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Kelas : KOMB1

Tugas 2 – Array dan Linked List

1. Penjumlahan Elemen

A. Array

```
1  import java.util.Scanner;
2
3  public class Jumlah {
4      public static void main(String[] args) {
5          ArrayJumlah array = new ArrayJumlah();
6          array.inputArray();
7          array.jumlahArray();
8      }
9  }
10
11 class ArrayJumlah {
12     private double[] arr;
13     private double jumlah;
14     private int banyakData;
15
16     public double[] inputArray() {
17         Scanner input = new Scanner(System.in);
18
19         System.out.print("Banyak data : ");
20         banyakData = input.nextInt();
21
22         arr = new double[banyakData];
23
```

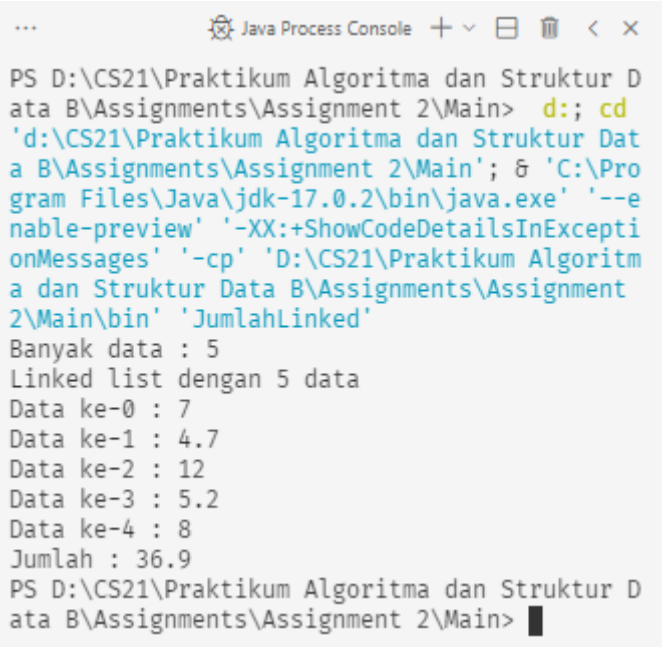
```
24          System.out.println("Array dengan " + banyakData + "
    data");
25          for(int i = 0; i < banyakData; i++) {
26              System.out.print("Data ke-" + i + " : ");
27              arr[i] = input.nextDouble();
28          }
29
30          input.close();
31
32          return arr;
33      }
34
35      public void jumlahArray() {
36          jumlah = 0;
37
38          for(int i = 0; i < arr.length; i++) {
39              jumlah += arr[i];
40          }
41
42          System.out.println("Jumlah : " + jumlah);
43      }
44  }
```

```
Java Process Console
PS D:\CS21\Praktikum Algoritma dan Struktur D
ata B\Assignments\Assignment 2\Main>  d:; cd
'd:\CS21\Praktikum Algoritma dan Struktur Dat
a B\Assignments\Assignment 2\Main'; & 'C:\Pro
gram Files\Java\jdk-17.0.2\bin\java.exe' '--e
nable-preview' '-XX:+ShowCodeDetailsInExcepti
onMessages' '-cp' 'D:\CS21\Praktikum Algoritm
a dan Struktur Data B\Assignments\Assignment
2\Main\bin' 'Jumlah'
Banyak data : 5
Array dengan 5 data
Data ke-0 : 5
Data ke-1 : 3.6
Data ke-2 : 7.3
Data ke-3 : 15
Data ke-4 : 2
Jumlah : 32.9
PS D:\CS21\Praktikum Algoritma dan Struktur D
ata B\Assignments\Assignment 2\Main>
```

