Laporan Jobsheet 1

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2.1 Pemilihan

Kode Program :

```
import java.util.Scanner;

public class HitungNilaiAkhir {

    public static void main(String[] args) {

        double nilaiTugas, nilaiKuis, nilaiUts, nilaiUas, nilaiAkhir;
        String grade = "", statusLulus = "";

        Scanner sc = new Scanner(System.in);

        System.out.println("Program Menghitung Nilai Akhir ");

        while (true) {
            System.out.println("==============================");

            System.out.print("Masukan Nilai Tugas\t: ");
```

```
    nilaiTugas = sc.nextDouble();

    System.out.print("Masukan Nilai Kuis\t: ");
    nilaiKuis = sc.nextDouble();

    System.out.print("Masukan Nilai UTS\t: ");
    nilaiUts = sc.nextDouble();

    System.out.print("Masukan Nilai UAS\t: ");
    nilaiUas = sc.nextDouble();

    System.out.println("==============================");

    if (nilaiTugas < 0 || nilaiTugas > 100 ||
        nilaiKuis < 0 || nilaiKuis > 100 ||
        nilaiUts < 0 || nilaiUts > 100 ||
        nilaiUas < 0 || nilaiUas > 100) {

        System.out.println("==============================");
        System.out.println("Nilai Tidak Valid");
        System.out.println("==============================");

    } else {
        break;
    }
}
```

```
nilaiAkhir = nilaiTugas * 0.2 + nilaiKuis * 0.2 + nilaiUts * 0.3 + nilaiUas * 0.3;

if (nilaiAkhir <= 100 && nilaiAkhir > 80) {
    grade = "A";
    statusLulus = "Lulus";
} else if (nilaiAkhir <= 80 && nilaiAkhir > 73) {
    grade = "B+";
    statusLulus = "Lulus";
} else if (nilaiAkhir <= 73 && nilaiAkhir > 65) {
    grade = "B";
    statusLulus = "Lulus";
} else if (nilaiAkhir <= 65 && nilaiAkhir > 60) {
    grade = "C+";
    statusLulus = "Lulus";
} else if (nilaiAkhir <= 60 && nilaiAkhir > 50) {
    grade = "C";
    statusLulus = "Lulus";
} else if (nilaiAkhir <= 50 && nilaiAkhir > 39) {
    grade = "D";
    statusLulus = "Tidak Lulus";
} else if (nilaiAkhir <= 39 && nilaiAkhir > 0) {
    grade = "E";
    statusLulus = "Tidak Lulus";
}

System.out.println("Nilai Akhir\t: " + nilaiAkhir);
System.out.println("Nilai Huruf\t: " + grade);
```

```
        System.out.println("==============================");
        System.out.println("==============================");

        if (nilaiAkhir <= 50) {
            System.out.println("ANDA " + statusLulus);
        } else {
            System.out.println("SELAMAT ANDA " + statusLulus);
        }
    }
}
```

ScreenShoot Hasil :

```
Masukan Nilai Kuis      : 99
Masukan Nilai UTS       : 70
Masukan Nilai UAS       : 101
==============================
Nilai Tidak Valid
Nilai Tidak Valid
Nilai Tidak Valid
==============================
==============================
Masukan Nilai Tugas     : 90
Masukan Nilai Kuis      : 100
Masukan Nilai UTS       : 80
Masukan Nilai UAS       : 89
==============================
Nilai Akhir     : 88.7
Nilai Huruf     : A
==============================
==============================
SELAMAT ANDA Lulus
```

