

OBJECT ORIENTED PROGRAMMING



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65141

QUIZ 2 Pemrograman Berorientasi Object

Class Mahasiswa :

```
1 package oop_java.week13_quiz;
2
3 public class Mahasiswa {
4     private String nama, nim;
5     private int[] nilai;
6
7     public Mahasiswa(String nama, String nim, int[] nilai) {
8         this.nama = nama;
9         this.nim = nim;
10        this.nilai = nilai;
11    }
12
13    public double hitung_ipk() {
14        double total = 0;
15        // hitung total nilai
16        for (int i = 0; i < nilai.length; i++) {
17            total += nilai[i];
18        }
19        return total / nilai.length;
20    }
21
22    public double hitung_ipk(int[] nilai_sks) {
23        // buat variabel dan inisialisasi nilai awal
24        double total = 0;
25        int total_sks = 0;
26        for (int i = 0; i < nilai.length; i++) {
27            // kalikan nilai dengan bobot sks
28            total += nilai[i] * nilai_sks[i];
29            total_sks += nilai_sks[i];
30        }
31        return total / total_sks;
32    }
33
34    public String getNama() {
35        return nama;
36    }
37
38    public String getNim() {
39        return nim;
40    }
41
42    public int[] getNilai() {
43        return nilai;
44    }
45 }
46
```

Class MataKuliah :

```
1  package oop_java.week13_quiz;
2
3  public class MataKuliah {
4      private String nama_matakuliah;
5      private int sks;
6      private int[] nilai_mahasiswa;
7
8      public MataKuliah(String nama_matakuliah, int sks, int[] nilai_mahasiswa) {
9          this.nama_matakuliah = nama_matakuliah;
10         this.sks = sks;
11         this.nilai_mahasiswa = nilai_mahasiswa;
12     }
13
14     public double hitung_bobot() {
15         double totalBobot = 0;
16         // hitung total nilai
17         for (int i = 0; i < nilai_mahasiswa.length; i++) {
18             totalBobot += nilai_mahasiswa[i];
19         }
20         return totalBobot / nilai_mahasiswa.length;
21     }
22
23     public double hitung_bobot(int bobot_mahasiswa) {
24         double totalBobot = 0;
25         int total_sks = 0;
26         for (int i = 0; i < nilai_mahasiswa.length; i++) {
27             // kalikan nilai dengan bobot sks
28             totalBobot += nilai_mahasiswa[i] * bobot_mahasiswa;
29             total_sks += bobot_mahasiswa;
30         }
31         return totalBobot / total_sks;
32     }
33
34     public String getNama_matakuliah() {
35         return nama_matakuliah;
36     }
37
38     public int getSks() {
39         return sks;
40     }
41
42     public int[] getNilai_mahasiswa() {
43         return nilai_mahasiswa;
44     }
45
46 }
47
```

Class Perwalian :

```
1 package oop_java.week13_quiz;
2 import java.util.ArrayList;
3 import java.util.List;
4
5
6 public class Perwalian {
7     private List<Mahasiswa> mahasiswas;
8     private List<MataKuliah> matakuliahs;
9
10    public Perwalian() {
11        this.mahasiswas = new ArrayList<>();
12        this.matakuliahs = new ArrayList<>();
13    }
14
15    public void tambahMahasiswa(Mahasiswa mahasiswa) {
16        this.mahasiswas.add(mahasiswa);
17    }
18
19    public void tambahMataKuliah(MataKuliah mataKuliah) {
20        this.matakuliahs.add(mataKuliah);
21    }
22
23    public void tampilkanDaftarMahasiswa() {
24        System.out.println(x:"Daftar Mahasiswa & Mata Kuliah");
25        // tampilkan daftar mahasiswa dan mata kuliah
26        for (int i = 0; i < mahasiswas.size(); i++) {
27            System.out.println("Mahasiswa: " + mahasiswas.get(i).getNama());
28            System.out.println("NIM: " + mahasiswas.get(i).getNim());
29            System.out.println("IPK: " + mahasiswas.get(i).hitung_ipk());
30            System.out.println("Mata Kuliah: " + matakuliahs.get(i).getNama_matakuliah());
31            System.out.println("SKS: " + matakuliahs.get(i).getSks());
32            System.out.println("Bobot: " + matakuliahs.get(i).hitung_bobot());
33            System.out.println();
34        }
35    }
36 }
```

MAIN :

```
1 package oop_java.week13_quiz;
2
3 public class Main {
4     Run | Debug
5     public static void main(String[] args) {
6         // buat objek mahasiswa
7         Mahasiswa mahasiswa1 = new Mahasiswa(nama:"Budi", nim:"123456789", new int[]{80, 90, 70});
8         Mahasiswa mahasiswa2 = new Mahasiswa(nama:"Andi", nim:"987654321", new int[]{90, 80, 70});
9         // buat objek mata kuliah
10        MataKuliah mataKuliah1 = new MataKuliah(nama_matakuliah:"Pemrograman Berorientasi Objek", sks:3, new int[]{80, 90, 70});
11        MataKuliah mataKuliah2 = new MataKuliah(nama_matakuliah:"Pemrograman Berbasis Web", sks:3, new int[]{90, 80, 70});
12        // buat objek perwalian
13        Perwalian perwalian = new Perwalian();
14        perwalian.tambahMahasiswa(mahasiswa1);
15        perwalian.tambahMahasiswa(mahasiswa2);
16        perwalian.tambahMataKuliah(mataKuliah1);
17        perwalian.tambahMataKuliah(mataKuliah2);
18        // tampilkan daftar mahasiswa dan mata kuliah
19        perwalian.tampilkanDaftarMahasiswa();
20    }
21 }
```

Output :

```
Daftar Mahasiswa & Mata Kuliah
Mahasiswa: Budi
NIM: 123456789
IPK: 80.0
Mata Kuliah: Pemrograman Berorientasi Objek
SKS: 3
Bobot: 80.0

Mahasiswa: Andi
NIM: 987654321
IPK: 80.0
Mata Kuliah: Pemrograman Berbasis Web
SKS: 3
Bobot: 80.0

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```