

## JAWABAN SOAL TEST ENGINEER.

### Task 2 :

#### Model: ProduksiMobil.cs

```
using System;
```

```
using System.ComponentModel.DataAnnotations;
```

```
public class ProduksiMobil
```

```
{
```

```
    [Key]
```

```
    public int Id { get; set; }
```

```
    public int Senin { get; set; }
```

```
    public int Selasa { get; set; }
```

```
    public int Rabu { get; set; }
```

```
    public int Kamis { get; set; }
```

```
    public int Jumat { get; set; }
```

```
    public int Sabtu { get; set; }
```

```
    public int Minggu { get; set; }
```

```
    public DateTime TanggalInput { get; set; } = DateTime.Now;
```

```
}
```

#### DbContext: ApplicationDbContext.cs

```
using System.Data.Entity;
```

```

public class ApplicationDbContext : DbContext
{
    public ApplicationDbContext() : base("DefaultConnection") { }

    public DbSet<ProduksiMobil> ProduksiMobils { get; set; }
}

```

### Connection String di Web.config

```

<connectionStrings>

    <add name="DefaultConnection"

        connectionString="Data Source=AL-PC;Initial Catalog=TESTAGIT;User ID=sa; Password=sa; Connect
        timeout=0; Command timeout=0; Integrated Security=True;"

        providerName="System.Data.SqlClient" />

</connectionStrings>

```

### Controller: ProduksiController.cs

```

using System;

using System.Linq;

using System.Web.Mvc;

public class ProduksiController : Controller
{
    private ApplicationDbContext db = new ApplicationDbContext();

    public ActionResult Index()

```

```

{
    var lastData = db.ProduksiMobils
        .OrderByDescending(p => p.TanggalInput)
        .FirstOrDefault();

    return View(lastData ?? new ProduksiMobil());
}

[HttpPost]
public ActionResult Simpan(ProduksiMobil model)
{
    if (ModelState.IsValid)
    {
        db.ProduksiMobils.Add(model);
        db.SaveChanges();
    }

    return RedirectToAction("Index");
}
}

```

#### **View: Index.cshtml**

```

@model ProduksiMobil

@{
    ViewBag.Title = "Penentuan Jumlah Produksi Mobil";
    Layout = null;
}

```

## <h2>Penentuan Jumlah Produksi Mobil Dalam Seminggu</h2>

<form method="post" action="/Produksi/Simpan">

<table border="1">

<thead>

<tr>

<th>Senin</th>

<th>Selasa</th>

<th>Rabu</th>

<th>Kamis</th>

<th>Jumat</th>

<th>Sabtu</th>

<th>Minggu</th>

</tr>

</thead>

<tbody>

<tr>

<td><input type="number" id="senin" name="Senin" value="@Model.Senin" min="4" max="5" /></td>

<td><input type="number" id="selasa" name="Selasa" value="@Model.Selasa" min="4" max="5" /></td>

<td><input type="number" id="rabu" name="Rabu" value="@Model.Rabu" min="4" max="5" /></td>

<td><input type="number" id="kamis" name="Kamis" value="@Model.Kamis" min="4" max="5" /></td>

<td><input type="number" id="jumat" name="Jumat" value="@Model.Jumat" min="4" max="5" /></td>

<td><input type="number" id="sabtu" name="Sabtu" value="@Model.Sabtu" min="4" max="5" /></td>

<td><input type="number" id="minggu" name="Minggu" value="0" readonly /></td>

```

        </tr>

    </tbody>

</table>

<br />

<button type="button" onclick="tentukan()">Tentukan</button>

<button type="submit">Simpan</button>

</form>

<script>

function tentukan() {

    const senin = parseInt(document.getElementById("senin").value);
    const selasa = parseInt(document.getElementById("selasa").value);
    const rabu = parseInt(document.getElementById("rabu").value);
    const kamis = parseInt(document.getElementById("kamis").value);
    const jumat = parseInt(document.getElementById("jumat").value);
    const sabtu = parseInt(document.getElementById("sabtu").value);


    if (isNaN(senin) && isNaN(selasa) && isNaN(rabu) && isNaN(kamis) && isNaN(jumat) &&
    isNaN(sabtu) )

    {

        alert("kolom harus diisi salah satu dengan angka minimal 4.");

        return;

    }

    let total = senin + selasa + rabu + kamis + jumat + sabtu;

    const hari = ["senin", "selasa", "rabu", "kamis", "jumat", "sabtu"];

    let values = [];