2.2 Perulangan

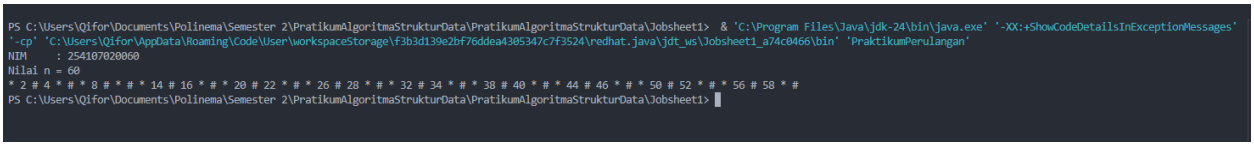
Kode Program :

```
import java.util.Scanner;
```

```
public class PraktikumPerulangan {
    public static void main(String[] args) {

        Scanner sc = new Scanner(System.in);

        System.out.print("NIM\t: ");
        long nim = sc.nextLong();

        int n = (int) (nim % 100);
        if (n < 10) {
            n += 10;
        }
        System.out.println("Nilai n = " + n);

        for (int i = 1; i <= n; i++) {
            if (i % 3 == 0) {
                System.out.print("# ");
            } else if (i % 2 == 1) {
                System.out.print("* ");
            } else if (i == 10 || i == 15) {
                continue;
            } else {
                System.out.print(i + " ");
            }

        }
```

```
        sc.close();
    }
}
```

ScreenShoot Hasil :



2.3 Array

Kode Program :

```
import java.util.Scanner;

public class PraktikumArray {

    public static void main(String[] args) {
        Scanner input = new Scanner(System.in);

        System.out.print("Masukkan jumlah Mata Kuliah : ");
        int totalMK = input.nextInt();
        input.nextLine();

        double[][] dataNilai = new double[3][totalMK]; // 0 = nilai angka, 1 = bobot nilai, 2 = sks
        String[] namaMatkul = new String[totalMK];
        String[] nilaiHuruf = new String[totalMK];

        isiNamaMatkul(namaMatkul, input);
```

```
    isiNilai(dataNilai, nilaiHuruf, namaMatkul, input);
    tampilkanHasil(dataNilai, nilaiHuruf, namaMatkul);
}

static void isiNamaMatkul(String[] namaMatkul, Scanner input) {
    for (int i = 0; i < namaMatkul.length; i++) {
        System.out.print("Masukkan nama MK ke-" + (i + 1) + " : ");
        namaMatkul[i] = input.nextLine();
    }
}

static void isiNilai(double[][] dataNilai, String[] nilaiHuruf,
        String[] namaMatkul, Scanner input) {

    System.out.println("\n=== Input Nilai ===");

    for (int i = 0; i < namaMatkul.length; i++) {

        while (true) {
            System.out.print("Masukkan nilai angka untuk " + namaMatkul[i] + " : ");
            dataNilai[0][i] = input.nextDouble();

            if (dataNilai[0][i] >= 0 && dataNilai[0][i] <= 100) {
                break;
            } else {
                System.out.println("Input tidak valid, ulangi!");
            }
```

