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Quis Praktikum Pemrograman Dasar 2

1. Array List dan Hastable

```
01.  /*
02.   * To change this license header, choose License Headers in Project Properties.
03.   * To change this template file, choose Tools | Templates
04.   * and open the template in the editor.
05.   */
06.  package Quiz;
07.
08.  import java.util.Hashtable;
09.  import java.util.ArrayList;
10.  import java.util.Collections;
11.
12.  /**
13.   *
14.   * @author ASUS
15.   */
16.  public class Movie {
17.
18.      String judulFilm;
19.      String genre;
20.      int tahunRilis;
21.
22.      Movie(String judul, String aliran, int tahun) {
23.          judulFilm = judul;
24.          genre = aliran;
25.          tahunRilis = tahun;
26.      }
27.
28.
29.      public static void main(String[] args) {
30.          Hashtable<Integer, Movie> data = new Hashtable<Integer, Movie>();
31.          ArrayList<Integer> key;
32.          int x = 0;
33.
34.          data.put(1, new Movie("Ada Apa dengan Cinta", "Sad - Romance", 2009));
35.          data.put(2, new Movie("Titanic", "Romance", 2005));
36.          data.put(3, new Movie("Descendant of the sun", "Romance", 2016));
37.          data.put(4, new Movie("Train to Busan", "Horror", 2017));
38.          data.put(5, new Movie("While were you sleeping", "Romance", 2017));
39.          data.put(6, new Movie("Boys Over Flower", "Comedy - Romance", 2009));
40.          data.put(7, new Movie("49 Days", "Drama", 2017));
41.          data.put(8, new Movie("My Stupid Boss", "Comedy", 2016));
42.          data.put(9, new Movie("My Idiot Brother", "Drama", 2009));
43.          data.put(10, new Movie("Voice", "Thriller", 2018));
44.          data.put(11, new Movie("Strong Woman Do Bong Soon", "Comedy - Romance", 2017));
45.          data.put(12, new Movie("The Legend of Blue Sea", "Drama - Romance", 2016));
46.          data.put(13, new Movie("Yongpal", "Drama", 2017));
47.          data.put(14, new Movie("Queen Of The Ring", "Comedy", 2017));
48.          data.put(15, new Movie("Tomorrow with You", "Romance", 2018));
49.
50.          System.out.println("----- Movie -----");
51.          key = new ArrayList<Integer>(data.keySet());
52.          Collections.sort(key);
53.          for (int i : key) {
54.              System.out.println((i) + ". Judul Film\t: " + data.get(i).judulFilm + "\t\tGenre\t\t: " + data.get(i).genre + "\t\tTahun\t\t: " + data.get(i).tahunRilis + "\n");
55.          }
56.      }
57.
58.  }
59.
60. }
```

Running Program



```
run:
----- Movie -----
1. Judul Film : Ada Apa dengan Cinta
Genre : Sad - Romance
Tahun : 2009

2. Judul Film : Titanic
Genre : Romance
Tahun : 2005

3. Judul Film : Descendant of the sun
Genre : Romance
Tahun : 2016

4. Judul Film : Train to Busan
Genre : Horror
Tahun : 2017

5. Judul Film : While were you sleeping
Genre : Romance
Tahun : 2017

6. Judul Film : Boys Over Flower
Genre : Comedy - Romance
Tahun : 2009
```

```
Output - PraktikumProdas2 (run) X
Tahun      : 2017

6. Judul Film : Boys Over Flower
Genre       : Comedy - Romance
Tahun      : 2009

7. Judul Film : 49 Days
Genre       : Drama
Tahun      : 2017

8. Judul Film : My Stupid Boss
Genre       : Comedy
Tahun      : 2016

9. Judul Film : My Idiot Brother
Genre       : Drama
Tahun      : 2009

10. Judul Film : Voice
Genre        : Thriller
Tahun       : 2018

11. Judul Film : Strong Woman Do Bong Soon
Genre        : Comedy - Romance
Tahun       : 2017

12. Judul Film : The Legend of Blue Sea
Genre        : Drama - Romance
Tahun       : 2016

13. Judul Film : Yongpal
Genre        : Drama
Tahun       : 2017

14. Judul Film : Queen Of The Ring
Genre        : Comedy
Tahun       : 2017

15. Judul Film : Tomorrow with You
Genre        : Romance
Tahun       : 2018

BUILD SUCCESSFUL (total time: 4 seconds)
```

