

LAPORAN TUGAS KE-5
PEMROGRAMAN BERORIENTASI OBJEK (PRAKTEK)

Disusun Oleh:

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PROGRAM STUDI D3 TEKNIK INFORMATIKA
JURUSAN TEKNIK KOMPUTER DAN INFORMATIKA
POLITEKNIK NEGERI BANDUNG
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Kasus 1

1.Screenshot
hasil program

: Restaurant:

```
5 usages
1  public class Restaurant {
    5 usages
2      public String[] nama_makanan;
    4 usages
3      public double[] harga_makanan;
    9 usages
4      public int[] stok;
    7 usages
5      public static byte id = 0;
6
    1 usage
7      public Restaurant()
8      {
9          nama_makanan = new String[10];
10         harga_makanan = new double[10];
11         stok = new int[10];
12     }
13
    4 usages
14     public void tambahMenuMakanan(String nama, double harga, int stok)
15     {
16         this.nama_makanan[id] = nama;
17         this.harga_makanan[id] = harga;
18         this.stok[id] = stok;
19     }
20
    1 usage
21     public boolean isOutOfStok(int id)
22     {
23         if(stok[id] == 0 )
24         {
25             return true;
26         }else {
27             return false;
28         }
29     }
```

```

51 public static void nextId()
52 {
53     id++;
54 }
55
56 1 usage
57 public void tampilMenuMakan()
58 {
59     for(int i = 0; i <= id; i++)
60     {
61         if(!isOutOfStok(i))
62         {
63             System.out.println(i + ". " + nama_makanan[i] + "[" + stok[i] + "]" + "\tRp. " + harga_makanan[i]);
64         }
65         else {
66             System.out.println(i + ". " + nama_makanan[i] + "[" + stok[i] + "]" + " Habis!");
67         }
68     }
69 }
70
71 1 usage
72 public void pesanMakanan(int no, int banyak)
73 {
74     int temp;
75     for (int i = 0; i <= id; i++)
76     {
77         if(no == i)
78         {
79             if(stok[i] != 0 && stok[i] >= banyak)
80             {
81                 temp = stok[i] - banyak;
82                 this.stok[i] = temp;
83                 System.out.println("Jenis Makanan : " + nama_makanan[i] + "\nTotal Harga : " + "Rp. " + harga_makanan[i] * banyak);
84             }else {
85                 System.out.println("Pesanan gagal dibuat!");
86             }
87         }
88     }
89 }
90 }

```

RestaurantMain:

	<pre> 3 public class RestaurantMain { 4 public static void main(String[] args) { 5 Scanner input = new Scanner(System.in); 6 int banyakPesanan; 7 8 System.out.println("MENU:"); 9 Restaurant menu = new Restaurant(); 10 menu.tambahMenuMakanan(nama: "Bala-Bala", harga: 1_000, stok: 20); 11 Restaurant.nextId(); 12 menu.tambahMenuMakanan(nama: "Gehu", harga: 1_000, stok: 20); 13 Restaurant.nextId(); 14 menu.tambahMenuMakanan(nama: "Tahu", harga: 1_000, stok: 0); 15 Restaurant.nextId(); 16 menu.tambahMenuMakanan(nama: "Molen", harga: 1_000, stok: 20); 17 18 System.out.println(); 19 System.out.println("Pilihan menu : "); 20 int selectedMenu; 21 do { 22 menu.tampilMenuMakan(); 23 System.out.println(); 24 System.out.print("Pilihan menu (0-3) atau 4 untuk keluar: "); 25 selectedMenu = input.nextInt(); 26 27 if (selectedMenu >= 0 && selectedMenu <= Restaurant.id) { 28 System.out.print("Jumlah yang ingin dipesan: "); 29 banyakPesanan = input.nextInt(); 30 menu.pesanMakanan(selectedMenu, banyakPesanan); 31 } else if (selectedMenu != 4) { 32 System.out.println("Pilihan tidak valid."); 33 } 34 } while (selectedMenu != 4); 35 36 input.close(); 37 } 38 } </pre>
<p>2.Screenshot setelah menggunakan sonarlint</p>	<p>: Restaurant:</p> <ul style="list-style-type: none"> ⚠ Rename this package name to match the regular expression <code>^[a-z_](\.[a-z_][a-z0-9_]*)*\$</code>. :1 ⚠ Make nama_makanan a static final constant or non-public and provide accessors if needed. :3 ⚠ Rename this field "nama_makanan" to match the regular expression <code>^[a-z][a-zA-Z0-9]*\$</code>. :3 ⚠ Make harga_makanan a static final constant or non-public and provide accessors if needed. :4 ⚠ Rename this field "harga_makanan" to match the regular expression <code>^[a-z][a-zA-Z0-9]*\$</code>. :4 ⚠ Make stok a static final constant or non-public and provide accessors if needed. :5 ⚠ Make id a static final constant or non-public and provide accessors if needed. :6 ⚠ Make this "public static id" field final :6 ⚠ 'if' statement can be simplified :24 ⚠ Replace this if-then-else statement by a single return statement. :24 ⚠ Replace this use of System.out by a logger. :43 ⚠ Replace this use of System.out by a logger. :46 ⚠ Replace this use of System.out by a logger. :62 ⚠ Replace this use of System.out by a logger. :64 <p>RestaurantMain:</p>