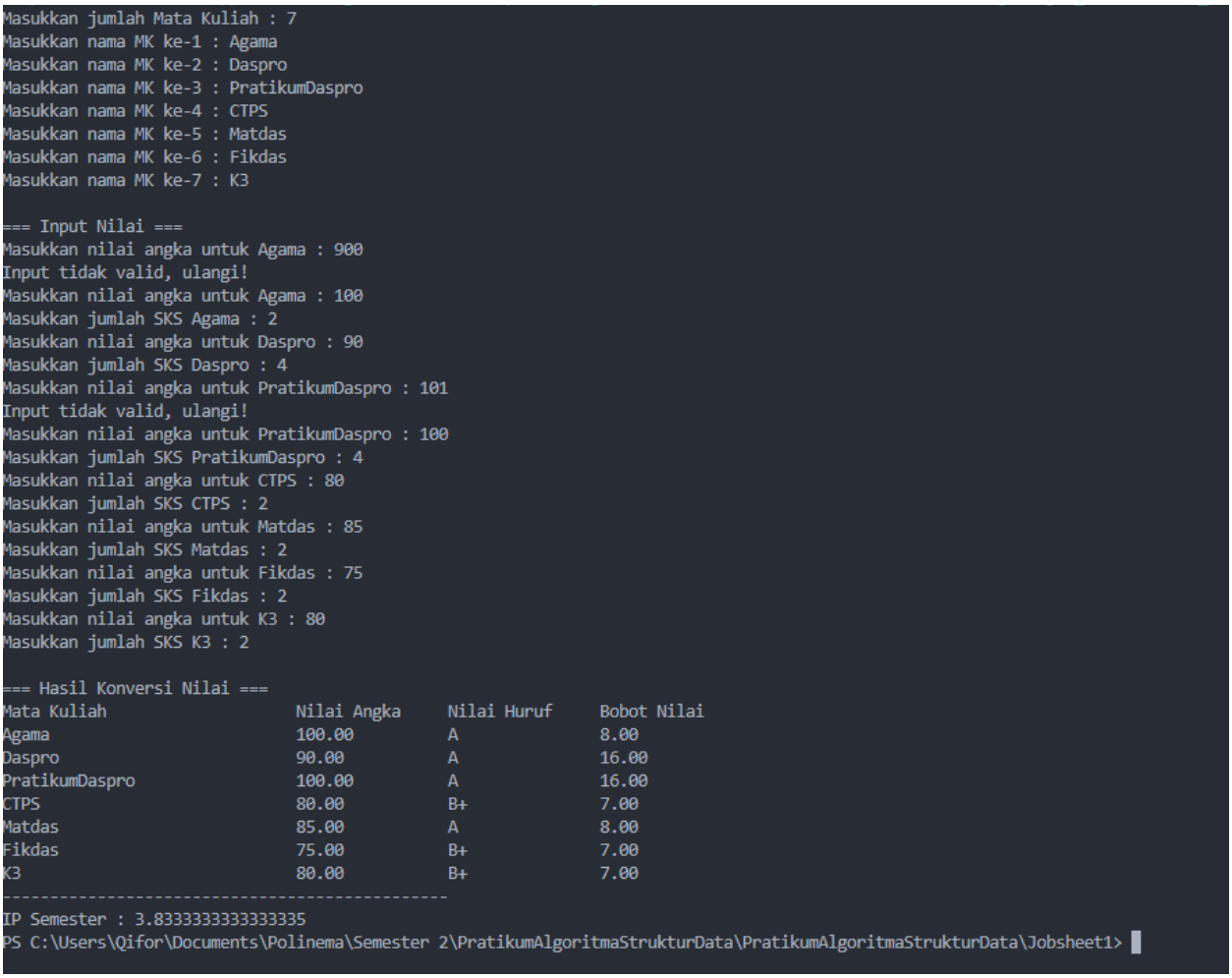
```
        }

        nilaiHuruf[i] = konversiHuruf(dataNilai[0][i]);
        dataNilai[1][i] = konversiBobot(nilaiHuruf[i]);

        System.out.print("Masukkan jumlah SKS " + namaMatkul[i] + " : ");
        dataNilai[2][i] = input.nextDouble();
    }
}

static void tampilkanHasil(double[][] dataNilai,
        String[] nilaiHuruf,
        String[] namaMatkul) {

    double totalBobotNilai = 0;
    double totalSKS = 0;

    System.out.println("\n=== Hasil Konversi Nilai ===");
    System.out.printf("%-30s %-15s %-15s %-15s%n",
            "Mata Kuliah", "Nilai Angka", "Nilai Huruf", "Bobot Nilai");

    for (int i = 0; i < namaMatkul.length; i++) {

        double bobotNilai = dataNilai[1][i] * dataNilai[2][i];

        totalBobotNilai += bobotNilai;
        totalSKS += dataNilai[2][i];
```

```
        System.out.printf("%-30s %-15.2f %-15s %-15.2f%n",
                namaMatkul[i],
                dataNilai[0][i],
                nilaiHuruf[i],
                bobotNilai);
    }

    double Ipk = totalBobotNilai / totalSKS;

    System.out.println("-----------------------------------------------");
    System.out.println("IP Semester : " + Ipk);
}

static String konversiHuruf(double nilai) {

    if (nilai < 0 || nilai > 100) {
        return "Tidak Valid";
    }

    if (nilai >= 81 && nilai <= 100)
        return "A";
    else if (nilai >= 74)
        return "B+";
    else if (nilai >= 66)
        return "B";
    else if (nilai >= 61)
```

```
        return "C+";
    else if (nilai >= 51)
        return "C";
    else if (nilai >= 40)
        return "D";
    else
        return "E"; // 0 - 39
}

static double konversiBobot(String huruf) {

    if (huruf.equals("A"))
        return 4;
    else if (huruf.equals("B+"))
        return 3.5;
    else if (huruf.equals("B"))
        return 3;
    else if (huruf.equals("C+"))
        return 2.5;
    else if (huruf.equals("C"))
        return 2;
    else if (huruf.equals("D"))
        return 1;
    else if (huruf.equals("E"))
        return 0;
    else
        return 0; // untuk "Tidak Valid"
```

```
    }
}
```

