

LAPORAN PRAKTIKUM STRUKTUR DATA

JOBSHEET 6 – INSERTION SORT DAN SHELL SORT



2022

Praktikum

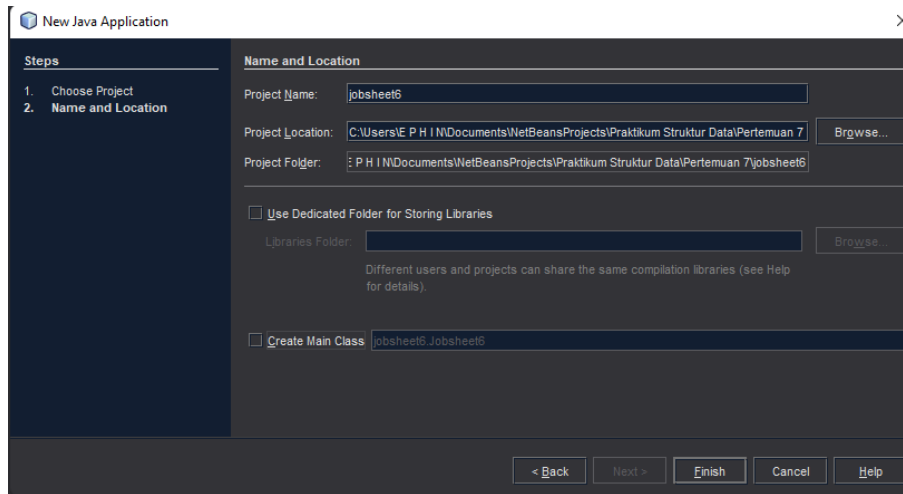
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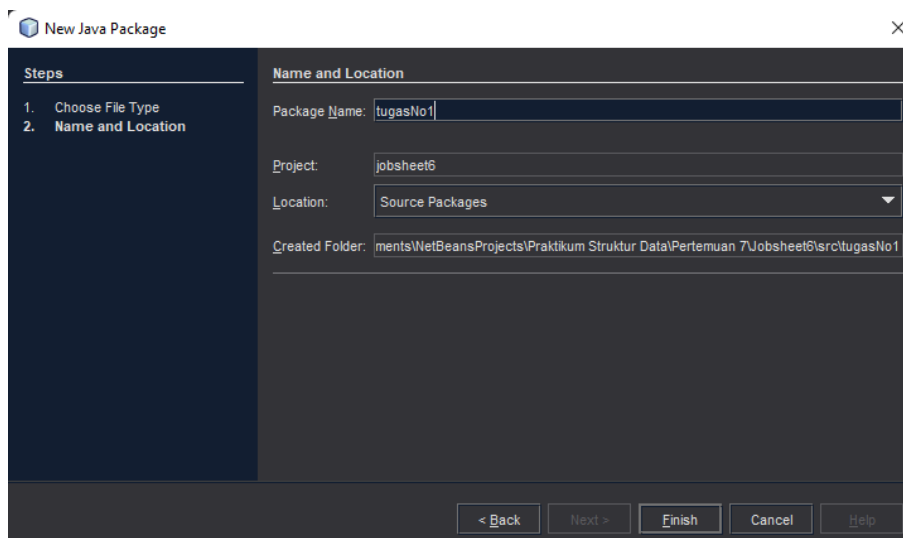
[1F_D3 – MANAJEMEN INFORMATIKA]