2. Stack Queue

```
01.  /*
02.   * To change this license header, choose License Headers in Project Properties.
03.   * To change this template file, choose Tools | Templates
04.   * and open the template in the editor.
05.   */
06.  package Quiz;
07.
08.  /**
09.   *
10.   * @author ASUS
11.   */
12.  public class questack {
13.      questack next;
14.      questack prev;
15.      int data;
16.
17.      questack(int new_data) {
18.          data = new_data;
19.          this.next = null;
20.          this.prev = null;
21.      }
22.
23.      void set_prev(questack other) {
24.          this.prev = other;
25.          if (other != null) {
26.              other.next = this;
27.          }
28.      }
29.
30.      void set_next(questack other) {
31.          this.next = other;
32.          if (other != null) {
33.              other.prev = this;
34.          }
35.      }
36.
37.  }
```

```

01.  /*
02.   * To change this license header, choose License Headers in Project Properties.
03.   * To change this template file, choose Tools | Templates
04.   * and open the template in the editor.
05.   */
06.  package Quiz;
07.
08.  import java.util.Scanner;
09.
10.  /**
11.   *
12.   * @author ASUS
13.   */
14.  public class staque {
15.
16.      questack head;
17.      questack tail;
18.
19.      staque() {
20.          this.head = null;
21.          this.tail = null;
22.      }
23.
24.
25.      questack qpop() {
26.          questack taken = null;
27.          if (this.head == null && this.tail == null) {
28.              taken = null;
29.          } else if (this.head == this.tail) {
30.              taken = head;
31.              this.head = null;
32.              this.tail = null;
33.          } else {
34.              taken = head;
35.              head = head.next;
36.          }
37.          return taken;
38.      }
39.
40.
41.      questack spop() {
42.          questack taken = null;
43.          if (this.head == null && this.tail == null) {
44.              taken = null;
45.          } else if (this.head == this.tail) {
46.              taken = tail;
47.              this.head = null;
48.              this.tail = null;
49.          } else {
50.              taken = tail;
51.              this.tail.prev.set_next(null);
52.              //tail.prev.next = null;
53.              this.tail = tail.prev;
54.          }
55.          return taken;
56.      }
57.
58.      void push(questack new_node) {
59.          if (this.head == null && this.tail == null) {
60.              this.head = new_node;
61.              this.tail = new_node;
62.          } else {
63.              tail.next = new_node;
64.              new_node.prev = tail;
65.              this.tail = new_node;
66.          }
67.      }
68.
69.
70.      void print() {
71.          questack current = this.head;
72.          while (current != null) {
73.              System.out.print(current.data + " ");
74.              current = current.next;
75.          }
76.          System.out.println("");
77.      }

```

```

79. public static void main(String[] args) {
80.     Scanner sc = new Scanner(System.in);
81.     staque a = new staque();
82.     int data = 0, bdata = 0, pilih, pilml;
83.     char ulang, ulangpr;
84.     ulang = 'y';
85.     ulangpr = 'y';
86.
87.     do {
88.         System.out.println("===== MENU =====");
89.         System.out.println("1. Ambil Nomor Antrian ");
90.         System.out.println("2. Panggil Nomor Antrian ");
91.         System.out.println("3. Tampilkan Nomor Antrian ");
92.         System.out.println("=====");
93.         do {
94.             System.out.print("Pilih proses\t: ");
95.             pilih = sc.nextInt();
96.         } while (pilih < 1 || pilih > 3);
97.         switch (pilih) {
98.             case 1:
99.                 do {
100.                     System.out.print("Ambil Nomor Antrian \t: ");
101.                     data = sc.nextInt();
102.                     sc.nextLine();
103.                     a.push(new questack(data));
104.                     do {
105.                         System.out.print("Tambah antrian lagi? (Y / T)\t");
106.                         ulangpr = sc.next().charAt(0);
107.                     } while (ulangpr != 't' && ulangpr != 'y');
108.                 } while (ulangpr == 'y');
109.                 do {
110.                     System.out.print("Kembali ke menu awal ? (Y / T)\t");
111.                     ulang = sc.next().charAt(0);
112.                 } while (ulang != 'y' && ulang != 't');
113.                 break;
114.
115.             case 2:
116.                 System.out.println("===== Panggil Nomor Antrian =====");
117.                 System.out.println("1. Panggil Antrian Menggunakan Stack");
118.                 System.out.println("2. Panggil Antrian Menggunakan Queue");
119.                 System.out.println("-----");
120.                 do {
121.                     System.out.print("Pilih metode\t: ");
122.                     pilml = sc.nextInt();
123.                 } while (pilml < 1 || pilml > 2);
124.                 switch (pilml) {
125.                     case 1:
126.                         if (a.head != null && a.tail != null) {
127.                             System.out.println("Antrian yang dipanggil adalah : " + a.spop().data);
128.                         } else {
129.                             System.out.println("Tidak dapat menghapus data. Antrian Kosong !!");
130.                         }
131.                         do {
132.                             System.out.print("Kembali ke menu awal ? (Y / T)");
133.                             ulang = sc.next().charAt(0);
134.                         } while (ulang != 'y' && ulang != 't');
135.                         break;
136.
137.                     case 2:
138.                         if (a.head != null && a.tail != null) {
139.                             System.out.println("Antrian yang dipanggil adalah : " + a.qpop().data);
140.                         } else {
141.                             System.out.println("Tidak dapat menghapus data. Antrian Kosong !!");
142.                         }
143.                         do {
144.                             System.out.print("Kembali ke menu awal ? (Y / T)");
145.                             ulang = sc.next().charAt(0);
146.                         } while (ulang != 'y' && ulang != 't');
147.                         break;
148.                     }
149.                 }
150.                 break;
151.             }
152.         }
153.     }
154. }

