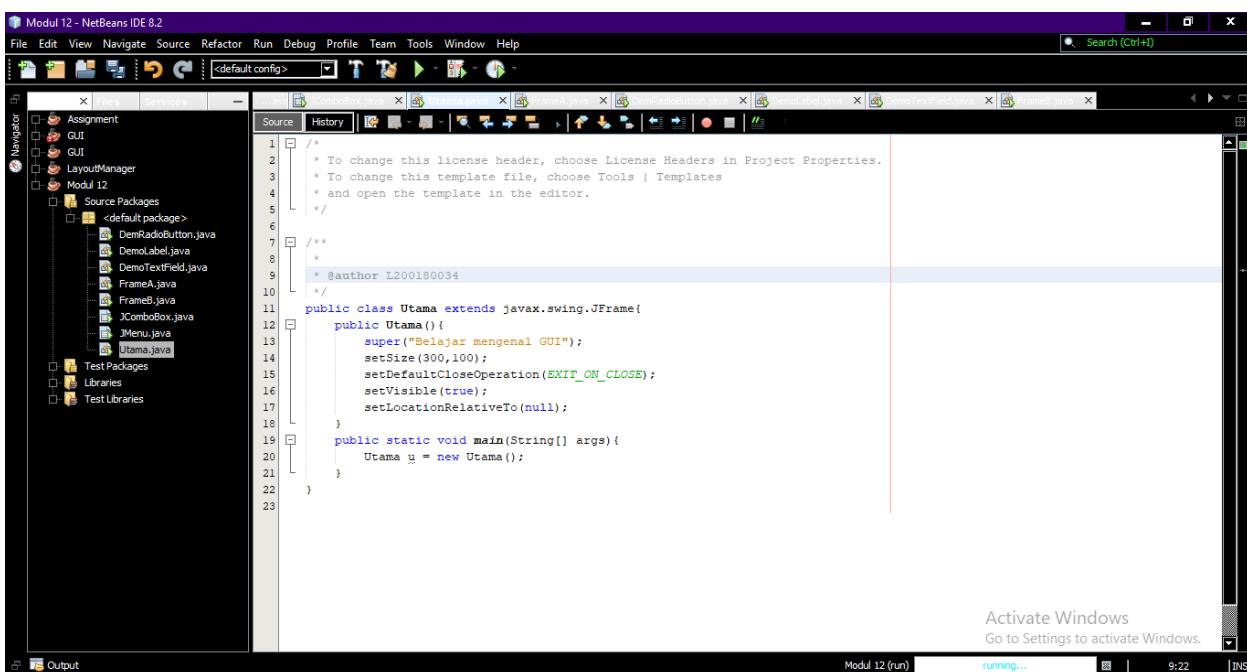
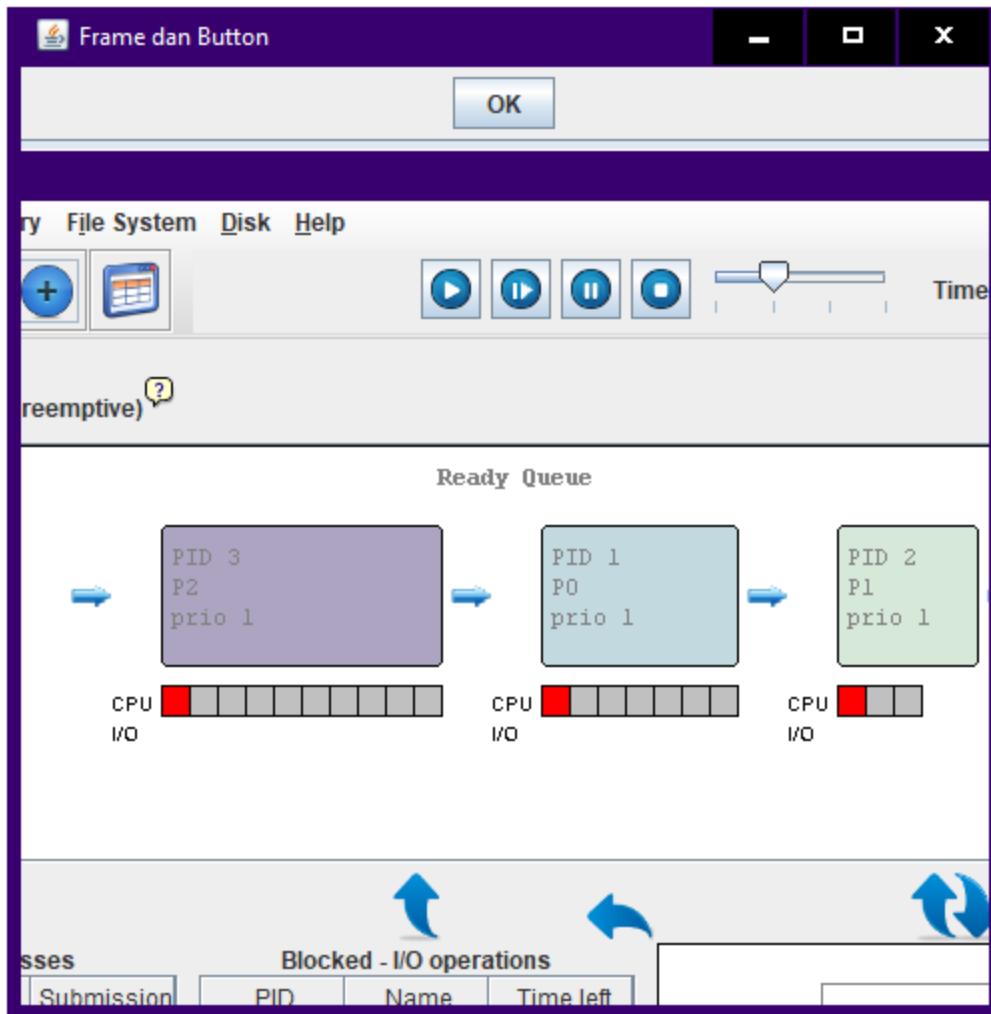
The status bar at the bottom indicates "Modul 12 (run) running... 15:22 INS". A watermark "Activate Windows Go to Settings to activate Windows." is visible in the center.

