# PRATIKUM PEMROGRAMAN BERIORIENTASIKAN OBJEK

**Nama** : Fitra Noviarji
**Nim** : 2109106017
**Kelas** : Informatika A 2021

## POSTTEST 2

**Program : Sistem pendataan perhiasan emas**

**SS Out Put :**

```
--- exec-maven-plugin:3.0.0:exec (default-cli) @ Posttest2 ---
+++ SIA VERSI LITE +++
1. Create
2. Read
3. Update
4. Delete
5. Exit
Masukan Pilihan :
```

*gambar 1 Tampilan Awal*

```
Masukan Pilihan :1
Masukan Tipe Perhiasan (1.Gold | 2.Diamond) :1
Masukkan Nomor Perhiasan: 001
Masukan nama :emas
Masukan Jenis :cincin
Masukan Karat :20
Masukan Berat :3.5
Masukkan Gold : 2
Data Berhasil Ditambah!
+++ SIA VERSI LITE +++
1. Create
2. Read
3. Update
4. Delete
5. Exit
```

*gambar 3 Tampilan tambah data*

```
+++ SIA VERSI LITE +++
1. Create
2. Read
3. Update
4. Delete
5. Exit
Masukan Pilihan :2
Masukkan Nomor Perhiasan: 001
======= DATA PERHIASAN =======
Nomor Perhiasan     : 1
Nama Perhiasan      : emas
Jenis               : cincin
Karat               : 20
Berat               : 3.5


Emas        : 0
```

*gambar 2 Tampilan Liat data*

```
+++ SIA VERSI LITE +++
1. Create
2. Read
3. Update
4. Delete
5. Exit
Masukan Pilihan :4
Masukkan Nomor Perhiasan: 1
Data Berhasil Dihapus.
+++ SIA VERSI LITE +++
1. Create
2. Read
3. Update
4. Delete
5. Exit
Masukan Pilihan :2
Masukkan Nomor Perhiasan: 1
======== DATA PERHIASAN ========
Perhiasan Tidak Ditemukan
```

*gambar 5 Tampilan hapus data*

```
======== DATA PERHIASAN ========
Perhiasan Tidak Ditemukan
+++ SIA VERSI LITE +++
1. Create
2. Read
3. Update
4. Delete
5. Exit
Masukan Pilihan :5
------------------------------------------------------------------------
BUILD SUCCESS
------------------------------------------------------------------------
Total time:  01:31 min
Finished at: 2023-03-22T21:32:01+08:00
------------------------------------------------------------------------
```