B. Linked List

```
1  import java.util.LinkedList;
2  import java.util.Scanner;
3
4  public class JumlahLinked {
5      public static void main(String[] args) {
6          List list = new List();
7          list.inputList();
8          list.jumlahLinked();
9      }
10 }
11
12 class List {
13     private LinkedList<Double> list;
14     private int banyakData;
15     private double data, jumlah;
16
17     public LinkedList<Double> inputList() {
18         list = new LinkedList<Double>();
19
20         Scanner input = new Scanner(System.in);
21
22         System.out.print("Banyak data : ");
23         banyakData = input.nextInt();
24
25         System.out.println("Linked list dengan " + banyakData
   + " data");
26
27         for(int i = 0; i < banyakData; i++) {
28             System.out.print("Data ke-" + i + " : ");
29             data = input.nextDouble();
30             list.add(data);
31         }
32
```

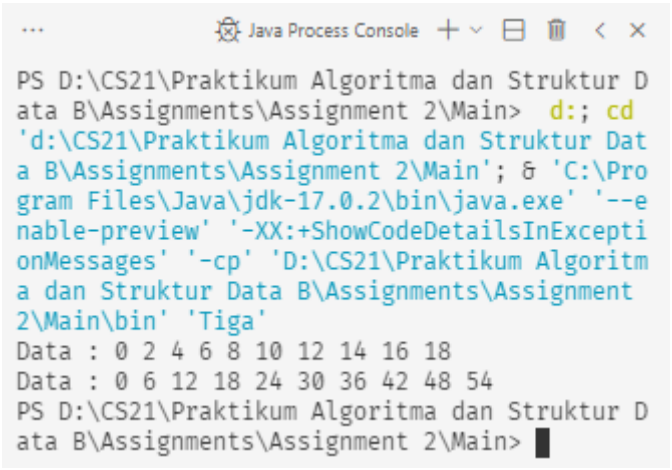
```
33          input.close();
34
35          return list;
36      }
37
38      public void jumlahLinked() {
39          jumlah = 0;
40
41          for(int i = 0; i < banyakData; i++) {
42              jumlah += list.get(i);
43          }
44
45          System.out.println("Jumlah : " + jumlah);
46      }
47  }
```



2. Kelipatan Tiga

```
1  public class Tiga {
2      public static void main(String[] args) {
3          ArrayLipat3 array = new ArrayLipat3();
4          array.inputArray();
5          array.displayLipat();
6          array.multiplyArray();
7          array.displayLipat();
8      }
9  }
10
11 class ArrayLipat3 {
12     int[] arr = new int[10];
13
14     public int[] inputArray() {
15         for(int i = 0; i < 10; i++) {
16             arr[i] = i * 2;
17         }
18         return arr;
19     }
20
21     public int[] multiplyArray() {
22         for(int i = 0; i < 10; i++) {
23             arr[i] = arr[i] * 3;
24         }
25         return arr;
26     }
27
28     public void displayLipat() {
29         System.out.print("Data : ");
30         for(int i = 0; i < 10; i++) {
31             System.out.print(arr[i] + " ");
32         }
33         System.out.println();
```

