

LAPORAN JOBSHEET 1

MATKUL PRAKTIKUM ALGORITMA DAN STRUKTUR DATA



DOSEN PEMBIMBING

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PRODI D4-TEKNIK INFORMATIKA

## PERTEMUAN 1

Github : [P\\_AL\\_SD\\_TI-03\\_TI1H/Pertemuan-01 at main · ahmaddzulfadhlihan/P\\_AL\\_SD\\_TI-03\\_TI1H](https://github.com/ahmaddzulfadhlihan/P_AL_SD_TI-03_TI1H)  
(github.com)

TOPIK : Konsep Dasar Pemograman

TUJUAN :

1. Mengimplementasikan pemilihan, perulangan, array, dan fungsi dalam kode java.

## PRAKTIKUM

### 1. Pemilihan

| Soal         | <p>Buatlah program untuk menghitung nilai akhir dari mahasiswa dengan ketentuan 20% nilai tugas, 20% dari nilai kuis, 30% nilai UTS, dan 40% nilai UAS. Setiap nilai yang dimasukkan mempunyai batas nilai 0 - 100. Ketika pengguna memasukkan diluar rentang tersebut maka akan keluar output "nilai tidak valid". Ketika nilai akhir sudah didapatkan selanjutnya lakukan konversi nilai dengan ketentuan sebagai berikut:</p> <table><tr><th rowspan="2">Nilai Angka</th><th colspan="3">Nilai Mutu</th></tr><tr><th>Nilai Huruf</th><th>Nilai Setara</th><th>Kualifikasi</th></tr><tr><td>80&lt;N≤ 100</td><td>A</td><td>4</td><td>Sangat Baik</td></tr><tr><td>73 &lt;N≤ 80</td><td>B+</td><td>3,5</td><td>Lebih dari Baik</td></tr><tr><td>65 &lt;N≤ 73</td><td>B</td><td>3</td><td>Baik</td></tr><tr><td>60&lt;N≤ 65</td><td>C+</td><td>2,5</td><td>Lebih dari Cukup</td></tr><tr><td>50 &lt;N≤ 60</td><td>C</td><td>2</td><td>Cukup</td></tr><tr><td>39 &lt;N≤ 50</td><td>D</td><td>1</td><td>Kurang</td></tr><tr><td>N≤ 39</td><td>E</td><td>0</td><td>Gagal</td></tr></table> <p>Jika Nilai Huruf yang didapatkan adalah A,B+,B+C+,C maka LULUS, jika nilai huruf D dan E maka TIDAK LULUS.</p> <ul style="list-style-type: none"><li>• Input dari program berupa komponen nilai tugas,kuis, UTS, UAS</li><li>• Otuput dari program "nilai tidak valid" jika nilai yang dimasukkan diluar ketentuan</li><li>• Output dari program berupa hasil nilai akhir, nilai huruf, dan keterangan LULUS/TIDAK LULUS</li></ul> | Nilai Angka  | Nilai Mutu       |  |  | Nilai Huruf | Nilai Setara | Kualifikasi | 80<N≤ 100 | A | 4 | Sangat Baik | 73 <N≤ 80 | B+ | 3,5 | Lebih dari Baik | 65 <N≤ 73 | B | 3 | Baik | 60<N≤ 65 | C+ | 2,5 | Lebih dari Cukup | 50 <N≤ 60 | C | 2 | Cukup | 39 <N≤ 50 | D | 1 | Kurang | N≤ 39 | E | 0 | Gagal |
|--------------|---|--------------|------------------|--|--|-------------|--------------|-------------|-----------|---|---|-------------|-----------|----|-----|-----------------|-----------|---|---|------|----------|----|-----|------------------|-----------|---|---|-------|-----------|---|---|--------|-------|---|---|-------|
| Nilai Angka  | Nilai Mutu  |              |                  |  |  |             |              |             |           |   |   |             |           |    |     |                 |           |   |   |      |          |    |     |                  |           |   |   |       |           |   |   |        |       |   |   |       |
|              | Nilai Huruf   | Nilai Setara | Kualifikasi      |  |  |             |              |             |           |   |   |             |           |    |     |                 |           |   |   |      |          |    |     |                  |           |   |   |       |           |   |   |        |       |   |   |       |
| 80<N≤ 100    | A   | 4            | Sangat Baik      |  |  |             |              |             |           |   |   |             |           |    |     |                 |           |   |   |      |          |    |     |                  |           |   |   |       |           |   |   |        |       |   |   |       |
| 73 <N≤ 80    | B+  | 3,5          | Lebih dari Baik  |  |  |             |              |             |           |   |   |             |           |    |     |                 |           |   |   |      |          |    |     |                  |           |   |   |       |           |   |   |        |       |   |   |       |
| 65 <N≤ 73    | B   | 3            | Baik             |  |  |             |              |             |           |   |   |             |           |    |     |                 |           |   |   |      |          |    |     |                  |           |   |   |       |           |   |   |        |       |   |   |       |