*gambar 4 Tampilan Keluar*

**Nama** : Fitra Noviarji
**Nim** : 2109106017
**Kelas** : Informatika A 2021

**SOURCE CODE :**

Main.java

```java
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-default.txt to change this
license
 */

package com.mycompany.posttest2;

import java.io.BufferedReader;
import java.io.IOException;
import java.io.InputStreamReader;
import java.util.*;

/**
 *
 * @author asus
 */
public class Main {
    private static BufferedReader br = new BufferedReader(new InputStreamReader(System.in));
    private static ArrayList<Perhiasan> perhiasan = new ArrayList<>();
    private static int Carat;


    public static void main(String[] args) throws IOException {
        while (true) {
            System.out.println("+++ PENDATAAN PERHIASAN EMAS / DIAMOND +++");
            System.out.println("1. Create");
            System.out.println("2. Read");
            System.out.println("3. Update");
            System.out.println("4. Delete");
            System.out.println("5. Exit");
            System.out.print("Masukan Pilihan :");
            int pilihan = Integer.parseInt(br.readLine());
            switch (pilihan) {
                case 1:
                    createhias();
                    break;
                case 2:
                    readhias();
                    break;
                case 3:
                    edithias();
                    break;
                case 4:
                    hapushias();
```

```java
            break;
          case 5:
            System.exit(0);
            break;
          default:
            System.out.println("Pilihan tidak ada");
            break;
      }
    }
  }

//BUAT BARU
  public static void createhias() throws NumberFormatException, IOException{
    System.out.println("Masukan Tipe Perhiasan (1.Gold | 2.Diamond)");
    System.out.print("Masukan Pilihan : ");
    int pilihan = Integer.parseInt(br.readLine());

    System.out.print("Masukkan Nomor Perhiasan: ");
    int nomorPerhiasan = Integer.parseInt(br.readLine());

    for (Perhiasan perhiasan : perhiasan ) {
      if (perhiasan.getNomorPerhiasan() == nomorPerhiasan) {
        System.out.println("Nomor Perhiasan Sudah Ada. Membatalkan Proses!");
        return;
      }
    }

    if (pilihan == 1) {
      System.out.print("Masukan nama :");
      String namaPerhiasan = br.readLine();

      System.out.print("Masukan Jenis :");
      String jenis = br.readLine();

      System.out.print("Masukan Karat :");
      int Karat = Integer.parseInt(br.readLine());

      System.out.print("Masukan Berat :");
      double Berat = Double.parseDouble(br.readLine());

      System.out.print("Masukkan Gold : ");
      int emas = Integer.parseInt(br.readLine());

      data_add(nomorPerhiasan, namaPerhiasan, jenis, Karat, Berat, emas);
      //Gold newPerhiasan = new Gold(nomorPerhiasan,namaPerhiasan, jenis, Karat, Berat, emas);
      //perhiasan.add(newPerhiasan);
```

```java
            System.out.println("Data Berhasil Ditambah!");

        } else if (pilihan == 2) {
            System.out.print("Masukan nama :");
            String namaPerhiasan = br.readLine();

            System.out.print("Masukan Jenis :");
            String jenis = br.readLine();

            System.out.print("Masukan carat :");
            int Karat = Integer.parseInt(br.readLine());

            System.out.print("Masukan Berat :");
            double Berat = Double.parseDouble(br.readLine());

            System.out.print("Masukkan Diamond : ");
            int berlian = Integer.parseInt(br.readLine());

            data_add(nomorPerhiasan, namaPerhiasan, jenis, Carat, Berat, berlian);
            //var newPerhiasan = new Diamond(nomorPerhiasan, namaPerhiasan, jenis, Carat,
    Berat, berlian);
            //perhiasan.add(newPerhiasan);
            System.out.println("Data Berhasil Ditambah!");

        } else {
            System.out.println("Tipe Perhiasan Invalid.");
        }
    }

//TAMPILKAN
    public static void readhias() throws NumberFormatException, IOException{
        System.out.print("Masukkan Nomor Perhiasan: ");
        int nomorPerhiasan = Integer.parseInt(br.readLine());
        System.out.println("======== DATA PERHIASAN ========");
        for (Perhiasan perhiasan : perhiasan) {
        if (perhiasan.getNomorPerhiasan() == nomorPerhiasan) {

