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IF-46-10

JAWABAN

1. Bilangan fibonnaci sampai suku ke-n

   Kode :

```java
package com.mycompany.tpnum1;

import java.util.Scanner;

public class TPnum1 {

    // Metode untuk menghitung deret Fibonacci
    public static int[] hitungFibonacci_1301223129(int n) {
        int[] fibonacciArray_1301223129 = new int[n];

        // Mengisi dua nilai pertama
        if (n > 0) {
            fibonacciArray_1301223129[0] = 1;
        }
        if (n > 1) {
            fibonacciArray_1301223129[1] = 1;
        }

        // Menghitung sisa deret Fibonacci
        for (int i = 2; i < n; i++) {
            fibonacciArray_1301223129[i] = fibonacciArray_1301223129[i - 1] + fibonacciArray_1301223129[i - 2];
        }

        return fibonacciArray_1301223129;
    }

    public static void main(String[] args) {
        // Membuat Scanner untuk input pengguna
        Scanner scanner = new Scanner(source: System.in);

        // Meminta input dari pengguna
        System.out.print(s: "Masukkan nilai n (n > 0): ");
        int n = scanner.nextInt();

        // Memastikan input valid
        if (n <= 0) {
            System.out.println(x: "Input harus > 0.");
            return;
        }

        // Menghitung deret Fibonacci
        int[] fibonacciArray_1301223129 = hitungFibonacci_1301223129(n);

        // Menampilkan hasil Fibonacci
        System.out.println(x: "Output :");
        for (int i = 0; i < n; i++) {
            System.out.print(fibonacciArray_1301223129[i] + " ");
        }
```

```
49
50              // Baris baru setelah output
51              System.out.println();
52
53              // Menutup Scanner
54              scanner.close();
55          }
56      }
```

Output :

```
--- resources:3.3.1:resources (default-resources) @ TPnum1 ---
skip non existing resourceDirectory D:\PBO\TP\TPnum1\src\main\resources

--- compiler:3.11.0:compile (default-compile) @ TPnum1 ---
Nothing to compile - all classes are up to date

--- exec:3.1.0:exec (default-cli) @ TPnum1 ---
Masukkan nilai n (n > 0): 6
Output :
1 1 2 3 5 8
```

```
--- resources:3.3.1:resources (default-resources) @ TPnum1 ---
skip non existing resourceDirectory D:\PBO\TP\TPnum1\src\main\resources

--- compiler:3.11.0:compile (default-compile) @ TPnum1 ---
Nothing to compile - all classes are up to date

--- exec:3.1.0:exec (default-cli) @ TPnum1 ---
Masukkan nilai n (n > 0): 11
Output :
1 1 2 3 5 8 13 21 34 55 89
------------------------------------------------------------------------
```

2. Perkalian matriks

   Kode :

```java
/*
 * Click nbfs://nbhost/SystemFileSystem/Templates/Licenses/license-
 */

package com.mycompany.tpnum2;

/**
 *
 * @author nbpav
 */
import java.util.Scanner;

public class TPnum2 {
    public static void main(String[] args) {
        // Membuat Scanner untuk input pengguna
        Scanner scanner = new Scanner(source: System.in);

        // Meminta input dari pengguna untuk ukuran matriks n x n
        System.out.println(x: "Perkalian Matriks nxn");
        System.out.print(s: "n: ");
        int n = scanner.nextInt();

```

```
23          // Validasi input
24          if (n <= 0) {
25              System.out.println(x: "Input harus > 0.");
26              scanner.close();
27              return;
28          }
29
30          // Inisialisasi matriks
31          int[][] matrix1 = new int[n][n];
32          int[][] matrix2 = new int[n][n];
33          int[][] hasil = new int[n][n];
34
35          // Input nilai untuk matriks 1
36          System.out.println(x: "Isi matrix 1:");
37          for (int i = 0; i < n; i++) {
38              for (int j = 0; j < n; j++) {
39                  matrix1[i][j] = scanner.nextInt();
40              }
41          }
42
43          // Input nilai untuk matriks 2
44          System.out.println(x: "Isi matrix 2:");
45          for (int i = 0; i < n; i++) {
46              for (int j = 0; j < n; j++) {
47                  matrix2[i][j] = scanner.nextInt();
```

```
48                  }
49              }
50
51              // Melakukan perkalian matriks
52              for (int i = 0; i < n; i++) {
53                  for (int j = 0; j < n; j++) {
54                      hasil[i][j] = 0; // Setel nilai awal hasil ke 0
55                      for (int k = 0; k < n; k++) {
56                          hasil[i][j] += matrix1[i][k] * matrix2[k][j];
57                      }
58                  }
59              }
60
61              // Menampilkan hasil perkalian
62              System.out.println(x: "Hasil perkalian:");
63              for (int i = 0; i < n; i++) {
64                  for (int j = 0; j < n; j++) {
65                      System.out.print(hasil[i][j] + " ");
66                  }
67                  System.out.println(); // Pindah baris setelah setiap baris matriks
68              }
69
70              // Menutup Scanner
71              scanner.close();
72          }
```

Output :

```
--- resources:3.3.1:resources (default-resources) @ TPnum2 ---
skip non existing resourceDirectory D:\PBO\TPMOD2\TPnum2\src\main\resources

--- compiler:3.11.0:compile (default-compile) @ TPnum2 ---
Changes detected - recompiling the module! :source
Compiling 1 source file with javac [debug target 22] to target\classes

--- exec:3.1.0:exec (default-cli) @ TPnum2 ---
Perkalian Matriks nxn
n: 2
Isi matrix 1:
3 -2
4 5
Isi matrix 2:
5 1
-1 2
Hasil perkalian:
17 -1
15 14
------------------------------------------------------------------------
```