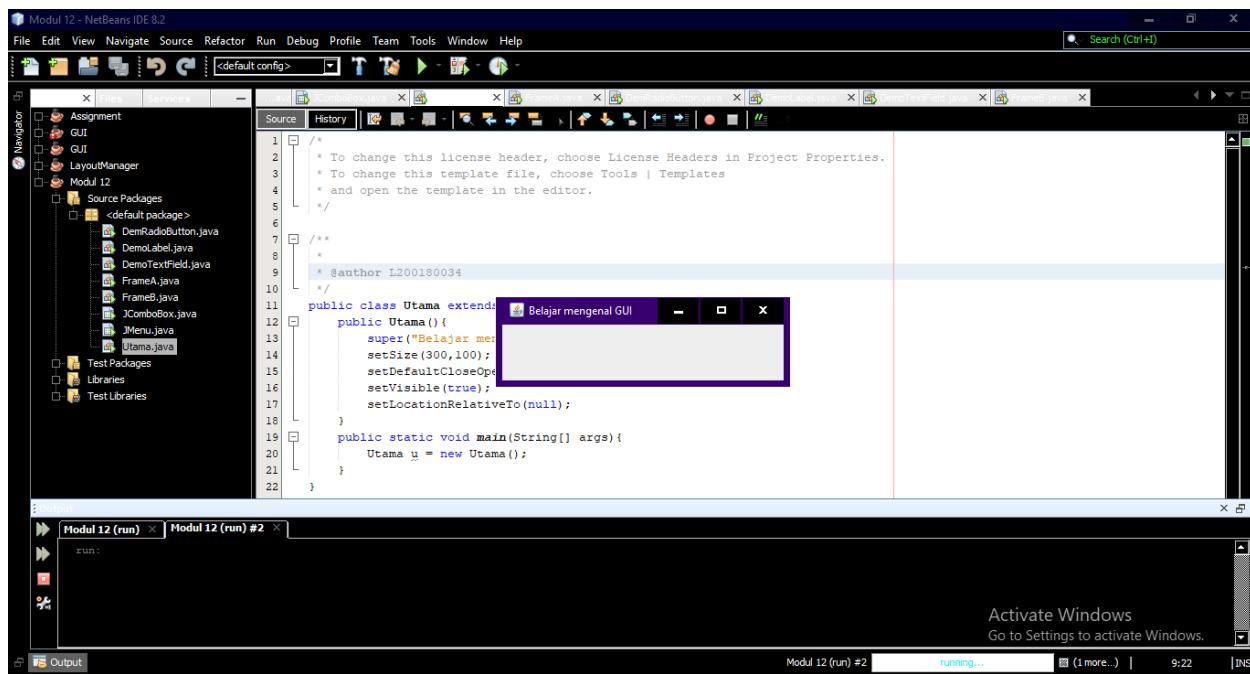




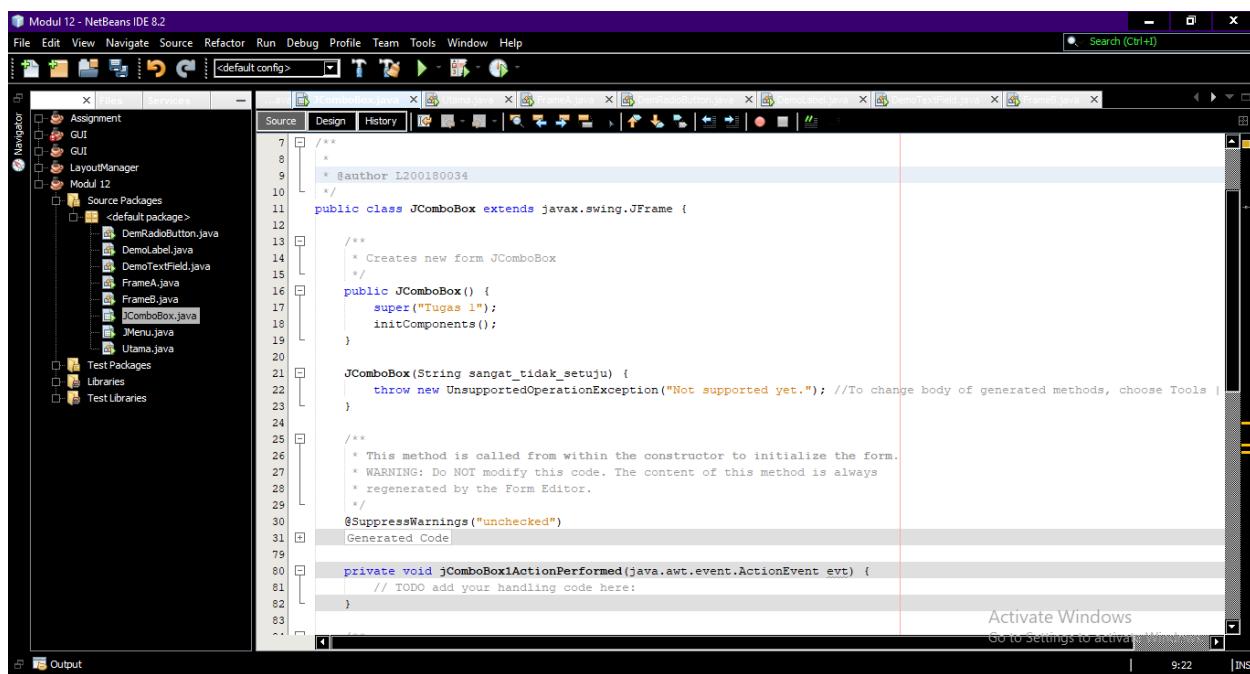








Tugas



Modul 12 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

Search (Ctrl+F)

Navigator

- Assignment
- GUI
- LayoutManager
- Module 12
 - Source Packages
 - <default package>
 - DemoRadioButton.java
 - DemoLabel.java
 - DemoTextField.java
 - FrameA.java
 - FrameB.java
 - JComboBox.java
 - JMenu.java
 - Utama.java
 - Test Packages
 - Libraries
 - Test Libraries