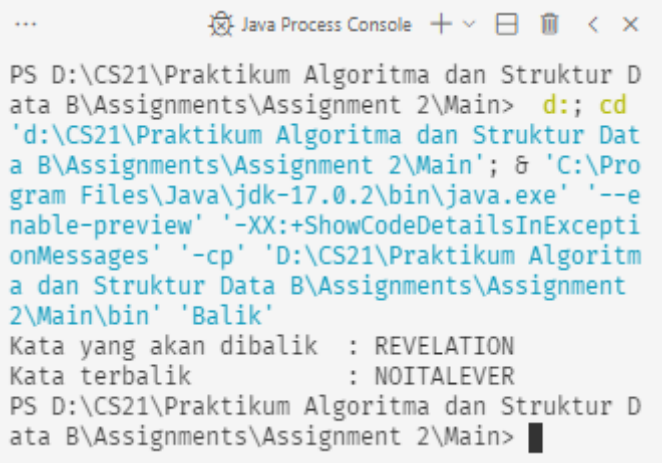
```
34      }
35 }
```


Java Process Console
PS D:\CS21\Praktikum Algoritma dan Struktur Data B\Assignments\Assignment 2\Main> d:; cd 'd:\CS21\Praktikum Algoritma dan Struktur Data B\Assignments\Assignment 2\Main'; & 'C:\Program Files\Java\jdk-17.0.2\bin\java.exe' '--enable-preview' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'D:\CS21\Praktikum Algoritma dan Struktur Data B\Assignments\Assignment 2\Main\bin' 'Tiga'
Data : 0 2 4 6 8 10 12 14 16 18
Data : 0 6 12 18 24 30 36 42 48 54
PS D:\CS21\Praktikum Algoritma dan Struktur Data B\Assignments\Assignment 2\Main>

3. Membalik Kata / Kalimat

```
1  import java.util.Scanner;
2
3  public class Balik {
4      public static void main(String[] args) {
5          Kata kata = new Kata();
6          kata.inputKata();
7          kata.balikKata();
8      }
9  }
10
11 class Kata {
12     private String kata;
13     private char[] kataArray, balik;
14
15     public char[] inputKata() {
16         Scanner input = new Scanner(System.in);
17
18         System.out.print("Kata yang akan dibalik\t: ");
19         kata = input.nextLine();
20
21         balik = new char[kata.length()];
22
23         input.close();
24
25         return balik;
26     }
27
28     public char[] balikKata() {
29         kataArray = kata.toCharArray();
30
31         for(int i = 0; i < kata.length(); i++) {
32             balik[i] = kataArray[kata.length() - (i+1)];
33         }
```

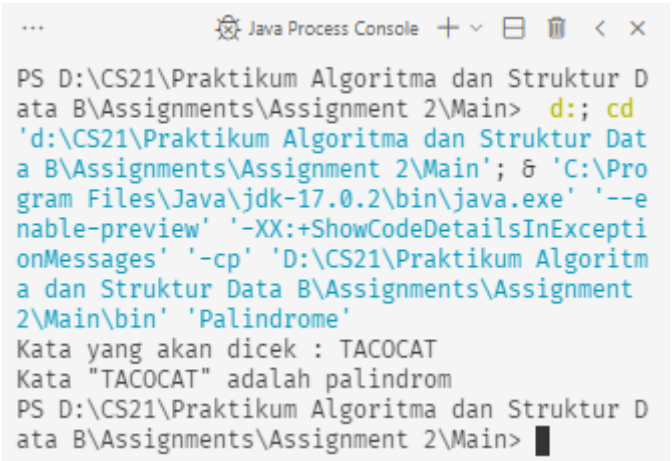
```
34
35          displayBalik();
36
37          return balik;
38      }
39
40      public void displayBalik() {
41          System.out.print("Kata terbalik\t\t: ");
42          for(int i = 0; i < kata.length(); i++) {
43              System.out.print(balik[i]);
44          }
45          System.out.println();
46      }
47  }
```



