

UTS

Array no. 1 dan Praktikum Collection no. 1



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D3-TEKNIK INFORMATIKA
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Array Latihan No. 1

Terdapat array dengan data 23, 6, 47, 35, 2, 14, lakukan seperti di bawah ini !

- Urutkan data pada array
- Hitung rata-rata dari data tersebut.
- Dapatkan data minimum dan maximum.
- Tampilkan dari data tersebut yang merupakan bilangan ganjil.
- Tampilkan dari data tersebut yang merupakan bilangan prima.



```
src > com > program > arraylatihan1.java > arraylatihan1 > main(String[])
1 package com.program;
2 import java.util.Arrays;
3
4 public class arraylatihan1 {
5     public static void main(String[] args) {
6         int i, Ganjil;
7         float sum = 0;
8         float rata;
9         int num[] = {23, 6, 47, 35, 2, 14};
10        int a = num.length;
11        System.out.println("\n=====\n");
12        System.out.println("-> Data yang belum durutkan :");
13        for (i = 0; i < a; i++) {
14            System.out.print(" " + num[i]);
15        }
16        System.out.println(" ");
17        System.out.println("-> Data yang sudah durutkan :");
18        Arrays.sort(num);
19        for (i = 0; i < a; i++) {
20            System.out.print(" " + num[i]);
21        }
22        System.out.println(" ");
23        System.out.println("\n=====\n");
24        for (i = 0; i < a; i++) {
25            sum = sum + num[i];
26        }
27
28        rata = sum / a;
29        System.out.println("=> Rata - Rata = " + rata);
30        System.out.println("");
31        System.out.println("\n=> Data Minimum : ");
32        Arrays.sort(num);
33        System.out.print(" " + num[0]);
34        System.out.println("\n=> Data Maximum : ");
35        System.out.print(" " + num[a - 1]);
36
37        System.out.println("\n=====\n");
38        System.out.println("=> Bilangan Ganjil : ");
39        for (i = 0; i < a; i++) {
40            if (num[i] % 2 != 0) {
41                System.out.print(" " + num[i]);
42            }
43        }
44
45        System.out.println(" ");
46        System.out.println("\n=====\n");
47        System.out.println("=> Bilangan Prima");
48
49        for (i = 0; i < num.length; i++) {
50            int ya = 0;
51            for (int bagi = 1; bagi < num[i]; bagi++) {
52                if (num[i] % bagi == 0) {
53                    ya++;
54                }
55            }
56            if (ya == 1) {
57                System.out.print(" " + num[i]);
58            }
59        }
60        System.out.println(" ");
61    }
62 }
```

```
src > com > program > arraylatihan1.java > arraylatihan1 > main(String[])
32 Arrays.sort(num);
33 System.out.print(" " + num[0]);
34 System.out.println("\n => Data Maximum : ");
35 System.out.println(" " + num[a - 1]);
36
37 System.out.println("\n=====n");
38 System.out.println(" => Bilangan Ganjil : " );
39 for (i = 0; i < a; i++) {
40     if (num[i] % 2 != 0){
41         System.out.print(" " + num[i]);
42     }
43 }
44
45 System.out.println(" ");
46 System.out.println("\n=====n");
47 System.out.println(" => Bilangan Prima" );
48
49 for (i = 0; i < num.length; i++) {
50     int ya = 0;
51     for (int bagi = 1; bagi < num[i]; bagi++) {
52         if (num[i] % bagi == 0) {
53             ya++;
54         }
55     }
56     if (ya == 1) {
57         System.out.print(" " + num[i]);
58     }
59 }
60 System.out.println(" ");
61 System.out.println("\n=====n");
62 }
63 }
```

Activate Windows
Go to Settings to activate Windows.

```
PROBLEMS 1 OUTPUT DEBUG CONSOLE TERMINAL
=> Data yang sudah durutkan :
2 6 14 23 35 47

=====

=> Rata - Rata = 21.166666

=> Data Minimum :
2
=> Data Maximum :
47

=====

=> Bilangan Ganjil :
23 35 47

=====

=> Bilangan Prima
2 23 47

=====

PS C:\Java\cobax>
```

Latihan Collection no. 1

Terdapat sebuah himpunan

$$A = \{1,2,3,4,5\}$$

$$B = \{5,6,7,8,9,10\}$$

Menggunakan class yang mengimplementasikan Interface Set, dapatkan output seperti :

- $A - B$
- $A \cap B$
- $A \cup B$
- $A \subset B$

src > com > program > ● latihan1collection.java > {} com.program

```
1 package com.program;
2 import java.util.HashSet;
3 import java.util.Set;
4 class latihan1collection {
    Run | Debug
5     public static void main(String[] args) {
6         Set a = new HashSet();
7         Set b = new HashSet();
8         Set c = new HashSet();
9         Set d = new HashSet();
10        Set e = new HashSet();
11        Set f = new HashSet();
12        for (int i = 1; i <= 5; i++) {
13            a.add(i);
14            b.add(i);
15            c.add(i);
16            d.add(i);
17            e.add(i);
18        }
19        for (int i=5;i<=10;i++){
20            f.add(i);
21        }
22        System.out.println("A = "+a);
23        System.out.println("F = "+f);
24        b.removeAll(f);
25        System.out.println("A - B = "+b);
26        c.retainAll(f);
27        System.out.println("A n B = "+c);
28        d.add(f);
29        System.out.println("A U B = "+d);
30        e.contains(f);
31        System.out.println("A C B = "+e);
32    }
```

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PROBLEMS 22 OUTPUT DEBUG CONSOLE TERMINAL

Java Process Console + - [] [] ^ X

A C B = [1, 2, 3, 4, 5]
PS C:\Java\coba>

PS C:\Java\coba> c:; cd 'c:\Java\coba'; & 'C:\Program Files\Java\jdk-17\bin\java.exe' '--enable-preview' '-XX:+ShowCodeDetailsInExceptionMessages' '@C:\Users\Lenov\AppData\Local\Temp\cp_f551bo4la4w9jw5m08roqmrco.argfile' 'com.program.latihan1collection'

A = [1, 2, 3, 4, 5]
F = [5, 6, 7, 8, 9, 10]
A - B = [1, 2, 3, 4]
A n B = [5]
A U B = [1, 2, 3, 4, 5, [5, 6, 7, 8, 9, 10]]
A C B = [1, 2, 3, 4, 5]
PS C:\Java\coba>