ScreenShoot Hasil ;



```
Masukkan jumlah Mata Kuliah : 7
Masukkan nama MK ke-1 : Agama
Masukkan nama MK ke-2 : Daspro
Masukkan nama MK ke-3 : PratikumDaspro
Masukkan nama MK ke-4 : CTPS
Masukkan nama MK ke-5 : Matdas
Masukkan nama MK ke-6 : Fikdas
Masukkan nama MK ke-7 : K3

=== Input Nilai ===
Masukkan nilai angka untuk Agama : 900
Input tidak valid, ulangi!
Masukkan nilai angka untuk Agama : 100
Masukkan jumlah SKS Agama : 2
Masukkan nilai angka untuk Daspro : 90
Masukkan jumlah SKS Daspro : 4
Masukkan nilai angka untuk PratikumDaspro : 101
Input tidak valid, ulangi!
Masukkan nilai angka untuk PratikumDaspro : 100
Masukkan jumlah SKS PratikumDaspro : 4
Masukkan nilai angka untuk CTPS : 80
Masukkan jumlah SKS CTPS : 2
Masukkan nilai angka untuk Matdas : 85
Masukkan jumlah SKS Matdas : 2
Masukkan nilai angka untuk Fikdas : 75
Masukkan jumlah SKS Fikdas : 2
Masukkan nilai angka untuk K3 : 80
Masukkan jumlah SKS K3 : 2

=== Hasil Konversi Nilai ===
Mata Kuliah                 Nilai Angka     Nilai Huruf     Bobot Nilai
Agama                       100.00          A               8.00
Daspro                      90.00           A               16.00
PratikumDaspro              100.00          A               16.00
CTPS                        80.00           B+              7.00
Matdas                      85.00           A               8.00
Fikdas                      75.00           B+              7.00
K3                          80.00           B+              7.00
-----------------------------------------------
IP Semester : 3.8333333333333335
PS C:\Users\Qifor\Documents\Polinema\Semester 2\PratikumAlgoritmaStrukturData\PratikumAlgoritmaStrukturData\Jobsheet1>
```