```

```
for (let i = 0; i < hari.length; i++) {  
    let rand = Math.random() < 0.5 ? 4 : 5;  
    if (total + rand > 27) rand = 4;  
    total += rand;  
    values.push(rand);  
}  
  
const minggu = 27 - total;  
if (minggu < 0) {  
    alert("Total melebihi 27. Ulangi input!");  
    return;  
}  
  
for (let i = 0; i < hari.length; i++) {  
    document.getElementById(hari[i]).value = values[i];  
}  
  
document.getElementById("minggu").value = minggu;  
}  
</script>
```

tampilan

mohon maaf pak Dody laptop saya habis diinstall ulang karena virus jadi di komputer saya belum bisa publish ke IIS sudah saya coba tiga kali, akhirnya saya running di <https://jsfiddle.net/> dan hasilnya seperti dibawah.

## Penentuan Jumlah Produksi Mobil Dalam Seminggu

| Senin                          | Selasa                         | Rabu                           | Kamis                          | Jumat                          | Sabtu                          | Minggu                         |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <input type="text" value="4"/> | <input type="text" value="5"/> | <input type="text" value="4"/> | <input type="text" value="5"/> | <input type="text" value="5"/> | <input type="text" value="4"/> | <input type="text" value="0"/> |

Tentukan

Simpan

### Task 3 :

1.CREATE TABLE Fakultas (

FakultasID INT PRIMARY KEY IDENTITY(1,1),

KodeFakultas INT NOT NULL,

NamaFakultas NVARCHAR(30) NOT NULL,

NamaDekan NVARCHAR(50) NOT NULL

);

2.CREATE TABLE Prodi (

ProdiID INT PRIMARY KEY IDENTITY(1,1),

KodeProdi INT NOT NULL,

KodeFakultas INT NOT NULL,

NamaProdi NVARCHAR(30) NOT NULL,

NamaKetuaProdi NVARCHAR(50) NOT NULL

);

3.CREATE TABLE Mahasiswa (

MahasiswaID INT PRIMARY KEY IDENTITY(1,1),

```
NPM VARCHAR(8) NOT NULL UNIQUE,  
KodeProdi INT NOT NULL,  
NamaMahasiswa NVARCHAR(50) NOT NULL,  
TempatLahir NVARCHAR(30) NOT NULL,  
TanggalLahir DATETIME DEFAULT GETDATE(),  
Alamat NVARCHAR(100) NOT NULL  
);
```

#### 4.ALTER TABLE Fakultas

```
ADD CONSTRAINT PK_Fakultas PRIMARY KEY (KodeFakultas);
```

#### 5. ALTER TABLE Prodi

```
ADD CONSTRAINT PK_Prodi PRIMARY KEY (KodeProdi, KodeFakultas);
```

#### 6. a.Data Fakultas

```
INSERT INTO Fakultas (KodeFakultas, NamaFakultas, NamaDekan)
```

```
VALUES
```

```
('1', 'Teknik', 'Ahmad Riyadi'),
```

```
('2', 'Pertanian', 'Paiman'),
```

```
('3', 'Ekonomi', 'Sukhemi'),
```

```
('4', 'Keguruan', 'Suharni');
```

#### b.Data Prodi

```
INSERT INTO Prodi (KodeProdi, KodeFakultas, NamaProdi, NamaKetuaProdi)
```

```
VALUES
```

```
('11', '1', 'Teknik Informatika', 'Bachtiar Dwi Effendi'),
```

```
('21', '2', 'Agroteknologi', 'Bahrum'),
```

```
('31', '3', 'Manajemen', 'Vita'),
```

```
('32', '3', 'Akintasi', 'Siti Maisaroh'),
```



```

('41', '4', 'PPKN', 'Sigit'),
('42', '4', 'Sejarah', 'Gunawan'),
('43', '4', 'Pendidikan Matematika', 'Tri'),
('44', '4', 'Bimbingan Konseling', 'Siswanti'),
('45', '4', 'PGSD', 'Haniek');