4. Cek Palindrom

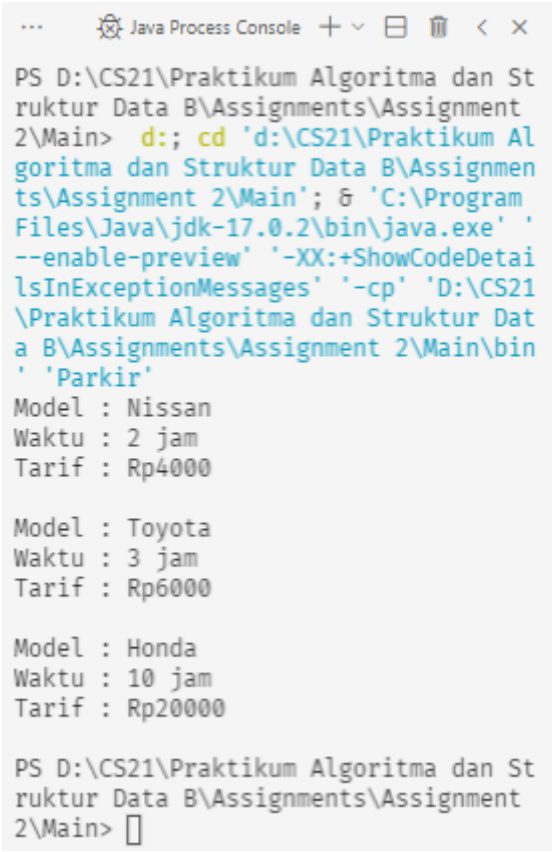
```
1  import java.util.Scanner;
2
3  public class Palindrome {
4      public static void main(String[] args) {
5          KataPalindrom kata = new KataPalindrom();
6          kata.inputPalindrom();
7          kata.cekPalindrom();
8      }
9  }
10
11 class KataPalindrom {
12     private String kata, stringKataAsli, stringKataBalik;
13     private boolean isPalindrome = false;
14     private char[] kataAsli, kataBalik;
15
16     public String inputPalindrom() {
17         Scanner input = new Scanner(System.in);
18
19         System.out.print("Kata yang akan dicek : ");
20         kata = input.nextLine();
21
22         input.close();
23
24         return kata;
25     }
26
27     public void cekPalindrom() {
28         kataAsli = kata.toCharArray();
29
30         kataBalik = new char[kata.length()];
31
32         for(int i = 0; i < kata.length(); i++) {
33             kataBalik[i] = kataAsli[kata.length() - (i+1)];
```

```
34          }
35
36          stringKataAsli = new String(kataAsli);
37          stringKataBalik = new String(kataBalik);
38
39          if(stringKataAsli.equals(stringKataBalik)) {
40              isPalindrome = true;
41          }
42
43          if(isPalindrome) {
44              System.out.println("Kata \"" + kata + "\" adalah
    palindrom");
45          }
46          else {
47              System.out.println("Kata \"" + kata + "\" bukan
    palindrom");
48          }
49      }
50  }
```



5. Biaya Parkir

```
1  public class Parkir {
2      public static void main(String[] args) {
3          Mobil nissan = new Mobil("Nissan", 2);
4          Mobil toyota = new Mobil("Toyota", 3);
5          Mobil honda = new Mobil("Honda", 10);
6          nissan.status();
7          toyota.status();
8          honda.status();
9      }
10 }
11
12 class Mobil {
13     private String model;
14     private int waktu, tarif;
15
16     public Mobil(String model, int waktu) {
17         this.model = model;
18         this.waktu = waktu;
19     }
20
21     public void status() {
22         this.tarif = 2000 * waktu;
23
24         System.out.println("Model : " + model);
25         System.out.println("Waktu : " + waktu + " jam");
26         System.out.println("Tarif : Rp" + tarif);
27         System.out.println();
28     }
29 }
```


Java Process Console
PS D:\CS21\Praktikum Algoritma dan Struktur Data B\Assignments\Assignment 2\Main> d:; cd 'd:\CS21\Praktikum Algoritma dan Struktur Data B\Assignments\Assignment 2\Main'; & 'C:\Program Files\Java\jdk-17.0.2\bin\java.exe' '--enable-preview' '-XX:+ShowCodeDetailsInExceptionMessages' '-cp' 'D:\CS21\Praktikum Algoritma dan Struktur Data B\Assignments\Assignment 2\Main\bin' 'Parkir'
Model : Nissan
Waktu : 2 jam
Tarif : Rp4000
Model : Toyota
Waktu : 3 jam
Tarif : Rp6000
Model : Honda
Waktu : 10 jam
Tarif : Rp20000
PS D:\CS21\Praktikum Algoritma dan Struktur Data B\Assignments\Assignment 2\Main>