| 60<N≤ 65     | C+  | 2,5          | Lebih dari Cukup |  |  |             |              |             |           |   |   |             |           |    |     |                 |           |   |   |      |          |    |     |                  |           |   |   |       |           |   |   |        |       |   |   |       |
| 50 <N≤ 60    | C   | 2            | Cukup            |  |  |             |              |             |           |   |   |             |           |    |     |                 |           |   |   |      |          |    |     |                  |           |   |   |       |           |   |   |        |       |   |   |       |
| 39 <N≤ 50    | D   | 1            | Kurang           |  |  |             |              |             |           |   |   |             |           |    |     |                 |           |   |   |      |          |    |     |                  |           |   |   |       |           |   |   |        |       |   |   |       |
| N≤ 39        | E   | 0            | Gagal            |  |  |             |              |             |           |   |   |             |           |    |     |                 |           |   |   |      |          |    |     |                  |           |   |   |       |           |   |   |        |       |   |   |       |
| Kode Program | <pre>import java.util.Scanner; public class Praktikum01 {     public static void main(String[] args) {         Scanner sc = new Scanner(System.in);         System.out.println("Program Menghitung Nilai Akhir");         System.out.println("===== ");          System.out.print("Nilai Nilai Tugas : ");         int tugas = sc.nextInt();         System.out.print("Nilai Nilai Kuis : ");         int kuis = sc.nextInt();         System.out.print("Nilai Nilai UTS : ");         int uts = sc.nextInt();         System.out.print("Nilai Nilai UAS : ");         int uas= sc.nextInt();</pre>   |              |                  |  |  |             |              |             |           |   |   |             |           |    |     |                 |           |   |   |      |          |    |     |                  |           |   |   |       |           |   |   |        |       |   |   |       |

```

        System.out.println("=====
");
        System.out.println("=====
");
        if (tugas <= 100 && kuis <= 100 && uts <= 100 &&
uas <= 100) {
            double tugasAkhir = tugas * 0.2;
            double kuisAkhir = kuis * 0.2;
            double utsAkhir = uts * 0.3;
            double uasAkhir = uas * 0.3;
            double nilaiMatkul = tugasAkhir + kuisAkhir +
utsAkhir + uasAkhir;
            System.out.println(nilaiMatkul);
            String huruf;
            if (nilaiMatkul > 80 && nilaiMatkul <= 100) {
                huruf = "A";
            }
            else if (nilaiMatkul > 73 && nilaiMatkul <=80)
{
                huruf = "B+";
            }
            else if (nilaiMatkul > 73 && nilaiMatkul <=80)
{
                huruf = "B+";
            }else if (nilaiMatkul > 65 && nilaiMatkul
<=73) {
                huruf = "B";
            }else if (nilaiMatkul > 60 && nilaiMatkul
<=65) {
                huruf = "C+";
            }else if (nilaiMatkul > 50 && nilaiMatkul
<=60) {
                huruf = "C";
            }
            else if (nilaiMatkul > 39 && nilaiMatkul <=50)
{
                huruf = "D";
            }
            else {
                huruf = "E";
            }
            System.out.println("Nilai Huruf : " + huruf);
            System.out.println("=====
=====");
            System.out.println("=====
=====");
            if (huruf == "D" || huruf == "E") {
                System.out.println("TIDAK LULUS");
            }
            else {
                System.out.println("SELAMAT ANDA LULUS");
            }
        }
        else {
            System.out.println("nilai invalid");
            System.out.println("=====
=====");
        }
        System.out.println("=====
");
        sc.close();