         if (perhiasan instanceof Gold) {
                System.out.println("Nomor Perhiasan    : " + perhiasan.getNomorPerhiasan());
                System.out.println("Nama Perhiasan     : " + perhiasan.getNamaperhiasan());
                System.out.println("Jenis            : " + perhiasan.getJenis());
                System.out.println("Karat            : " + perhiasan.getKarat());
                System.out.println("Berat            : " + perhiasan.getBerat());
                Gold gold = (Gold) perhiasan;
                System.out.println("Emas             : " + gold.getEmas());
                return;
            } else if (perhiasan instanceof Diamond) {
```

```java
            System.out.println("Nomor Perhiasan      : " + perhiasan.getNomorPerhiasan());
            System.out.println("Nama Perhiasan       : " + perhiasan.getNamaperhiasan());
            System.out.println("Jenis            : " + perhiasan.getJenis());
            System.out.println("Carat             : " + perhiasan.getCarat());
            System.out.println("Berat             : " + perhiasan.getBerat());
            Diamond diamond = (Diamond) perhiasan;
            System.out.println("Diamond           : " + diamond.getBerlian());
            return;
        }
      }
    }
    System.out.println("Perhiasan Tidak Ditemukan");
  }

  public static void edithias() throws NumberFormatException, IOException {
    System.out.print("Masukkan Nomor Perhiasan: ");
    int nomorPerhiasan = Integer.parseInt(br.readLine());
    for (Perhiasan perhiasan : perhiasan) {
      if (perhiasan.getNomorPerhiasan() == nomorPerhiasan) {
        System.out.print("Masukkan Nama Perhiasan Baru (Tekan Enter Untuk Skip): ");
          String namaperhiasanNew = br.readLine();
          if (!namaperhiasanNew.isEmpty()) {
            perhiasan.setNamaperhiasan(namaperhiasanNew);
          }

          System.out.print("Masukkan Jenis Baru (Tekan Enter Untuk Skip): ");
          String jenisNew = br.readLine();
          if (!jenisNew.isEmpty()) {
            perhiasan.setJenis(jenisNew);
          }

          System.out.print("Masukkan Karat Baru (Tekan Enter Untuk Skip): ");
          int karatNew = Integer.parseInt(br.readLine());
          if ( karatNew != 0) {
            perhiasan.setKarat(karatNew);
          }

          System.out.print("Masukkan Berat Baru (Tekan Enter Untuk Skip): ");
          Double BeratNew = Double.parseDouble(br.readLine());
          if ( BeratNew != 0) {
            perhiasan.setBerat(BeratNew);
          }

        if (perhiasan instanceof Gold) {
            Gold gold = (Gold) perhiasan;
            System.out.print("Masukkan Emas (Input 0 Untuk Skip): ");
```

```java
                int emasNew = Integer.parseInt(br.readLine());
                if (emasNew != 0) {
                    gold.setEmas(emasNew);
                    System.out.println("Jadwal Berhasil Di Update!");
                    return;
                }
        } else if (perhiasan instanceof Diamond) {
                Diamond diamond = (Diamond) perhiasan;
                System.out.print("Masukkan Diamond Baru (Tekan Enter Untuk Skip): ");
                int berlianNew =Integer.parseInt(br.readLine());

                if (berlianNew != 0 ) {
                diamond.setBerlian(berlianNew);
                }
            System.out.println("Data Berhasil Di Update!");
                return;
            }
        }
    }
    System.out.println("Perhiasan Tidak Ditemukan!.");
}


  public static void hapushias() throws  NumberFormatException,IOException {
    System.out.print("Masukkan Nomor Perhiasan: ");
    int nomorPerhiasan = Integer.parseInt(br.readLine());
    for (int i = 0; i < perhiasan.size(); i++) {
        int nomorperhiasan = 0;
        if (perhiasan.get(i).getNomorPerhiasan() == nomorPerhiasan) {
            perhiasan.remove(i);
            System.out.println("Data Berhasil Dihapus.");
            return;
        }
    }
    System.out.println("Data Tidak Ditemukan.");


}
//   FUNGSI OVERLOADING
  public static void data_add(int addnomorPerhiasan, String addnamaperhiasan, String
addjenis, int addKarat, double addBerat, int addemas) throws IOException{
    Gold goldBaru = new Gold(addnomorPerhiasan, addnamaperhiasan, addjenis, addKarat,
addBerat, addemas);
    gold.add(goldBaru);
    goldBaru.terdata();
}
```