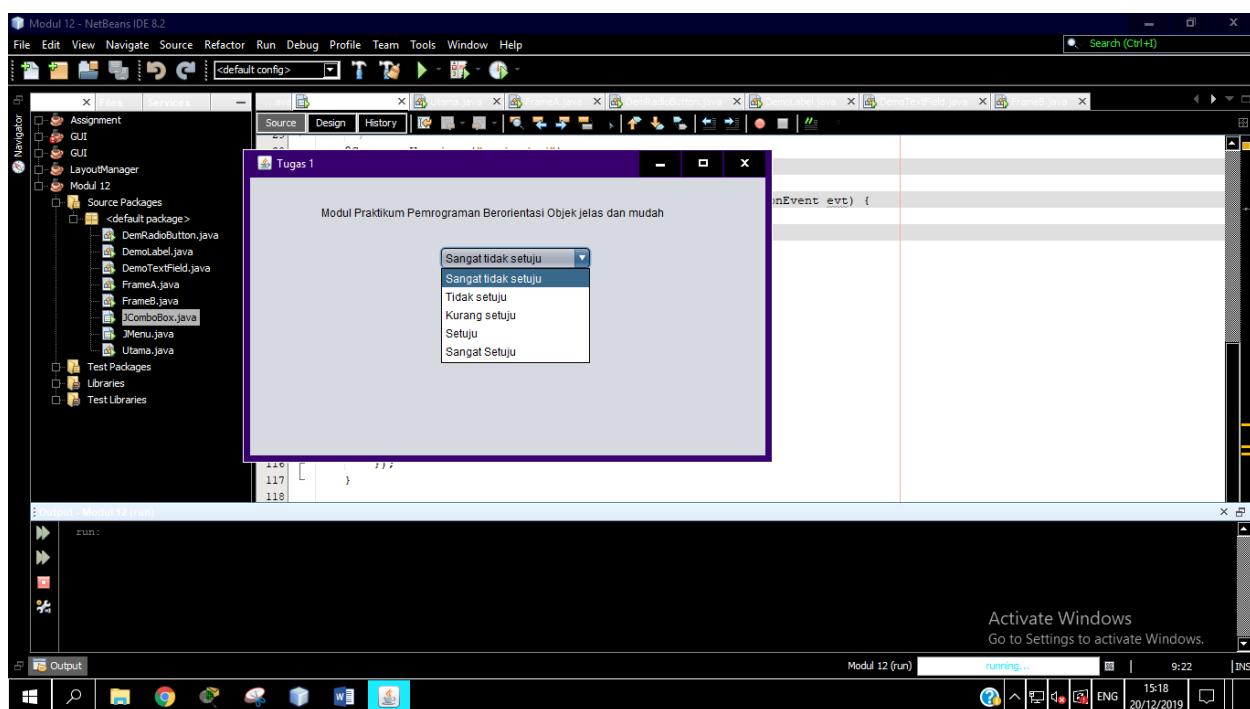
Source Design History

```
30     @SuppressWarnings("unchecked")
31     Generated Code
32
33     private void jComboBox1ActionPerformed(java.awt.event.ActionEvent evt) {
34         // TODO add your handling code here:
35     }
36
37     /**
38      * @param args the command line arguments
39     */
40     public static void main(String args[]) {
41         /* Set the Nimbus look and feel */
42         // Look and feel setting code (optional)
43
44         /* Create and display the form */
45         java.awt.EventQueue.invokeLater(new Runnable() {
46             public void run() {
47                 new JComboBox().setVisible(true);
48             }
49         });
50
51         // Variables declaration - do not modify
52         private javax.swing.JComboBox<String> jComboBox1;
53         private javax.swing.JLabel jLabel1;
54         private java.awt.Menu menu1;
55         private java.awt.Menu menu2;
56         private java.awtMenuBar menuBar1;
57         // End of variables declaration
58     }
59
60 }
```

Activate Windows
Go to Settings to activate Windows.

Output

9:22 | INS



Modul 12 - NetBeans IDE 8.2

File Edit View Navigate Source Refactor Run Debug Profile Team Tools Window Help

<default config>

Navigator

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 - <default package>
 - DemRadioButton.java
 - DemLabel.java
 - DemTextField.java
 - FrameA.java
 - FrameB.java
 - JComboBox.java
 - Menu.java
 - Utama.java
 - Test Packages
 - Libraries
 - Test Libraries

Source Design History

```
1 import java.awt.Color;
2 
3 /**
4  * To change this license header, choose License Headers in Project Properties.
5  * To change this template file, choose Tools | Templates
6  * and open the template in the editor.
7 */
8 
9 /**
10  * @author L200180034
11 */
12 
13 public class JMenu extends javax.swing.JFrame {
14 
15     /**
16      * Creates new form JMenu
17     */
18     public JMenu() {
19         initComponents();
20     }
21 
22     /**
23      * This method is called from within the constructor to initialize the form.
24      * WARNING: Do NOT modify this code. The content of this method is always
25      * regenerated by the Form Editor.
26     */
27     @SuppressWarnings("unchecked")
28     // Generated Code
29 
30     private void jMenuItem4ActionPerformed(java.awt.event.ActionEvent evt) {
31         // TODO add your handling code here:
32     }
33 
34 }
```

Activate Windows
Go to Settings to activate Windows.