- ⚠️ Rename this package name to match the regular expression `^[a-z_](\.[a-z_][a-z0-9_]*)*$`.:1
- ⚠️ Replace this use of System.out by a logger.:9
- ⚠️ Replace this use of System.out by a logger.:19
- ⚠️ Replace this use of System.out by a logger.:20
- ⚠️ Replace this use of System.out by a logger.:24
- ⚠️ Replace this use of System.out by a logger.:25
- ⚠️ Replace this use of System.out by a logger.:29
- ⚠️ Replace this use of System.out by a logger.:33

```

package kaspertama;

import java.util.Scanner;
import java.util.logging.ConsoleHandler;
import java.util.logging.Level;
import java.util.logging.Logger;

public class RestaurantMain {

    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);
        int banyakPesanan;

        // Inisialisasi logger
        Logger logger = Logger.getLogger( name: "Restaurant");
        logger.setLevel(Level.INFO);
        ConsoleHandler consoleHandler = new ConsoleHandler();
        consoleHandler.setLevel(Level.INFO);
        logger.addHandler(consoleHandler);

        // Menghapus handler konsol dari logger kelas Restaurant
        Logger restaurantLogger = Logger.getLogger( name: "Restaurant");
        restaurantLogger.setUseParentHandlers(false);

        logger.info( msg: "MENU:");
        Restaurant menu = new Restaurant(logger);
        menu.tambahMenuMakanan( nama: "Bala-Bala", harga: 1_000, stok: 20);
        menu.tambahMenuMakanan( nama: "Gehu", harga: 1_000, stok: 20);
        menu.tambahMenuMakanan( nama: "Tahu", harga: 1_000, stok: 0);
        menu.tambahMenuMakanan( nama: "Molen", harga: 1_000, stok: 20);

        logger.info( msg: "Pilihan menu : ");
        int selectedMenu;
        do {
            menu.tampilMenuMakan();
            logger.info( msg: "Pilihan menu (0-3) atau 4 untuk keluar:");
            selectedMenu = input.nextInt();

            if (selectedMenu >= 0 && selectedMenu < menu.getJumlahMenu()) {
                logger.info( msg: "Jumlah yang ingin dipesan: ");
                banyakPesanan = input.nextInt();
                menu.pesanMakanan(selectedMenu, banyakPesanan);
            } else if (selectedMenu != 4) {
                logger.warning( msg: "Pilihan tidak valid.");
            }
        } while (selectedMenu != 4);

        input.close();
    }
}

```

```
1 package kaspertama;
2 import java.util.logging.Logger;
3 public class Restaurant {
4     private final String[] namaMakanan;
5     private final double[] hargaMakanan;
6     private final int[] stok;
7     private static byte id = 0;
8     private final Logger logger;
9
10    public Restaurant(Logger logger) {
11        this.logger = logger;
12        namaMakanan = new String[10];
13        hargaMakanan = new double[10];
14        stok = new int[10];
15    }
16
17    public void tambahMenuMakanan(String nama, double harga, int stok) {
18        this.namaMakanan[id] = nama;
19        this.hargaMakanan[id] = harga;
20        this.stok[id] = stok;
21        nextId();
22    }
23
24    private static void nextId() {
25        id++;
26    }
27
28    public int getJumlahMenu() {
29        return id;
30    }
```