**Nama** : Fitra Noviarji
**Nim** : 2109106017
**Kelas** : Informatika A 2021

```
//   FUNGSI OVERLOADING
   public static void data_add(int addnomorPerhiasan, String addnamaperhiasan,String
addjenis, int addCarat, double addBerat, int addberlian) throws IOException{
      Diamond diamondBaru = new Diamond(addnomorPerhiasan, addnamaperhiasan, addjenis,
addCarat, addBerat, addberlian);
      diamond.add(diamondBaru);
      diamondBaru.terdata();
   }
}
```

Perhiasan.java

```java
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-
default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.java to
edit this template
*/
package com.mycompany.posttest2;

/**
 *
 * @author asus
 */
class Perhiasan {
        // property
    private int nomorPerhiasan ;
    private String namaperhiasan;
    private String jenis;
    private int Karat;
    private double Berat;


    // constructor || ini juga digunakan untuk bisa menghubungan objek dan
arraylist biar enak dipanggil
    public Perhiasan(int nomorPerhiasan, String namaperhiasan, String
jenis, int Karat, double Berat){
        this.nomorPerhiasan = nomorPerhiasan ;
        this.namaperhiasan = namaperhiasan;
        this.jenis = jenis;
        this.Karat = Karat;
        this.Berat = Berat;
    }
```

```java
/**
 * @return the namaperhiasan
 */

public int getNomorPerhiasan() {
return nomorPerhiasan;
}

public void setNomorPerhiasan(int nomorPerhiasan) {
    this.nomorPerhiasan = nomorPerhiasan;
}

public String getNamaperhiasan() {
    return namaperhiasan;
}

/**
 * @param namaperhiasan the namaperhiasan to set
 */
public void setNamaperhiasan(String namaperhiasan) {
    this.namaperhiasan = namaperhiasan;
}

/**
 * @return the jenis
 */
public String getJenis() {
    return jenis;
}

/**
 * @param jenis the jenis to set
 */
public void setJenis(String jenis) {
    this.jenis = jenis;
}

/**
 * @return the Karat
 */
public int getKarat() {
    return Karat;
}

/**
 * @param Karat the Karat to set
 */
```

**Nama** : Fitra Noviarji
**Nim** : 2109106017
**Kelas** : Informatika A 2021

```java
    public void setKarat(int Karat) {
        this.Karat = Karat;
    }

    /**
     * @return the Berat
     */
    public double getBerat() {
        return Berat;
    }

    /**
     * @param Berat the Berat to set
     */
    public void setBerat(double Berat) {
        this.Berat = Berat;
    }}
```

Gold.java

```java
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-
default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.java to
edit this template
 */
package com.mycompany.posttest2;

/**
 *
 * @author asus
 */
class Gold extends Perhiasan {
    // Atribut
    private int emas;

    // Constructor
    public Gold(int nomorPerhiasan, String namaperhiasan, String jenis, int
Karat, double Berat, int berlian) {
        super(nomorPerhiasan, namaperhiasan, jenis, Karat, Berat);
        this.emas = emas;
    }

    // Getter dan Setter
    public int getEmas() {
```

**Nama** : Fitra Noviarji
**Nim** : 2109106017
**Kelas** : Informatika A 2021

```java
        return emas;
    }

    public void setEmas(int emas) {
        this.emas = emas;
    }
}
```

Diamond.java

```java
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-
default.txt to change this license
 * Click nbfs://nbhost/SystemFileSystem/Templates/Classes/Class.java to
edit this template
 */
package com.mycompany.posttest2;

/**
 *
 * @author asus
 */
class Diamond extends Perhiasan {
    // Atribut
    private int berlian;

    // Constructor
    public Diamond(int nomorPerhiasan, String namaperhiasan, String jenis,
int Karat, double Berat, int berlian) {
        super(nomorPerhiasan, namaperhiasan, jenis, Karat, Berat);
        this.berlian = berlian;
    }

    // Getter dan Setter
    public int getBerlian() {
        return berlian;
    }

    public void setBerlian(int berlian) {
        this.berlian = berlian;
    }
}
```

**Nama** : Fitra Noviarji
**Nim** : 2109106017
**Kelas** : Informatika A 2021