2.4 Fungsi

Kode Program :

```
import java.util.Scanner;


public class PraktikumFungsi {
```

```
static Scanner input = new Scanner(System.in);

public static void main(String[] args) {

    double[][] stokTanaman = {
            { 10, 5, 15, 7 },
            { 6, 11, 9, 12 },
            { 2, 10, 10, 5 },
            { 5, 7, 12, 9 }
    };

    String[] namaTanaman = { "Aglonema", "Keladi", "Alocasia", "Mawar" };
    double[] hargaTanaman = { 75000, 50000, 60000, 10000 };

    double[] totalPendapatan = hitungPendapatan(stokTanaman, hargaTanaman);

    while (true) {
        System.out.println("\n=================");
        System.out.println("Menu Program");
        System.out.println("1. Detail Pendapatan Cabang");
        System.out.println("2. Status Cabang");
        System.out.println("3. Keluar");
        System.out.print("Pilih : ");

        int pilihan = input.nextInt();

        switch (pilihan) {
```

```
            case 1:
                tampilkanDetailCabang(stokTanaman, namaTanaman, hargaTanaman);
                break;
            case 2:
                tampilkanStatus(totalPendapatan);
                break;
            case 3:
                System.out.println("Program selesai.");
                return;
            default:
                System.out.println("Menu tidak tersedia.");
        }
    }
}

public static double[] hitungPendapatan(double[][] stok, double[] harga) {
    double[] total = new double[stok.length];

    for (int i = 0; i < stok.length; i++) {
        for (int j = 0; j < stok[i].length; j++) {
            total[i] += stok[i][j] * harga[j];
        }
    }
    return total;
}

public static void tampilkanDetailCabang(double[][] stok,
```

```
        String[] namaTanaman,
        double[] harga) {

    System.out.print("Pilih Cabang (1-4) : ");
    int cabang = input.nextInt();

    if (cabang < 1 || cabang > stok.length) {
        System.out.println("Cabang tidak valid.");
        return;
    }

    double total = 0;

    System.out.println("\nDetail Pendapatan Cabang " + cabang);

    for (int j = 0; j < stok[cabang - 1].length; j++) {
        double pendapatan = stok[cabang - 1][j] * harga[j];
        total += pendapatan;

        System.out.println(namaTanaman[j] +
                " -> Stok: " + stok[cabang - 1][j] +
                " | Pendapatan: Rp " + pendapatan);
    }

    System.out.println("Total Pendapatan: Rp " + total);
}
```

```
    public static void tampilkanStatus(double[] total) {

        System.out.print("Pilih Cabang (1-4) : ");
        int cabang = input.nextInt();

        if (cabang >= 1 && cabang <= total.length) {

            String status = (total[cabang - 1] > 1500000)
                    ? "Sangat Baik"
                    : "Perlu Evaluasi";

            System.out.println("Status Royal Garden " +
                    cabang + " : " + status);

        } else {
            System.out.println("Cabang tidak valid.");
        }
    }
}
```

ScreenShoot Hasil :

```
1. Detail Pendapatan Cabang
2. Status Cabang
3. Keluar
Pilih : 1
Pilih Cabang (1-4) : 1

Detail Pendapatan Cabang 1
Aglonema -> Stok: 10.0 | Pendapatan: Rp 750000.0
Keladi -> Stok: 5.0 | Pendapatan: Rp 250000.0
Alocasia -> Stok: 15.0 | Pendapatan: Rp 900000.0
Mawar -> Stok: 7.0 | Pendapatan: Rp 70000.0
Total Pendapatan: Rp 1970000.0

================
Menu Program
1. Detail Pendapatan Cabang
2. Status Cabang
3. Keluar
Pilih : 2
Pilih Cabang (1-4) : 2
Status Royal Garden 2 : Sangat Baik

================
Menu Program
1. Detail Pendapatan Cabang
2. Status Cabang
3. Keluar
Pilih : 3
Program selesai.
PS C:\Users\Qifor\Documents\Polinema\Semester 2\PratikumAlgoritmaStrukturData\PratikumAlgoritmaStrukturData\Jobsheet1>
```

Tugas 1

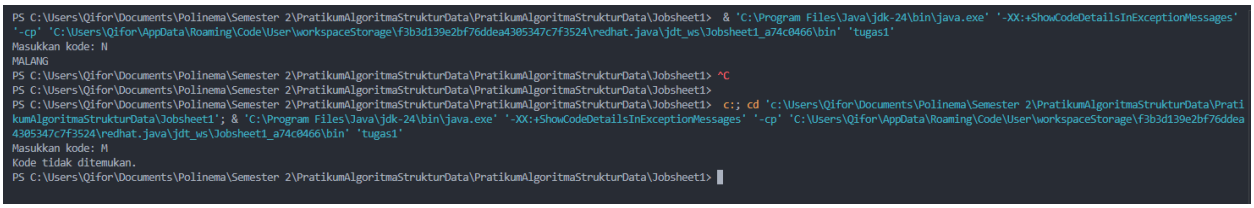
Kode Program :

```
import java.util.Scanner;


public class tugas1 {


    static Scanner sc = new Scanner(System.in);


    public static void main(String[] args) {


        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'}
    };

    char[] kode = {'A','B','D','E','F','G','H','L','N','T'};

    System.out.print("Masukkan kode: ");
    char key = sc.next().toUpperCase().charAt(0);

    int index = searchKode(key, kode);

    if (index == -1) {
        System.out.println("Kode tidak ditemukan.");
    } else {
        for (int i = 0; i < kota[index].length; i++) {
            System.out.print(kota[index][i]);
        }
    }
}

public static int searchKode(char key, char[] arr) {

    for (int i = 0; i < arr.length; i++) {
```

```
            if (key == arr[i]) {
                return i;
            }
        }

        return -1;
    }
}
```

