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Laporan Jobsheet 1
Praktikum Algoritma dan Struktur Data
Minggu ke-1 (Jumat, 18 Februari 2022)

1. JS1 – Pemilihan

a. Kode Program

```
1  import java.util.Scanner;
2  public class JS1Pemilihan{
3      public static void main(String[] args){
4          Scanner sc = new Scanner(System.in);
5          double nilaiAkhir;
6          String nilaiHuruf;
7          System.out.println();
8          System.out.println("--------- PROGRAM MENGHITUNG NILAI AKHIR ---------");
9          System.out.println();
10         System.out.print("Masukkan Nilai Tugas: ");
11         int tugas = sc.nextInt();
12         System.out.print("Masukkan Nilai UTS: ");
13         int uts = sc.nextInt();
14         System.out.print("Masukkan Nilai UAS: ");
15         int uas = sc.nextInt();
16         System.out.println("_____________________________________________________");
17         nilaiAkhir = ((0.2*tugas)+(0.35*uts)+(0.45*uas));
18         System.out.println();
19         System.out.println("Nilai Akhir: " + nilaiAkhir);
20         if(nilaiAkhir > 80 && nilaiAkhir <= 100){
21             nilaiHuruf = "A";
22             System.out.println("Nilai Huruf: " + nilaiHuruf);
23         } else if(nilaiAkhir>73 && nilaiAkhir<=80){
24             nilaiHuruf = "B+";
25             System.out.println("Nilai Huruf: " + nilaiHuruf);
26         } else if(nilaiAkhir>65 && nilaiAkhir<=73){
27             nilaiHuruf = "B";
28             System.out.println("Nilai Huruf: " + nilaiHuruf);
29         } else if(nilaiAkhir>60 && nilaiAkhir<=65){
30             nilaiHuruf = "C+";
31             System.out.println("Nilai Huruf: " + nilaiHuruf);
32         } else if(nilaiAkhir>50 && nilaiAkhir<=60){
33             nilaiHuruf = "C";
34             System.out.println("Nilai Huruf: " + nilaiHuruf);
35         } else if(nilaiAkhir>39 && nilaiAkhir<=50){
36             nilaiHuruf = "D";
37             System.out.println("Nilai Huruf: " + nilaiHuruf);
38         }  else{
39             nilaiHuruf = ("E");
40             System.out.println("Nilai Huruf: " + nilaiHuruf);
41         }
42         System.out.println("_____________________________________________________");
43         System.out.println();
44         if(nilaiHuruf.equals("D") || nilaiHuruf.equals("E")){
45             System.out.println("Status  : TIDAK LULUS");
46         } else{
47             System.out.println("Status  : LULUS");
48         }
49         System.out.println();
50         System.out.println("-----------------------------------------------------");
51     }
52 }
```

b. Hasil Running

```
E:\MARIA FADILLA>java JS1Pemilihan.java

======== PROGRAM MENGHITUNG NILAI AKHIR ========

Masukkan Nilai Tugas: 90
Masukkan Nilai UTS: 90
Masukkan Nilai UAS: 90
_____________________________________________________

Nilai Akhir: 90.0
Nilai Huruf: A
_____________________________________________________

Status   : LULUS

=====================================================
```

2. JS1 – Perulangan

a. Kode Program

```java
import java.util.Scanner;
public class JS1Perulangan{
    public static void main(String[] args) {
        int nim, hari;
        long hasil;
        Scanner sc = new Scanner(System.in);
        System.out.println();
        System.out.println("======== PROGRAM PERULANGAN HARI ========");
        System.out.println();
        System.out.print("Masukkan NIM: ");
        hasil = sc.nextInt();
        System.out.println("=========================================");
        nim = (int) (hasil % 100);
        if (nim < 10) {
            System.out.println(nim += 10);
        } else {
            System.out.println("n : " + nim);
        }

        hari = 0;
        for (int i = 0; i < nim; i++) {
            hari++;
            if (hari >= 7) {
                hari = 0;
            }
            if (hari % 7 == 0) {
                System.out.print("Minggu ");
            } else if (hari % 6 == 0) {
                System.out.print("Sabtu ");
            } else if (hari % 5 == 0) {
                System.out.print("Jumat ");
            } else if (hari % 4 == 0) {
                System.out.print("Kamis ");
            } else if (hari % 3 == 0) {
                System.out.print("Rabu ");
            } else if (hari % 2 == 0) {
                System.out.print("Selasa ");
            } else {
                System.out.print("Senin ");
            }
        }
        System.out.println();
    }
}
```