		<pre> 1 usage 32 public void tampilMenuMakan() { 33 for (int i = 0; i < id; i++) { 34 if (stok[i] > 0) { 35 logger.info(String.format("%d. %s[%d]\tRp. %.2f", i, namaMakanan[i], stok[i], hargaMakanan[i])); 36 } else { 37 logger.info(String.format("%d. %s[%d] Habis!", i, namaMakanan[i], stok[i])); 38 } 39 } 40 } 41 42 1 usage 43 public void pesanMakanan(int no, int banyak) { 44 int temp; 45 for (int i = 0; i < id; i++) { 46 if (no == i) { 47 if (stok[i] != 0 && stok[i] >= banyak) { 48 temp = stok[i] - banyak; 49 this.stok[i] = temp; 50 logger.info(String.format("Jenis Makanan: %s\nTotal Harga: Rp. %.2f", namaMakanan[i], hargaMakanan[i] * banyak)); 51 } else { 52 logger.warning(msg: "Pesanan gagal dibuat!"); 53 } 54 } 55 } 56 } 57 58 </pre>
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3. Screenshot Output	:	<pre> Sep 25, 2023 1:02:41 AM kasuspertama.RestaurantMain main INFO: MENU: Sep 25, 2023 1:02:41 AM kasuspertama.RestaurantMain main INFO: Pilihan menu : Sep 25, 2023 1:02:41 AM kasuspertama.Restaurant tampilMenuMakan INFO: 0. Bala-Bala[20] Rp. 1000.00 Sep 25, 2023 1:02:41 AM kasuspertama.Restaurant tampilMenuMakan INFO: 1. Gehu[20] Rp. 1000.00 Sep 25, 2023 1:02:41 AM kasuspertama.Restaurant tampilMenuMakan INFO: 2. Tahu[0] Habis! Sep 25, 2023 1:02:41 AM kasuspertama.Restaurant tampilMenuMakan INFO: 3. Molen[20] Rp. 1000.00 Sep 25, 2023 1:02:41 AM kasuspertama.RestaurantMain main INFO: Pilihan menu (0-3) atau 4 untuk keluar: 1 Sep 25, 2023 1:02:50 AM kasuspertama.RestaurantMain main INFO: Jumlah yang ingin dipesan: 19 Sep 25, 2023 1:02:53 AM kasuspertama.Restaurant pesanMakanan INFO: Jenis Makanan: Gehu Total Harga: Rp. 19000.00 Sep 25, 2023 1:02:53 AM kasuspertama.Restaurant tampilMenuMakan INFO: 0. Bala-Bala[20] Rp. 1000.00 Sep 25, 2023 1:02:53 AM kasuspertama.Restaurant tampilMenuMakan INFO: 1. Gehu[1] Rp. 1000.00 Sep 25, 2023 1:02:53 AM kasuspertama.Restaurant tampilMenuMakan INFO: 2. Tahu[0] Habis! Sep 25, 2023 1:02:53 AM kasuspertama.Restaurant tampilMenuMakan INFO: 3. Molen[20] Rp. 1000.00 Sep 25, 2023 1:02:53 AM kasuspertama.RestaurantMain main INFO: Pilihan menu (0-3) atau 4 untuk keluar: </pre>
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4. Permasalahan	:	menambah fitur pemesanan dan mengurangi setiap stok yang ada. Smell code yang menjadi-jadi
5. Solusi	:	Menjadikan fungsi menjadi private, mengubah penggunaan system out menjadi logger, menambahkan perulangan untuk pembelian

Kasus 2

1.Screenshot
hasil program

:

```
package kasuskedua;
import java.util.Scanner;

public class MainRestaurant {
    public static void main(String[] args) {
        int element = 20;
        int jumlahPesanan;
        int selectedMenu;
        char confirm;
        boolean loop = false;
        Scanner input = new Scanner(System.in);

        Penjualan restoran = new Penjualan(element);
        restoran.addMenu( nama_makanan: "Bala-bala", harga: 1_500, quantity: 10);
        restoran.addMenu( nama_makanan: "Batagor", harga: 7_000, quantity: 10);
        restoran.addMenu( nama_makanan: "Cireng", harga: 3_000, quantity: 20);
        restoran.addMenu( nama_makanan: "Pempek", harga: 12_000, quantity: 20);
        restoran.addMenu( nama_makanan: "Nasi Goreng", harga: 17_000, quantity: 20);
        restoran.addMenu( nama_makanan: "Kopi Lawak!", harga: 4_000, quantity: 15);
        restoran.addMenu( nama_makanan: "Lemon tea", harga: 5_000, quantity: 10);
        restoran.addMenu( nama_makanan: "Aqua", harga: 5_000, quantity: 20);
        restoran.addMenu( nama_makanan: "Kwetiau", harga: 14_000, quantity: 20);
        restoran.addMenu( nama_makanan: "Teh Botol", harga: 5_000, quantity: 20);

        do {
            System.out.println("===== Menu Resto =====");
            restoran.displayMenu();
            System.out.print("\nPilihan Menu [no] : ");
            selectedMenu = input.nextInt();
            System.out.print("Jumlah Pesanan : ");
            jumlahPesanan = input.nextInt();
            restoran.orderMenu(selectedMenu, jumlahPesanan);
            System.out.print("Pesan Lagi [y]/[t] :");
            confirm = input.next().charAt(0);
            if (confirm == 't' || confirm == 'T')
            {
                loop = true;
            }
        }while(loop == false);
        System.exit( status: 0);
    }
}
```

```

1 package kasuskedua;
2
3 public class Penjualan {
4     14 usages
5     Produk[] product;
6
7     1 usage
8     Penjualan(int total_item)
9     {
10         product = new Produk[total_item];
11     }
12
13     10 usages
14     public void addMenu(String nama_makanan, double harga, int quantity)
15     {
16         int id = Produk.getId();
17         product[id] = new Produk();
18
19         product[id].setNama_produk(nama_makanan);
20         product[id].setHarga(harga);
21         product[id].setQty(quantity);
22
23         Produk.nextId();
24     }
25
26     1 usage
27     public void orderMenu(int menuSelect, int quantity)
28     {
29         int temp;
30         for (int i = 0; i < Produk.getId(); i++)
31         {
32             if(menuSelect == i)
33             {
34                 temp = product[i].getQty() - quantity;
35                 System.out.println("Menu yang dipilih : " + product[i].getNama_produk());
36                 System.out.println("Total Harga : " + "Rp. " + product[i].getHarga() * quantity);
37                 product[i].setQty(temp);
38             }
39         }
40     }
41 }