Modul 12 (run) running... 11:22 INS

Output

Modul 12 - NetBeans IDE 8.2

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<default config>

Navigator

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Source Design History

```
28 Generated Code
29 
30 private void jMenuItem4ActionPerformed(java.awt.event.ActionEvent evt) {
31     // TODO add your handling code here:
32     this.getContentPane().setBackground(Color.red);
33 }
34 
35 private void jMenuItem5ActionPerformed(java.awt.event.ActionEvent evt) {
36     // TODO add your handling code here:
37     this.getContentPane().setBackground(Color.yellow);
38 }
39 
40 private void jMenuItem7ActionPerformed(java.awt.event.ActionEvent evt) {
41     // TODO add your handling code here:
42     this.getContentPane().setBackground(Color.green);
43 }
44 
45 /**
46  * @param args the command line arguments
47 */
48 public static void main(String args[]) {
49     /* Set the Nimbus look and feel */
50     // Look and feel setting code (optional)
51 
52     /* Create and display the form */
53     java.awt.EventQueue.invokeLater(new Runnable() {
54         public void run() {
55             new JMenu().setVisible(true);
56         }
57     });
58 }
```

Activate Windows
Go to Settings to activate Windows.

Modul 12 (run) running... 11:22 INS

Output





12.1.1. Frame

a. Lengkapi pengertian implementasi class `JFrame` pada tabel berikut ini!

Konstruktor	Keterangan
<code>JFrame()</code>	Membuat JFrame tanpa judul
<code>JFrame(String Judul)</code>	Membuat JFrame dengan judul

Metode	Keterangan
void setSize(int lebar, int tinggi)	Menentukan ukuran frame
void setLocation(int x, int y)	Menentukan lokasi frame dihitung dari kiri atas
void setVisible(Boolean)	Menentukan JFrame ditampilkan atau tidak
void setLocationRelativeTo(Component)	Menentukan letak JFrame relative dengan komponen lainnya. Jika diset null, maka JFrame akan ditampilkan di tengah.

12.1.2. Button

a. Lengkapi pengertian implementasi class JButton pada tabel berikut ini!

Konstruktor	Keterangan
JButton()	Membuat JButton tanpa teks maupun icon
JButton(String teks)	Membuat JButton dengan teks
JButton(Icon icon)	Membuat JButton dengan icon
JButton(String teks, Icon icon)	Membuat JButton dengan teks dan icon

12.1.3. Label

a. Lengkapi pengertian implementasi class JLabel pada table berikut ini

JLabel (String teks, int i)	Label dengan teks dan alignment (perataan). Terdapat tiga jenis alignment : LEFT, CENTER, dan RIGHT
JLabel (String teks, Icon ic, int i)	Label dengan teks, icon, dan alignment

12.1.4. TextField dan Password Field

a. Lengkapi pengertian implementasi class JTextField pada tabel di bawah ini.

Konstruktor	Keterangan
JLabel (String teks)	Label dengan teks

Konstruktor	Penjelasan
JTextField()	Text field kosong tanpa tulisan
JTextField(int i)	Text field dengan panjang yang ditentukan
JTextField(String i)	Text field dengan teks yang sudah ditentukan
JTextField(String teks, int i)	Text field dengan teks dan Panjang kolom yang sudah ditentukan

Parameter dalam class JTextField	Penjelasan
String Text	Teksi dalam Text field
Boolean Editable	Menentukan bisa tidaknya teks dalam Text field untuk diedit
Int columns	Jumlah kolom pada Text field
Int horizontalAlignment	Perataan horizontal pada Text field

12.1.5. Radio Button dan CheckBox

- a. Lengkapi pengertian implementasi class JCheckBox pada table berikut ini

Konstruktor	Penjelasan
JCheckBox(String teks)	Check box dengan teks yang ditentukan
JCheckBox(String, Boolean)	Check box dengan teks yang ditentukan. jika kondisi pada parameter kedua true, maka Check box ini akan dipilih
JCheckBox(icon)	Check box dengan gambar icon
JCheckBox(icon, Boolean)	Check box dengan gambar icon dan terpilih jika true
JCheckBox(String, Icon)	Check box dengan tulisan dan gambar icon
JCheckBox(String, Icon, Boolean)	Check box dengan tulisan dan gambar icon, akan dipilih secara default jika kondisi true.