```

|        |  |
|--------|--|
|        | <pre>//DONE } }</pre>  |
| Runnig | <pre>a-project\bin' 'Praktikum01' Program Menghitung Nilai Akhir ===== Nilai Nilai Tugas : 89 Nilai Nilai Kuis : 81 Nilai Nilai UTS : 67 Nilai Nilai UAS : 78 ===== 77.5 Nilai Huruf : B+ ===== SELAMAT ANDA LULUS ===== PS C:\Users\ahmad&gt;</pre> |

## 2. Perulangan

|              |  |
|--------------|--|
| Soal         | <p>Buatlah program yang dapat menampilkan deretan bilangan dari angka 1 sampai n kecuali angka 6 dan 10, angka ganjil dicetak dengan asterik "*", angka genap dicetak sesuai bilangan aslinya, dengan n = 2 digit terakhir NIM anda.</p> <p>*bila n&lt;10 maka tambahkan 10 (n+=10)</p> <p>Contoh:</p> <p>Input NIM: 2341720102 maka n=12</p> <p><b>OUTPUT : * 2 * 4 * * 8 * * 12</b></p> <p>Contoh 2:</p> <p>Input NIM: 2341720113 maka n=13</p> <p><b>OUTPUT : * 2 * 4 * * 8 * * 12</b></p>  |
| Kode Program | <pre>import java.util.Scanner;  public class Praktikum02 {     public static void main(String[] args) {         Scanner sc = new Scanner(System.in);         System.out.print("Input NIM: ");         String nim = sc.next();         int digitAkhir = Integer.parseInt(nim.substring(nim.length() - 2));         if (digitAkhir &lt; 10) {             digitAkhir += 10;         }         System.out.println("n : " + digitAkhir);         for (int i = 1; i &lt;= digitAkhir; i++) {             if (i != 6 &amp;&amp; i != 10) {                 if (i % 2 == 0) {                     System.out.print(i + " ");                 } else {                     System.out.print("* ");                 }             }         }     } }</pre> |

|         |   |
|---------|---|
|         | <pre>         sc.close();     } } </pre>  |
| Running | <pre> jdt_ws\jdt.ls-java-project\bin' 'Praktikum02' Input NIM: 2341720102 n : 12 * 2 * 4 * * 8 * * 12 PS C:\Users\ahmad&gt; &amp; 'C:\Program Files\Java\j jdt_ws\jdt.ls-java-project\bin' 'Praktikum02' Input NIM: 2341720113 n : 13 * 2 * 4 * * 8 * * 12 * PS C:\Users\ahmad&gt; </pre> |