```

```
1 usage
public void displayMenu()
{
    for (int i = 0; i < Produk.getId(); i++)
    {
        if(!isQuantityEmpty(i))
        {
            System.out.println(i + ". " + product[i].getNama_produk() + " \tRp." + product[i].getHarga() + " Stok : " + product[i].getQty());
        }
        else {
            System.out.println(i + ". " + product[i].getNama_produk() + " Habis!");
        }
    }
}

1 usage
public boolean isQuantityEmpty(int id){
    if(product[id].getQty() == 0){
        return true;
    } else {
        return false;
    }
}
```

```
1 package kasuskedua;
  7 usages
2 public class Produk {
  2 usages
3     private String nama_produk;
  2 usages
4     private double harga;
  2 usages
5     private int qty;
  2 usages
6     private static int id = 0;
7
8     3 usages
9     public String getNama_produk() {
10         return nama_produk;
11     }
12     1 usage
13     public void setNama_produk(String nama_produk) {
14         this.nama_produk = nama_produk;
15     }
16     2 usages
17     public double getHarga() {
18         return harga;
19     }
20     1 usage
21     public void setHarga(double harga) {
22         this.harga = harga;
23     }
24     3 usages
25     public int getQty() {
26         return qty;
27     }
28     2 usages
29     public void setQty(int qty) {
30         this.qty = qty;
31     }
32     1 usage
33     public static void nextId() {
34         id += 1;
35     }
36     3 usages
37     public static int getId()
38     {
39         return id;
40     }
41 }
42
```

2. Screenshot Output	:	<pre> ===== Menu Resto ===== 0. Bala-bala Rp.1500.0 Stok : 10 1. Batagor Rp.7000.0 Stok : 10 2. Cireng Rp.3000.0 Stok : 20 3. Pempek Rp.12000.0 Stok : 20 4. Nasi Goreng Rp.17000.0 Stok : 20 5. Kopi Lawak! Rp.4000.0 Stok : 15 6. Lemon tea Rp.5000.0 Stok : 10 7. Aqua Rp.5000.0 Stok : 20 8. Kwetiau Rp.14000.0 Stok : 20 9. Teh Botol Rp.5000.0 Stok : 20 Pilihan Menu [no] : 3 Jumlah Pesanan : 7 Menu yang dipilih : Pempek Total Harga : Rp. 84000.0 Pesan Lagi [y]/[t] : y ===== Menu Resto ===== 0. Bala-bala Rp.1500.0 Stok : 10 1. Batagor Rp.7000.0 Stok : 10 2. Cireng Rp.3000.0 Stok : 20 3. Pempek Rp.12000.0 Stok : 13 4. Nasi Goreng Rp.17000.0 Stok : 20 5. Kopi Lawak! Rp.4000.0 Stok : 15 6. Lemon tea Rp.5000.0 Stok : 10 7. Aqua Rp.5000.0 Stok : 20 8. Kwetiau Rp.14000.0 Stok : 20 9. Teh Botol Rp.5000.0 Stok : 20 Pilihan Menu [no] : 2 Jumlah Pesanan : 3 Menu yang dipilih : Cireng Total Harga : Rp. 9000.0 Pesan Lagi [y]/[t] : t Process finished with exit code 0 </pre>
3. Permasalahan	:	<p>Input menggunakan scanner</p> <p>Buat menu ditampilkan dilayar untuk menampilkan item makanan beserta harganya (minimal 10 produk)</p> <p>Terdapat kelas produk yang berisi variable nama_produk, harga, qty,</p> <p>Terdapat kelas Penjualan yang berisi nama_produk, quantity serta harga_total</p> <p>Tampilkan menu yang dipesan beserta total bayar nya,</p> <p>Konfirmasi untuk memesan item makanan lain</p>
4. Solusi	:	Mengikuti intruksi yang diberikan

Link Github: <https://github.com/VicoTriansyahNasril/PBO>