```

```
152.
153.         case 3:
154.             System.out.println("===== Data Antrian =====");
155.             a.print();
156.             do {
157.                 System.out.print("Kembali ke menu awal ? (Y / T)");
158.                 ulang = sc.next().charAt(0);
159.             } while (ulang != 'y' && ulang != 't');
160.
161.             break;
162.
163.         }
164.
165.
166.     } while (ulang == 'y' || ulang == 'Y');
167.
168. }
169. }
```

Running program

```
Output - PraktikumProdas2 (run) x
run:
===== MENU =====
1. Ambil Nomor Antrian
2. Panggil Nomor Antrian
3. Tampilkan Nomor Antrian
=====
Pilih proses : 1
Ambil Nomor Antrian : 7
Tambah antrian lagi? (Y / T) y
Ambil Nomor Antrian : 6
Tambah antrian lagi? (Y / T) y
Ambil Nomor Antrian : 9
Tambah antrian lagi? (Y / T) t
Kembali ke menu awal ? (Y / T) y
===== MENU =====
1. Ambil Nomor Antrian
2. Panggil Nomor Antrian
3. Tampilkan Nomor Antrian
=====
Pilih proses : 3
===== Data Antrian =====
7 6 9
Kembali ke menu awal ? (Y / T)y
===== MENU =====
1. Ambil Nomor Antrian
2. Panggil Nomor Antrian
3. Tampilkan Nomor Antrian
=====
Pilih proses : 2
===== Panggil Nomor Antrian =====
1. Panggil Antrian Menggunakan Stack
2. Panggil Antrian Menggunakan Queue
-----
Pilih metode : 1
Antrian yang dipanggil adalah : 9
Kembali ke menu awal ? (Y / T)y
===== MENU =====
1. Ambil Nomor Antrian
2. Panggil Nomor Antrian
3. Tampilkan Nomor Antrian
=====
Pilih proses : 3
===== Data Antrian =====
7 6
Kembali ke menu awal ? (Y / T)y
===== MENU =====
1. Ambil Nomor Antrian
2. Panggil Nomor Antrian
3. Tampilkan Nomor Antrian
=====
Pilih proses : 2
===== Panggil Nomor Antrian =====
1. Panggil Antrian Menggunakan Stack
2. Panggil Antrian Menggunakan Queue
-----
Pilih metode : 2
Antrian yang dipanggil adalah : 7
Kembali ke menu awal ? (Y / T)y
```

```
-----
Pilih metode      : 2
Antrian yang dipanggil adalah : 7
Kembali ke menu awal ? (Y / T)y
===== MENU =====
1. Ambil Nomor Antrian
2. Panggil Nomor Antrian
3. Tampilkan Nomor Antrian
=====
Pilih proses      : 3
===== Data Antrian =====
6
Kembali ke menu awal ? (Y / T)t
BUILD SUCCESSFUL (total time: 1 minute 7 seconds)
```