### 3. Array

| Soal         | <p>Buatlah program untuk menghitung IP Semester dari matakuliah yang Anda tempuh semester lalu. Formula untuk menghitung IP semester sebagai berikut :</p> $IP\ Semester = \frac{\sum_i (Nilai\ Setara_i * bobot\ SKS_i)}{\sum SKS}$ <p>Nilai setara didapatkan dari tabel konversi berikut ini :</p> <table><tr><th rowspan="2">Nilai Angka</th><th colspan="3">Nilai Mutu</th></tr><tr><th>Nilai Huruf</th><th>Nilai Setara</th><th>Kualifikasi</th></tr><tr><td>80&lt;N≤ 100</td><td>A</td><td>4</td><td>Sangat Baik</td></tr><tr><td>73 &lt;N≤ 80</td><td>B+</td><td>3,5</td><td>Lebih dari Baik</td></tr><tr><td>65 &lt;N≤ 73</td><td>B</td><td>3</td><td>Baik</td></tr><tr><td>60&lt;N≤ 65</td><td>C+</td><td>2,5</td><td>Lebih dari Cukup</td></tr><tr><td>50 &lt;N≤ 60</td><td>C</td><td>2</td><td>Cukup</td></tr><tr><td>39 &lt;N≤ 50</td><td>D</td><td>1</td><td>Kurang</td></tr><tr><td>N≤ 39</td><td>E</td><td>0</td><td>Gagal</td></tr></table> <p>Input dari program berupa nama matakuliah, bobot SKS, serta nilai huruf dari matakuliah tersebut.</p> | Nilai Angka  | Nilai Mutu       |  |  | Nilai Huruf | Nilai Setara | Kualifikasi | 80<N≤ 100 | A | 4 | Sangat Baik | 73 <N≤ 80 | B+ | 3,5 | Lebih dari Baik | 65 <N≤ 73 | B | 3 | Baik | 60<N≤ 65 | C+ | 2,5 | Lebih dari Cukup | 50 <N≤ 60 | C | 2 | Cukup | 39 <N≤ 50 | D | 1 | Kurang | N≤ 39 | E | 0 | Gagal |
|--------------|---|--------------|------------------|--|--|-------------|--------------|-------------|-----------|---|---|-------------|-----------|----|-----|-----------------|-----------|---|---|------|----------|----|-----|------------------|-----------|---|---|-------|-----------|---|---|--------|-------|---|---|-------|
| Nilai Angka  | Nilai Mutu  |              |                  |  |  |             |              |             |           |   |   |             |           |    |     |                 |           |   |   |      |          |    |     |                  |           |   |   |       |           |   |   |        |       |   |   |       |
|              | Nilai Huruf   | Nilai Setara | Kualifikasi      |  |  |             |              |             |           |   |   |             |           |    |     |                 |           |   |   |      |          |    |     |                  |           |   |   |       |           |   |   |        |       |   |   |       |
| 80<N≤ 100    | A   | 4            | Sangat Baik      |  |  |             |              |             |           |   |   |             |           |    |     |                 |           |   |   |      |          |    |     |                  |           |   |   |       |           |   |   |        |       |   |   |       |
| 73 <N≤ 80    | B+  | 3,5          | Lebih dari Baik  |  |  |             |              |             |           |   |   |             |           |    |     |                 |           |   |   |      |          |    |     |                  |           |   |   |       |           |   |   |        |       |   |   |       |
| 65 <N≤ 73    | B   | 3            | Baik             |  |  |             |              |             |           |   |   |             |           |    |     |                 |           |   |   |      |          |    |     |                  |           |   |   |       |           |   |   |        |       |   |   |       |
| 60<N≤ 65     | C+  | 2,5          | Lebih dari Cukup |  |  |             |              |             |           |   |   |             |           |    |     |                 |           |   |   |      |          |    |     |                  |           |   |   |       |           |   |   |        |       |   |   |       |
| 50 <N≤ 60    | C   | 2            | Cukup            |  |  |             |              |             |           |   |   |             |           |    |     |                 |           |   |   |      |          |    |     |                  |           |   |   |       |           |   |   |        |       |   |   |       |
| 39 <N≤ 50    | D   | 1            | Kurang           |  |  |             |              |             |           |   |   |             |           |    |     |                 |           |   |   |      |          |    |     |                  |           |   |   |       |           |   |   |        |       |   |   |       |
| N≤ 39        | E   | 0            | Gagal            |  |  |             |              |             |           |   |   |             |           |    |     |                 |           |   |   |      |          |    |     |                  |           |   |   |       |           |   |   |        |       |   |   |       |
| Kode Program | <pre>import java.util.Scanner;  public class Praktikum03 {     public static void main(String[] args) {         Scanner sc = new Scanner(System.in);         String matkul[] = { "Pancasila", "Konsep Teknologi Informasi", "Critical Thinking and Problem Solving",                             "Matematika Dasar", "Bahasa Inggris", "Dasar Pemrograman", "Praktikum Dasar Pemrograman",                             "Keselamatan dan Kesehatan Kerja" };         String huruf[] = new String[8];         int nilaiMatkul[] = new int[8];         double bobot[] = new double[8];         double jumIP = 0;         for (int i = 0; i &lt; nilaiMatkul.length; i++) {             System.out.print("Nilai nilai Angka untuk MK "+ matkul[i] + " : ");             nilaiMatkul[i] = sc.nextInt();</pre>  |              |                  |  |  |             |              |             |           |   |   |             |           |    |     |                 |           |   |   |      |          |    |     |                  |           |   |   |       |           |   |   |        |       |   |   |       |

```

        if (nilaiMatkul[i] > 80 && nilaiMatkul[i] <=
100) {
            huruf[i] = "A";
            bobot[i] = 4;
        } else if (nilaiMatkul[i] > 73 &&
nilaiMatkul[i] <= 80) {
            huruf[i] = "B+";
            bobot[i] = 3.5;
        } else if (nilaiMatkul[i] > 65 &&
nilaiMatkul[i] <= 73) {
            huruf[i] = "B";
            bobot[i] = 3;
        } else if (nilaiMatkul[i] > 60 &&
nilaiMatkul[i] <= 65) {
            huruf[i] = "C+";
            bobot[i] = 2.5;
        } else if (nilaiMatkul[i] > 50 &&
nilaiMatkul[i] <= 60) {
            huruf[i] = "C";
            bobot[i] = 2;
        } else if (nilaiMatkul[i] > 39 &&
nilaiMatkul[i] <= 50) {
            huruf[i] = "D";
            bobot[i] = 1;
        } else {
            huruf[i] = "E";
            bobot[i] = 0;
        }
        jumIP += bobot[i]; // Koreksi penghitungan
jumlah IP
    }
    System.out.println("=====");
    System.out.println("Hasil Konversi Nilai");
    System.out.println("=====");
    System.out.printf("%-40s%-20s%-20s%-20s\n",
"Matakuliah", "Nilai Angka", "Nilai Huruf", "Bobot
Nilai");
    for (int j = 0; j < nilaiMatkul.length; j++) {
        System.out.printf("%-40s%-20d%-20s%-
20.2f\n", matkul[j], nilaiMatkul[j], huruf[j],
bobot[j]); // Koreksi format bobot
    }
    System.out.println("=====");
    sc.close();
    double IP = jumIP / 8; // Menghitung IP rata-
rata
    System.out.printf("IP : %.2f\n", IP);
}
}