b. Hasil Running

```
E:\MARIA FADILLA>java JS1Perulangan

======== PROGRAM PERULANGAN HARI ========

Masukkan NIM: 2141720063
=========================================
n : 63
Senin Selasa Rabu Kamis Jumat Sabtu Minggu Senin Selasa Ra
bu Kamis Jumat Sabtu Minggu Senin Selasa Rabu Kamis Jumat
Sabtu Minggu Senin Selasa Rabu Kamis Jumat Sabtu Minggu Se
nin Selasa Rabu Kamis Jumat Sabtu Minggu Senin Selasa Rabu
 Kamis Jumat Sabtu Minggu Senin Selasa Rabu Kamis Jumat Sa
btu Minggu Senin Selasa Rabu Kamis Jumat Sabtu Minggu Seni
n Selasa Rabu Kamis Jumat Sabtu Minggu
```

3. JS1 – Array

a. Kode Program

```java
public class JS1Array{
    public static void main(String[] args) {
        System.out.println();
        System.out.println("======== PRAKTIKUM ARRAY ========");
        System.out.println();
        System.out.println("--- Toko Bunga Royale Garden ---");
        int[][] bunga = {
                {10, 5, 15, 7},
                {6, 11, 9, 12},
                {2, 10, 10, 5},
                {5, 7, 12, 9}
        };
        int algonema = 0, keladi = 0, alocasia = 0, mawar = 0, pendapatan;
        for (int i = 0; i < 4; i++) {
            for (int j = 0; j < 4; j++) {
                if (j == 0) {
                    algonema += bunga[i][j];
                } else if (j == 1) {
                    keladi += bunga[i][j];
                } else if (j == 2) {
                    alocasia += bunga[i][j];
                } else {
                    mawar += bunga[i][j];
                }
            }
        }

        System.out.println("| Jumlah Bunga di Seluruh Cabang |");
        System.out.println("| Jumlah Bunga Algonema: " + algonema + "\t |");
        System.out.println("| Jumlah Bunga Keladi  : " + keladi + "\t |");
        System.out.println("| Jumlah Bunga Alocasia: " + alocasia + "\t |");
        System.out.println("| Jumlah Bunga Mawar   : " + mawar + "\t |");
        System.out.println("_____________________________________");
        System.out.println();
        pendapatan = ((10 -1)* 75000) + ((5-2)*50000) + (15*60000) + ((7-5)*10000);
        System.out.println("=> Total Pendapatan Royale Gareden 1 \n  Jika Semua Bunga Terjual Habis : Rp " + pendapatan);
    }
}
```

b. Hasil Running

```
E:\MARIA FADILLA>java JS1Array

======== PRAKTIKUM ARRAY ========

--- Toko Bunga Royale Garden ---
| Jumlah Bunga di Seluruh Cabang |
| Jumlah Bunga Algonema: 23      |
| Jumlah Bunga Keladi  : 33      |
| Jumlah Bunga Alocasia: 46      |
| Jumlah Bunga Mawar   : 33      |
_________________________________

=> Total Pendapatan Royale Gareden 1
  Jika Semua Bunga Terjual Habis : Rp 1745000
```