ScreenShoot Hasil :



Tugas 2

Kode Program :

```
import java.util.Scanner;

public class Tugas2 {

    static Scanner sc = new Scanner(System.in);

    public static void main(String[] args) {

        System.out.print("Masukkan jumlah jadwal kuliah: ");
        int n = Integer.parseInt(sc.nextLine());
```

```
String[][] jadwal = new String[n][4];
int pilihan;

while (true) {

    System.out.println("\n===== MENU JADWAL KULIAH =====");
    System.out.println("1. Input Jadwal Kuliah");
    System.out.println("2. Tampilkan Semua Jadwal");
    System.out.println("3. Tampilkan Jadwal Berdasarkan Hari");
    System.out.println("4. Tampilkan Jadwal Berdasarkan Mata Kuliah");
    System.out.println("0. Keluar");
    System.out.print("Pilih menu: ");

    pilihan = Integer.parseInt(sc.nextLine());

    switch (pilihan) {
        case 1:
            inputJadwal(jadwal, n);
            break;
        case 2:
            tampilSemua(jadwal, n);
            break;
        case 3:
            tampilHari(jadwal, n);
            break;
        case 4:
            tampilMatkul(jadwal, n);
```

```
            break;
        case 0:
            System.out.println("Program selesai.");
            return;
        default:
            System.out.println("Menu tidak valid!");
      }
   }
}

static void inputJadwal(String[][] jadwal, int n) {

   for (int i = 0; i < n; i++) {

      System.out.println("\nJadwal ke-" + (i + 1));

      System.out.print("Nama Mata Kuliah : ");
      jadwal[i][0] = sc.nextLine();

      System.out.print("Ruang           : ");
      jadwal[i][1] = sc.nextLine();

      System.out.print("Hari Kuliah     : ");
      jadwal[i][2] = sc.nextLine();

      System.out.print("Jam Kuliah      : ");
      jadwal[i][3] = sc.nextLine();
```

```
    }
  }

  public static void tampilSemua(String[][] jadwal, int n) {

    System.out.println("\n==========================================================
==============");
    System.out.printf("%-25s %-20s %-15s %-15s%n",
        "Mata Kuliah", "Ruang", "Hari", "Jam");
    System.out.println("==========================================================
============");

    for (int i = 0; i < n; i++) {
      System.out.printf("%-25s %-20s %-15s %-15s%n",
          jadwal[i][0],
          jadwal[i][1],
          jadwal[i][2],
          jadwal[i][3]);
    }
  }

  public static void tampilHari(String[][] jadwal, int n) {

    System.out.print("Masukkan hari: ");
    String hari = sc.nextLine();

    boolean ketemu = false;
```

```
    for (int i = 0; i < n; i++) {

        if (jadwal[i][2].equalsIgnoreCase(hari)) {

            System.out.println("\nDetail Jadwal");
            System.out.println("---------------------------------");
            System.out.printf("%-15s : %s%n", "Mata Kuliah", jadwal[i][0]);
            System.out.printf("%-15s : %s%n", "Ruang", jadwal[i][1]);
            System.out.printf("%-15s : %s%n", "Hari", jadwal[i][2]);
            System.out.printf("%-15s : %s%n", "Jam", jadwal[i][3]);

            ketemu = true;
        }
    }

    if (!ketemu) {
        System.out.println("Tidak ada jadwal pada hari tersebut.");
    }
}

public static void tampilMatkul(String[][] jadwal, int n) {

    System.out.print("Masukkan nama mata kuliah: ");
    String matkul = sc.nextLine();

    boolean ketemu = false;
```

```
        for (int i = 0; i < n; i++) {

            if (jadwal[i][0].equalsIgnoreCase(matkul)) {

                System.out.println("\nDetail Jadwal Mata Kuliah");
                System.out.println("----------------------------------");
                System.out.printf("%-15s : %s%n", "Mata Kuliah", jadwal[i][0]);
                System.out.printf("%-15s : %s%n", "Ruang", jadwal[i][1]);
                System.out.printf("%-15s : %s%n", "Hari", jadwal[i][2]);
                System.out.printf("%-15s : %s%n", "Jam", jadwal[i][3]);

                ketemu = true;
                break;
            }
        }

        if (!ketemu) {
            System.out.println("Mata kuliah tidak ditemukan.");
        }
    }
}
```