6.4 Tugas

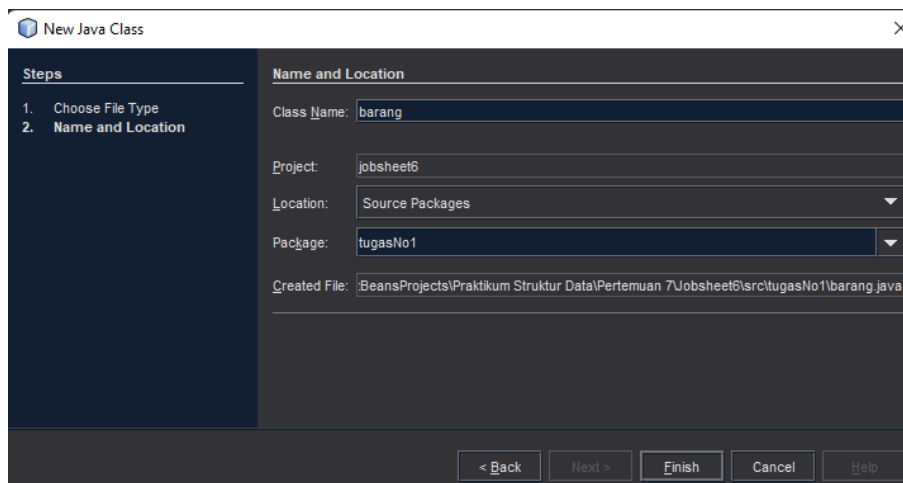
1. Membuat project bernama **jobsheet6**



2. Membuat package bernama **tugasNo1**



3. Membuat class bernama **barang** pada package **tugasNo1**



4. Mengetikkan kode program seperti gambar dibawah ini ke dalam file class **barang**

```

1  package tugasNo1;
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   *
11   * @author E P N I N
12   */
13  public class barang {
14      String nama;
15      int stok, harga;
16
17      public barang(String n, int stk, int hrg) {
18          nama = n;
19          stok = stk;
20          harga = hrg;
21      }
22
23      void tampil() {
24          System.out.println("Nama Barang = " + nama);
25          System.out.println("Stok = " + stok);
26          System.out.println("Harga = " + harga);
27      }
28  }

```

5. Membuat class bernama **dataBarang** pada package **tugasNo1**

New Java Class

×

Steps

1. Choose File Type

2. Name and Location

Name and Location

Class Name: dataBarang

Project: jobsheet6

Location: Source Packages

Package: tugasNo1

Created File: tsProjects\Praktikum Struktur Data\Pertemuan 7\Jobsheet6\src\tugasNo1\dataBarang.java

< Back

Next >

Finish

Cancel

Help

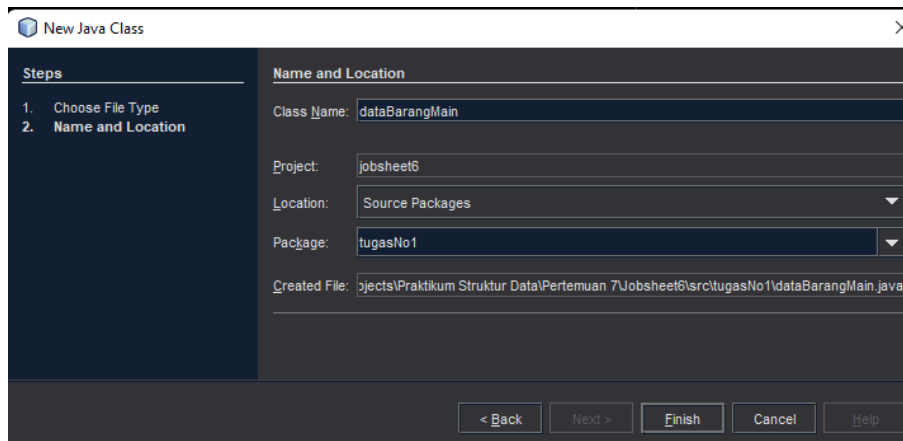
6. Mengetikkan kode program seperti gambar dibawah ini ke dalam file class **dataBarang**

```

1  package tugasNo1;
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   *
11   * @author E P N I N
12   */
13  public class dataBarang {
14      barang dataBarang[] = new barang[10];
15      int l;
16
17      void tambah(barang n) {
18          if (l < dataBarang.length) {
19              dataBarang[l] = n;
20              l++;
21          } else {
22              System.out.println("Data sudah penuh!");
23          }
24      }
25
26      void tampil() {
27          for (barang n : dataBarang) {
28              n.tampil();
29              System.out.println("-----");
30          }
31      }
32
33      void insertion() {
34          for (int i = 1; i <= dataBarang.length - 1; i++) {
35              barang temp = dataBarang[i];
36              int j = i - 1;
37              while (j >= 0 && dataBarang[j].stok < temp.stok) {
38                  dataBarang[j+1] = dataBarang[j];
39                  j = j - 1;
40              }
41              dataBarang[j+1] = temp;
42          }
43      }
44
45      void shellSort() {
46          int interval;
47          for (interval = dataBarang.length / 2; interval > 0; interval /= 2) {
48              for (int i = interval; i < dataBarang.length; i++) {
49                  barang temp = dataBarang[i];
50                  int j;
51                  for (j = i - interval; j >= 0 && dataBarang[j].stok < temp.stok; j = j - interval) {
52                      dataBarang[j+interval] = dataBarang[j];
53                  }
54                  dataBarang[j+interval] = temp;
55              }
56          }
57      }
58  }