4. JS1 – Fungsi

a. Kode Program

```
1  import java.util.Scanner;
2      public class JS1Fungsi{
3          static int total;
4          static int stokBunga [][] = {
5              {10,5,15,7},
6              {6,11,9,12},
7              {2,10,10,5},
8              {5,7,12,9}
9          };
10     public static void main(String[] args){
11         System.out.println();
12         System.out.println("================================ PRAKTIKUM FUNGSI ================================");
13         System.out.println();
14         String bunga[]={"Aglonema", "Keladi","Alocasia","Mawar"};
15         String toko[]={"Royal Garden 1","Royal Garden 2","Royal Garden 3", "Royal Garden 4"};
16         System.out.println("\t\t |    "+ bunga[0]+"\t|     "+ bunga[1]+"\t|     "+ bunga[2]+"\t|     "+ bunga[3]);
17         printtabel(toko,stokBunga);
18         System.out.println("=========================================================================================");
19         System.out.println("\t\t\t\t\tJumlah Stok Bunga");
20         System.out.println("=========================================================================================");
21         System.out.println(bunga[0]+" : "+printstok(0));
22         System.out.println(bunga[1]+"   : "+printstok(1));
23         System.out.println(bunga[2]+" : "+printstok(2));
24         System.out.println(bunga[3]+"    : "+printstok(3));
25         System.out.println("_________________________________________________________________________________________");
26     }
27     public static void printtabel(String array[], int jumlah[][]){
28         for(int i=0;i<4;i++){
29             System.out.print(array[i]+"   |"+"   ");
30             for(int j=0;j<4;j++){
31                 System.out.print("\t"+jumlah[i][j]+"\t|");
32             }
33             System.out.println();
34         }
35     }
36     public static int printstok(int x){
37         total=0;
38         for(int j=0;j<stokBunga[0].length;j++){
39             total += stokBunga[j][x];
40         }
41         return total;
42     }
43 }
```

b. Hasil Running

```
E:\MARIA FADILLA>java JS1Fungsi

================================ PRAKTIKUM FUNGSI ================================

                |   Aglonema   |    Keladi    |    Alocasia    |     Mawar
Royal Garden 1  |      10      |       5      |       15       |       7
Royal Garden 2  |      6       |       11     |       9        |       12
Royal Garden 3  |      2       |       10     |       10       |       5
Royal Garden 4  |      5       |       7      |       12       |       9
================================================================================
                                Jumlah Stok Bunga
================================================================================
Aglonema : 23
Keladi   : 33
Alocasia : 46
Mawar    : 33
________________________________________________________________________________
```

5. JS1 – Tugas 1

a. Kode Program

```
1  public class JS1Tugas1{
2      public static void main(String[] args) {
3          System.out.println();
4          System.out.println("========== PRAKTIKUM TUGAS 1 ==========");
5          System.out.println();
6          int ani=4, budi=15, bina=6, cita=11;
7          double totalPendapatan;
8          totalPendapatan = (4*4500)+(15*4500*0.05)+(6*4500)+(11*4500*0.05);
9              System.out.println("Pendapatan Smile Laundry : Rp "+ totalPendapatan);
10             System.out.println("_____________________________________________");
11             System.out.println();
12             System.out.println("Dengan Rincian:");
13             System.out.println("Ani  : Rp " + 4*4500 );
14             System.out.println("Budi : Rp " + (15*4500 *0.05));
15             System.out.println("Bina : Rp " + 6*4500);
16             System.out.println("Cita : Rp " + (11*4500*0.05));
17             System.out.println("_____________________________________________");
18     }
19 }
```

b. Hasil Running

```
E:\MARIA FADILLA>java JS1Tugas1

========== PRAKTIKUM TUGAS 1 ==========

Pendapatan Smile Laundry : Rp 50850.0
_____________________________________________

Dengan Rincian:
Ani  : Rp 18000
Budi : Rp 3375.0
Bina : Rp 27000
Cita : Rp 2475.0
_____________________________________________
```