ScreenShot Hasil :

```
===== MENU JADWAL KULIAH =====
1. Input Jadwal Kuliah
2. Tampilkan Semua Jadwal
3. Tampilkan Jadwal Berdasarkan Hari
4. Tampilkan Jadwal Berdasarkan Mata Kuliah
0. Keluar
Pilih menu: 1

Jadwal ke-1
Nama Mata Kuliah : Daspro
Ruang            : LPR4
Hari Kuliah      : Senin
Jam Kuliah       : 9

Jadwal ke-2
Nama Mata Kuliah : Praktikum Daspro
Ruang            : LPR7
Hari Kuliah      : Selasa
Jam Kuliah       : 9

Jadwal ke-3
Nama Mata Kuliah : Agama
Ruang            : RT1
Hari Kuliah      : Jumat
Jam Kuliah       : 4
```

```
===== MENU JADWAL KULIAH =====
1. Input Jadwal Kuliah
2. Tampilkan Semua Jadwal
3. Tampilkan Jadwal Berdasarkan Hari
4. Tampilkan Jadwal Berdasarkan Mata Kuliah
0. Keluar
Pilih menu: 2

=================================================================
Mata Kuliah               Ruang               Hari          Jam
=================================================================
Daspro                    LPR4                Senin         9
Praktikum Daspro          LPR7                Selasa        9
Agama                     RT1                 Jumat         4
```

```
===== MENU JADWAL KULIAH =====
1. Input Jadwal Kuliah
2. Tampilkan Semua Jadwal
3. Tampilkan Jadwal Berdasarkan Hari
4. Tampilkan Jadwal Berdasarkan Mata Kuliah
0. Keluar
Pilih menu: 3
Masukkan hari: Senin

Detail Jadwal
---------------------------------
Mata Kuliah     : Daspro
Ruang           : LPR4
Hari            : Senin
Jam             : 9
```

```
===== MENU JADWAL KULIAH =====
1. Input Jadwal Kuliah
2. Tampilkan Semua Jadwal
3. Tampilkan Jadwal Berdasarkan Hari
4. Tampilkan Jadwal Berdasarkan Mata Kuliah
0. Keluar
Pilih menu: 4
Masukkan nama mata kuliah: Agama

Detail Jadwal Mata Kuliah
---------------------------------
Mata Kuliah     : Agama
Ruang           : RT1
Hari            : Jumat
Jam             : 4

===== MENU JADWAL KULIAH =====
1. Input Jadwal Kuliah
2. Tampilkan Semua Jadwal
3. Tampilkan Jadwal Berdasarkan Hari
4. Tampilkan Jadwal Berdasarkan Mata Kuliah
0. Keluar
Pilih menu: 0
Program selesai.
PS C:\Users\Qifor\Documents\Polinema\Semester 2\PratikumAlgoritmaStrukturData\PratikumAlgoritmaStrukturData\Jobsheet1>
```