```

7. Membuat class bernama **dataBarangMain** pada package **tugasNo1**



8. Mengetikkan kode program seperti gambar dibawah ini ke dalam file class **dataBarangMain**

```

1 package tugasNo1;
2 import java.util.Scanner;
3
4 /**
5  * Author : P P R I N
6  */
7 public class dataBarangMain {
8     public static void main(String[] args) {
9
10         Scanner s = new Scanner(System.in);
11         Scanner s1 = new Scanner(System.in);
12         dataBarang data = new dataBarang();
13         int jumlah = 4;
14         int stok, harga;
15
16         for(int i=0; i<jumlah; i++){
17             System.out.print("Nama barang = ");
18             String name = s.nextLine();
19             System.out.print("Stok = ");
20             stok = s1.nextInt();
21             System.out.print("Harga = ");
22             harga = s1.nextInt();
23
24             barang m = new barang(name, stok, harga);
25             data.tambah(m);
26         }
27
28         System.out.println("-----");
29         System.out.println("Data barang sebelum sorting = ");
30         data.tampil();
31         System.out.println("");
32
33         System.out.println("-----");
34         System.out.println("Data barang setelah insertion desc berdasarkan stok = ");
35         data.insertion();
36         data.tampil();
37         System.out.println("");
38
39         System.out.println("-----");
40         System.out.println("Data barang setelah shell sort descending berdasarkan stok = ");
41         data.shellSort();
42         data.tampil();
43
44     }
45 }

```

9. Gambar dibawah ini adalah tampilan output dari kode program diatas

```
Output
Jobsheet6 (run) x  Debugger Console x
run:
Nama Barang = Pensil
Stok = 35
Harga = 1000
Nama Barang = Buku
Stok = 20
Harga = 5000
Nama Barang = Penggaris
Stok = 50
Harga = 1500
Nama Barang = Bulpen
Stok = 25
Harga = 2000
-----
Data barang sebelum sorting =
Nama Barang = Pensil
Stok = 35
Harga = 1000
-----
Nama Barang = Buku
Stok = 20
Harga = 5000
-----
Nama Barang = Penggaris
Stok = 50
Harga = 1500
-----
Nama Barang = Bulpen
Stok = 25
Harga = 2000
-----
```



```
Output
Jobsheet6 (run) x  Debugger Console x

-----
Data barang setelah insertion desc berdasarkan stok =
Nama Barang = Penggaris
Stok = 50
Harga = 1500
-----
Nama Barang = Pensil
Stok = 35
Harga = 1000
-----
Nama Barang = Bulpen
Stok = 25
Harga = 2000
-----
Nama Barang = Buku
Stok = 20
Harga = 5000
-----

-----
Data barang setelah shell sort descending berdasarkan stok =
Nama Barang = Penggaris
Stok = 50
Harga = 1500
-----
Nama Barang = Pensil
Stok = 35
Harga = 1000
-----
Nama Barang = Bulpen
Stok = 25
Harga = 2000
-----
Nama Barang = Buku
Stok = 20
Harga = 5000
-----
BUILD SUCCESSFUL (total time: 36 seconds)
```