6. JS1 – Tugas 2

a. Kode Program

```java
import java.util.Scanner;
public class JS1Tugas2{
    public static void main(String[] args){
        int menu;
        double v, s, t;
        do{
            Scanner sc = new Scanner(System.in);
            System.out.println();
            System.out.println("================ PRAKTIKUM TUGAS 2 ================");
            System.out.println();
            System.out.println("----- Menghittung Kecepatan - Jarak - Waktu -----");
            System.out.println("Pilih Menu : ");
            System.out.println("1. Rumus Kecepatan");
            System.out.println("2. Rumus Jarak");
            System.out.println("3. Rumus Waktu");
            System.out.println("4. Quit");
            System.out.print("Pilihan Menu (1/2/3/4) : ");
            menu = sc.nextInt();
            System.out.println();
            switch(menu){
                case 1 : {
                    System.out.println("Menu 1. Perhitungan Rumus Kecepatan");
                    kecepatan();
                }break;
                case 2 : {
                    System.out.println("Menu 2. Perhitungan Rumus Jarak");
                    jarak();
                }break;
                case 3 : {
                    System.out.println("Menu 3. Perhitungan Rumus Waktu");
                    waktu();
                }break;
                case 4 : {
                    System.out.println("Menu 4. QUIT - Terimakasih^^");
                }break;
                default : {
                    System.out.println("Maaf Input Menu Anda Salah!");
                }
            }
        }while(menu > 0 && menu < 3);
    }

    private static void kecepatan(){
        double v, s, t, hasil;
        Scanner sc = new Scanner(System.in);
        System.out.print("Masukkan jarak (km)\t     : ");
        s = sc.nextDouble();
        System.out.print("Masukkan waktu (jam)\t     : ");
        t = sc.nextDouble();
        hasil = s/t;
        System.out.print("=> Kecepatan Yang Dihasilkan : " + hasil + (" km/jam") );
        System.out.println();
    }

    private static void jarak(){
        double v, s, t, hasil;
        Scanner sc = new Scanner(System.in);
        System.out.print("Masukkan Kecepatan (km/jam)   : ");
        v = sc.nextDouble();
        System.out.print("Masukkan waktu (jam)\t     : ");
        t = sc.nextDouble();
        hasil = v*t;
        System.out.println("=> Jarak Yang Ditempuh\t     : " + hasil + " km");
        System.out.println();
    }

     private static void waktu(){
        double v, s, t, hasil;
        Scanner sc = new Scanner(System.in);
        System.out.print("Masukkan jarak (km)\t     : ");
        s = sc.nextDouble();
        System.out.print("Masukkan kecepatan (km/jam)   : ");
        v = sc.nextDouble();
        hasil = s/v;
        System.out.println("=> Waktu Yang Ditempuh\t     : " + hasil + " jam");
        System.out.println();
    }
}
```

b. Hasil Running

- Menu 1. Menghitung Kecepatan

```
E:\MARIA FADILLA>java JS1Tugas2.java

=============== PRAKTIKUM TUGAS 2 ===============

----- Menghittung Kecepatan - Jarak - Waktu -----
Pilih Menu :
1. Rumus Kecepatan
2. Rumus Jarak
3. Rumus Waktu
4. Quit
Pilihan Menu (1/2/3/4) : 1

Menu 1. Perhitungan Rumus Kecepatan
Masukkan jarak (km)          : 8
Masukkan waktu (jam)         : 2
=> Kecepatan Yang Dihasilkan : 4.0 km/jam
```

- Menu 2. Menghitung Jarak

```
=============== PRAKTIKUM TUGAS 2 ===============

----- Menghittung Kecepatan - Jarak - Waktu -----
Pilih Menu :
1. Rumus Kecepatan
2. Rumus Jarak
3. Rumus Waktu
4. Quit
Pilihan Menu (1/2/3/4) : 2

Menu 2. Perhitungan Rumus Jarak
Masukkan Kecepatan (km/jam)  : 4
Masukkan waktu (jam)         : 2
=> Jarak Yang Ditempuh       : 8.0 km
```

- Menu 3. Menghitung Waktu

```
=============== PRAKTIKUM TUGAS 2 ===============

----- Menghittung Kecepatan - Jarak - Waktu -----
Pilih Menu :
1. Rumus Kecepatan
2. Rumus Jarak
3. Rumus Waktu
4. Quit
Pilihan Menu (1/2/3/4) : 3

Menu 3. Perhitungan Rumus Waktu
Masukkan jarak (km)          : 8
Masukkan kecepatan (km/jam)  : 4
=> Waktu Yang Ditempuh       : 2.0 jam
```

- Menu 4. Quit (keluar dari program)

```
=============== PRAKTIKUM TUGAS 2 ===============

----- Menghittung Kecepatan - Jarak - Waktu -----
Pilih Menu :
1. Rumus Kecepatan
2. Rumus Jarak
3. Rumus Waktu
4. Quit
Pilihan Menu (1/2/3/4) : 4

Menu 4. QUIT - Terimakasih^^
```