```

|         |  |
|---------|--|
| Running | <pre> jdt_ws\jdt.ls-java-project\bin' 'Praktikum03' Nilai nilai Angka untuk MK Pancasila : 89 Nilai nilai Angka untuk MK Konsep Teknologi Informasi : 81 Nilai nilai Angka untuk MK Critical Thinking and Problem Solving : 78 Nilai nilai Angka untuk MK Matematika Dasar : 72 Nilai nilai Angka untuk MK Bahasa Inggris : 80 Nilai nilai Angka untuk MK Dasar Pemrograman : 67 Nilai nilai Angka untuk MK Praktikum Dasar Pemrograman : 71 Nilai nilai Angka untuk MK Keselamatan dan Kesehatan Kerja : 82 ===== Hasil Konversi Nilai ===== Matakuliah                                Nilai Angka    Nilai Huruf    Bobot Nilai Pancasila                                89              A              4.00 Konsep Teknologi Informasi                81              A              4.00 Critical Thinking and Problem Solving     78              B+             3.50 Matematika Dasar                         72              B              3.00 Bahasa Inggris                           80              B+             3.50 Dasar Pemrograman                        67              B              3.00 Praktikum Dasar Pemrograman              71              B              3.00 Keselamatan dan Kesehatan Kerja          82              A              4.00 ===== IP : 3.50 PS C:\Users\ahmad&gt; </pre> |
|---------|--|

#### 4. Fungsi

| Soal          | <p>RoyalGarden adalah toko bunga yang memiliki banyak cabang. Setiap hari Stock Bunga dan bunga-bunga yang dijual selalu dicatat dengan rincian seperti berikut ini:</p> <p>Baris = Cabang Toko, Kolom = Stock bunga pada hari x</p> <table><tr><th></th><th>Aglonema</th><th>Keladi</th><th>Alocasia</th><th>Mawar</th></tr><tr><td>RoyalGarden 1</td><td>10</td><td>5</td><td>15</td><td>7</td></tr><tr><td>RoyalGarden 2</td><td>6</td><td>11</td><td>9</td><td>12</td></tr><tr><td>RoyalGarden 3</td><td>2</td><td>10</td><td>10</td><td>5</td></tr><tr><td>RoyalGarden 4</td><td>5</td><td>7</td><td>12</td><td>9</td></tr></table> <p>Rincian Harga Aglonema =75.000 , Keladi = 50.000, Alocasia =60.000, Mawar =10.000.</p> <ol style="list-style-type: none"><li>1. Buatlah fungsi untuk menampilkan pendapatan setiap cabang jika semua bunga habis terjual.</li><li>2. Buatlah fungsi untuk mengetahui jumlah Stock setiap jenis bunga pada cabang royalgarden</li><li>4. Jika terdapat informasi tambahan berupa pengurangan stock karena bunga tersebut mati. Dengan rincian Aglonema -1, Keladi -2, Alocasia -0, Mawar -5.</li></ol> |        | Aglonema | Keladi | Alocasia | Mawar | RoyalGarden 1 | 10 | 5 | 15 | 7 | RoyalGarden 2 | 6 | 11 | 9 | 12 | RoyalGarden 3 | 2 | 10 | 10 | 5 | RoyalGarden 4 | 5 | 7 | 12 | 9 |
|---------------|---|--------|----------|--------|----------|-------|---------------|----|---|----|---|---------------|---|----|---|----|---------------|---|----|----|---|---------------|---|---|----|---|
|               | Aglonema  | Keladi | Alocasia | Mawar  |          |       |               |    |   |    |   |               |   |    |   |    |               |   |    |    |   |               |   |   |    |   |
| RoyalGarden 1 | 10  | 5      | 15       | 7      |          |       |               |    |   |    |   |               |   |    |   |    |               |   |    |    |   |               |   |   |    |   |
| RoyalGarden 2 | 6   | 11     | 9        | 12     |          |       |               |    |   |    |   |               |   |    |   |    |               |   |    |    |   |               |   |   |    |   |
| RoyalGarden 3 | 2   | 10     | 10       | 5      |          |       |               |    |   |    |   |               |   |    |   |    |               |   |    |    |   |               |   |   |    |   |
| RoyalGarden 4 | 5   | 7      | 12       | 9      |          |       |               |    |   |    |   |               |   |    |   |    |               |   |    |    |   |               |   |   |    |   |
| Kode Program  | <pre>public class Praktikum04 {     public static void main(String[] args) {         int[][] stockBunga = {             {10, 5, 15, 7},             {6, 11, 9, 12},             {2, 10, 10, 5},             {5, 7, 12, 9}         };         int[] hargaBunga = {75000, 50000, 60000, 10000};         for (int cabang = 0; cabang &lt; stockBunga.length; cabang++) {             int pendapatan = 0;             for (int i = 0; i &lt; stockBunga[cabang].length; i++) {                 pendapatan += stockBunga[cabang][i] * hargaBunga[i];             }             System.out.println("Pendapatan cabang RoyalGarden " + (cabang + 1) + " adalah: Rp " + pendapatan);         }     } }</pre>  |        |          |        |          |       |               |    |   |    |   |               |   |    |   |    |               |   |    |    |   |               |   |   |    |   |

```

        int cabang = 3;
        System.out.println("\nJumlah Stock setiap jenis
bunga pada cabang RoyalGarden " + (cabang + 1) + ":");
        for (int i = 0; i < stockBunga[cabang].length;
i++) {
            System.out.println(namaBunga(i) + ": " +
stockBunga[cabang][i]);
        }
        penguranganStock(stockBunga, "Aglonema", 1);
        penguranganStock(stockBunga, "Keladi", 2);
        penguranganStock(stockBunga, "Mawar", 5);
        System.out.println("\nJumlah Stock setelah
pengurangan karena bunga mati:");
        for (int i = 0; i < stockBunga[cabang].length;
i++) {
            System.out.println(namaBunga(i) + ": " +
stockBunga[cabang][i]);
        }
    }
    private static String namaBunga(int index) {
        switch (index) {
            case 0:
                return "Aglonema";
            case 1:
                return "Keladi";
            case 2:
                return "Alocasia";
            case 3:
                return "Mawar";
            default:
                return "";
        }
    }
    private static void penguranganStock(int[][]
stockBunga, String jenisBunga, int jumlah) {
        int indeks = -1;
        switch (jenisBunga) {
            case "Aglonema":
                indeks = 0;
                break;
            case "Keladi":
                indeks = 1;
                break;
            case "Alocasia":
                indeks = 2;
                break;
            case "Mawar":
                indeks = 3;
                break;
        }
        if (indeks != -1) {
            for (int i = 0; i < stockBunga.length; i++)
            {
                stockBunga[i][indeks] -= jumlah;
            }
        }
    }
}

```



|         |  |
|---------|--|
| Running | <pre> PS C:\Users\ahmad&gt; java -cp ".\Program Files\Java\jdk-21\bin\java jdt_ws\jdt.ls-java-project\bin" 'Praktikum04' Pendapatan cabang RoyalGarden 1 adalah: Rp 1970000 Pendapatan cabang RoyalGarden 2 adalah: Rp 1660000 Pendapatan cabang RoyalGarden 3 adalah: Rp 1300000 Pendapatan cabang RoyalGarden 4 adalah: Rp 1535000  Jumlah Stock setiap jenis bunga pada cabang RoyalGarden 4: Aglonema: 5 Keladi: 7 Alocasia: 12 Mawar: 9  Jumlah Stock setelah pengurangan karena bunga mati: Aglonema: 4 Keladi: 5 Alocasia: 12 Mawar: 4 PS C:\Users\ahmad&gt; </pre> |
|---------|--|

## TUGAS

### 1. Soal 1

|              |   |   |   |   |   |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |   |  |  |   |   |   |   |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |  |  |  |  |  |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
|--------------|---|---|---|---|---|---|---|---|---|---|--|--|--|--|---|---|---|---|---|---|---|---|--|--|--|--|--|---|---|---|---|---|---|---|---|--|--|--|--|--|---|---|---|---|---|---|---|---|--|--|--|--|--|---|---|---|---|---|---|--|--|--|--|--|--|--|---|---|---|---|---|---|---|---|---|---|---|--|--|---|---|---|---|---|---|---|---|---|--|--|--|--|---|---|---|---|---|---|---|---|---|--|--|--|--|---|---|---|---|---|---|---|--|--|--|--|--|--|---|---|---|---|---|---|--|--|--|--|--|--|--|
| Soal         | <p>Susun program untuk membuat dua buah array berikut isinya sebagai berikut. Array pertama adalah array satu dimensi char KODE[10], berisi kode plat mobil. Array kedua, array dua dimensi char KOTA[10][12] berisi nama kota yang berpasangan dengan kode plat mobil. Ilustrasi tampilan array tersebut adalah sebagai berikut :</p> <table><tr><td>A</td><td>B</td><td>A</td><td>N</td><td>T</td><td>E</td><td>N</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>B</td><td>J</td><td>A</td><td>K</td><td>A</td><td>R</td><td>T</td><td>A</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>D</td><td>B</td><td>A</td><td>N</td><td>D</td><td>U</td><td>N</td><td>G</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>E</td><td>C</td><td>I</td><td>R</td><td>E</td><td>B</td><td>O</td><td>N</td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>F</td><td>B</td><td>O</td><td>G</td><td>O</td><td>R</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>G</td><td>P</td><td>E</td><td>K</td><td>A</td><td>L</td><td>O</td><td>N</td><td>G</td><td>A</td><td>N</td><td></td><td></td></tr><tr><td>H</td><td>S</td><td>E</td><td>M</td><td>A</td><td>R</td><td>A</td><td>N</td><td>G</td><td></td><td></td><td></td><td></td></tr><tr><td>L</td><td>S</td><td>U</td><td>R</td><td>A</td><td>B</td><td>A</td><td>Y</td><td>A</td><td></td><td></td><td></td><td></td></tr><tr><td>N</td><td>M</td><td>A</td><td>L</td><td>A</td><td>N</td><td>G</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>T</td><td>T</td><td>E</td><td>G</td><td>A</td><td>L</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></tr></table> <p>Ketika pengguna memberikan input kode plat nomor maka program akan mengeluarkan nama kota dari kode plat nomor tersebut.</p> | A | B | A | N | T | E | N |   |   |  |  |  |  | B | J | A | K | A | R | T | A |  |  |  |  |  | D | B | A | N | D | U | N | G |  |  |  |  |  | E | C | I | R | E | B | O | N |  |  |  |  |  | F | B | O | G | O | R |  |  |  |  |  |  |  | G | P | E | K | A | L | O | N | G | A | N |  |  | H | S | E | M | A | R | A | N | G |  |  |  |  | L | S | U | R | A | B | A | Y | A |  |  |  |  | N | M | A | L | A | N | G |  |  |  |  |  |  | T | T | E | G | A | L |  |  |  |  |  |  |  |
| A            | B   | A | N | T | E | N |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |   |  |  |   |   |   |   |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |  |  |  |  |  |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
| B            | J   | A | K | A | R | T | A |   |   |   |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |   |  |  |   |   |   |   |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |  |  |  |  |  |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
| D            | B   | A | N | D | U | N | G |   |   |   |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |   |  |  |   |   |   |   |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |  |  |  |  |  |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
| E            | C   | I | R | E | B | O | N |   |   |   |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |   |  |  |   |   |   |   |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |  |  |  |  |  |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
| F            | B   | O | G | O | R |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |   |  |  |   |   |   |   |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |  |  |  |  |  |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
| G            | P   | E | K | A | L | O | N | G | A | N |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |   |  |  |   |   |   |   |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |  |  |  |  |  |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
| H            | S   | E | M | A | R | A | N | G |   |   |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |   |  |  |   |   |   |   |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |  |  |  |  |  |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
| L            | S   | U | R | A | B | A | Y | A |   |   |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |   |  |  |   |   |   |   |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |  |  |  |  |  |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
| N            | M   | A | L | A | N | G |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |   |  |  |   |   |   |   |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |  |  |  |  |  |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
| T            | T   | E | G | A | L |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |   |  |  |   |   |   |   |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |  |  |  |  |  |  |   |   |   |   |   |   |  |  |  |  |  |  |  |
| Kode Program | <pre>import java.util.Scanner;  public class Tugas01 {     public static void main(String[] args) {         char[] KODE = {'A', 'B', 'D', 'E', 'F', 'G', 'H', 'L', 'N', 'T'};         char[][] KOTA = {             {'B', 'A', 'N', 'T', 'E', 'N'},             {'J', 'A', 'K', 'A', 'R', 'T', 'A'},             {'B', 'A', 'N', 'D', 'U', 'N', 'G'},             {'C', 'I', 'R', 'E', 'B', 'O', 'N'},             {'B', 'O', 'G', 'O', 'R'},             {'P', 'E', 'K', 'A', 'L', 'O', 'N', 'G', 'A', 'N'},             {'S', 'E', 'M', 'A', 'R', 'A', 'N', 'G'},             {'S', 'U', 'R', 'A', 'B', 'A', 'Y', 'A'},             {'M', 'A', 'L', 'A', 'N', 'G'},             {'T', 'E', 'G', 'A', 'L'}         };     } }</pre>  |   |   |   |   |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |   |   |   |   |  |  |  |  |  |  |  |   |   |   |   |   |   |   |   |   |   |   |  |  |   |   |   |   |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |   |   |  |  |  |  |   |   |   |   |   |   |   |  |  |  |  |  |  |   |   |   |   |   |   |  |  |  |  |  |  |  |

|         |   |
|---------|---|
|         | <pre>         {'P', 'E', 'K', 'A', 'L', 'O', 'N', 'G',         'A', 'N'},         {'S', 'E', 'M', 'A', 'R', 'A', 'N', 'G'},         {'S', 'U', 'R', 'A', 'B', 'A', 'Y', 'A'},         {'M', 'A', 'L', 'A', 'N', 'G'},         {'T', 'E', 'G', 'A', 'L'}     };      Scanner scanner = new Scanner(System.in);     System.out.print("Nilai kode plat nomor (hanya huruf pertama): ");     char kodePlat = scanner.next().charAt(0);     scanner.close();      String kota = null;     for (int i = 0; i &lt; KODE.length; i++) {         if (KODE[i] == kodePlat) {             kota = String.valueOf(KOTA[i]);             break;         }     }     if (kota != null) {         System.out.println("Kota yang berpasangan dengan kode plat nomor " + kodePlat + " adalah: " + kota);     } else {         System.out.println("Kode plat nomor tidak valid atau tidak ditemukan.");     } } </pre> |
| Running | <pre> jdt_ws\jdt.ls-java-project\bin' 'Tugas01' Nilai kode plat nomor (hanya huruf pertama): B Kota yang berpasangan dengan kode plat nomor B adalah: JAKARTA PS C:\Users\ahmad&gt; &amp; 'C:\Program Files\Java\jdk-21\bin\java.exe' jdt_ws\jdt.ls-java-project\bin' 'Tugas01' Nilai kode plat nomor (hanya huruf pertama): T Kota yang berpasangan dengan kode plat nomor T adalah: TEGAL PS C:\Users\ahmad&gt; &amp; 'C:\Program Files\Java\jdk-21\bin\java.exe' jdt_ws\jdt.ls-java-project\bin' 'Tugas01' Nilai kode plat nomor (hanya huruf pertama): X Kode plat nomor tidak valid atau tidak ditemukan. PS C:\Users\ahmad&gt; </pre>   |

## 2. Soal 2

|              |   |
|--------------|---|
| Soal         | <p>Buat program untuk menghitung rumus kecepatan, jarak, dan waktu</p> <p>Berikut adalah persamaan untuk menghitung rumus tersebut :</p> <p><u>Rumus Kecepatan</u></p> $v = \frac{s}{t}$ <p><u>Rumus Jarak</u></p> $s = v.t$ <p><u>Rumus Waktu</u></p> $t = \frac{s}{v}$ <p>Keterangan :</p> <p><math>v = \text{kecepatan}</math></p> <p><math>s = \text{jarak}</math></p> <p><math>t = \text{waktu}</math></p> <p>Program yang dibuat memiliki fungsi sebagai berikut:</p> <ol style="list-style-type: none"> <li>Menu (Untuk memilih rumus yang akan dihitung (kecepatan/jarak/waktu)</li> <li>Menghitung hasil perhitungan Kecepatan</li> <li>Menghitung hasil perhitungan Jarak</li> <li>Menghitung hasil perhitungan Waktu</li> </ol> <p>Panggil fungsi-fungsi tersebut pada fungsi main!</p>  |
| Kode Program | <pre>import java.util.Scanner; public class Tugas02 {     public static void main(String[] args) {         Scanner scanner = new Scanner(System.in);         while (true) {             System.out.println("Menu Hitung:");             System.out.println("1. Kecepatan");             System.out.println("2. Jarak");             System.out.println("3. Waktu");             System.out.println("0. Keluar");             System.out.print("Pilih Menu: ");             int pilihan = scanner.nextInt();             switch (pilihan) {                 case 1:                     kecepatan(scanner);                     break;                 case 2:                     jarak(scanner);                     break;                 case 3:                     waktu(scanner);                     break;                 case 0:                     System.out.println("Terima kasih!");                     scanner.close();                     return;                 default:                     System.out.println("Pilihan tidak valid. Silakan pilih kembali.");             }             System.out.println();         }     } }</pre> |

```
}  
public static void kecepatan(Scanner scanner) {  
    System.out.print("Nilai jarak (s): ");  
    double s = scanner.nextDouble();  
    System.out.print("Nilai waktu (t): ");  
    double t = scanner.nextDouble();  
    double v = s / t;  
    System.out.println("Kecepatan (v) = " + v);  
}  
public static void jarak(Scanner scanner) {  
    System.out.print("Nilai kecepatan (v): ");  
    double v = scanner.nextDouble();  
    System.out.print("Nilai waktu (t): ");  
    double t = scanner.nextDouble();  
    double s = v * t;  
    System.out.println("Jarak (s) = " + s);  
}  
public static void waktu(Scanner scanner) {  
    System.out.print("Nilai jarak (s): ");  
    double s = scanner.nextDouble();  
    System.out.print("Nilai kecepatan (v): ");  
    double v = scanner.nextDouble();  
    double t = s / v;  
    System.out.println("Waktu (t) = " + t);  
}  
}
```

Running

```
jdt_ws\jdt.ls-java-project\bin' 'Tugas02'  
Menu Hitung:  
1. Kecepatan  
2. Jarak  
3. Waktu  
0. Keluar  
Pilih Menu: 1  
Nilai jarak (s): 3  
Nilai waktu (t): 4  
Kecepatan (v) = 0.75  
  
Menu Hitung:  
1. Kecepatan  
2. Jarak  
3. Waktu  
0. Keluar  
Pilih Menu: 2  
Nilai kecepatan (v): 4  
Nilai waktu (t): 5  
Jarak (s) = 20.0  
  
Menu Hitung:  
1. Kecepatan  
2. Jarak  
3. Waktu  
0. Keluar  
Pilih Menu: 3  
Nilai jarak (s): 5  
Nilai kecepatan (v): 6  
Waktu (t) = 0.8333333333333334  
  
Menu Hitung:  
1. Kecepatan  
2. Jarak  
3. Waktu  
0. Keluar  
Pilih Menu: 0  
Terima kasih!  
PS C:\Users\ahmad>
```