```

#### c.Data Mahasiswa

```
INSERT INTO Mahasiswa (NPM, KodeProdi, NamaMahasiswa, TempatLahir, TanggalLahir, Alamat)
```

```
VALUES
```

```

('08110167', '11', 'Andi', 'Jakarta', '1988-03-12', 'Gunung Kidul'),
('08110231', '11', 'Joko', 'Sleman', '1989-02-01', 'Sleman'),
('08210232', '21', 'Budi', 'Bantul', '1988-09-15', 'Bantul'),
('08210233', '21', 'Cici', 'Purwokerto', '1989-02-21', 'Bantul'),
('08310234', '31', 'Didi', 'Bandung', '1987-07-11', 'Kodya'),
('08320235', '32', 'Alfin', 'Makassar', '1986-09-22', 'Kodya'),
('08320236', '32', 'Dodi', 'Gunung Kidul', '1979-03-24', 'Kodya'),
('08320237', '32', 'Derri', 'Pangkal Pinang', '1984-02-09', 'Sleman'),
('08410121', '41', 'Dudung', 'Kebumen', '1985-02-25', 'Sleman'),
('08410122', '41', 'Afgan', 'Palembang', '1986-11-21', 'Kulon Progo'),
('08420123', '42', 'Didi', 'Kutoarjo', '1986-09-11', 'Kulon Progo'),
('08430124', '43', 'Firza', 'Purworejo', '1986-09-11', 'Bantul'),
('08440125', '44', 'Zahir', 'Temom', '1986-09-11', 'Kulon Progo');

```

#### 7.ALTER TABLE Mahasiswa

```
ADD TanggalDaftar DATETIME DEFAULT GETDATE();
```

#### 8. SELECT \*

```
FROM Mahasiswa
```

```
WHERE YEAR(TanggalLahir) BETWEEN 1970 AND 1979;
```

hasilnya:

| MahasiswaID | NPM | KodeProdi | NamaMahasiswa | TempatLahir | TanggalLahir | Alamat | TanggalDaftar |
|-------------|-----|-----------|---------------|-------------|--------------|--------|---------------|
|-------------|-----|-----------|---------------|-------------|--------------|--------|---------------|

|       |       |       |       |       |       |       |       |
|-------|-------|-------|-------|-------|-------|-------|-------|
| ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|-------|-------|-------|-------|-------|-------|-------|-------|

|   |          |    |      |              |            |       |            |
|---|----------|----|------|--------------|------------|-------|------------|
| 7 | 08320236 | 32 | Dodi | Gunung Kidul | 1979-03-24 | Kodya | 2025-06-11 |
|---|----------|----|------|--------------|------------|-------|------------|

#### 9. SELECT

m>NamaMahasiswa,

p>NamaProdi

FROM Mahasiswa m

INNER JOIN Prodi p ON m.KodeProdi = p.KodeProdi;

hasilnya:

| NamaMahasiswa | NamaProdi |
|---------------|-----------|
|---------------|-----------|

|       |       |
|-------|-------|
| ----- | ----- |
|-------|-------|

|      |                    |
|------|--------------------|
| Andi | Teknik Informatika |
|------|--------------------|

|      |                    |
|------|--------------------|
| Joko | Teknik Informatika |
|------|--------------------|

|      |               |
|------|---------------|
| Budi | Agroteknologi |
|------|---------------|

|      |               |
|------|---------------|
| Cici | Agroteknologi |
|------|---------------|

|      |           |
|------|-----------|
| Didi | Manajemen |
|------|-----------|

|       |          |
|-------|----------|
| Alfin | Akintasi |
|-------|----------|

|      |          |
|------|----------|
| Dodi | Akintasi |
|------|----------|

|       |          |
|-------|----------|
| Derri | Akintasi |
|-------|----------|

|        |      |
|--------|------|
| Dudung | PPKN |
|--------|------|

|       |      |
|-------|------|
| Afgan | PPKN |
|-------|------|

|      |         |
|------|---------|
| Didi | Sejarah |
|------|---------|

|       |                       |
|-------|-----------------------|
| Firza | Pendidikan Matematika |
|-------|-----------------------|

|       |                     |
|-------|---------------------|
| Zahir | Bimbingan Konseling |
|-------|---------------------|

#### 10. SELECT TOP 3

m>NamaMahasiswa,

m.Alat

FROM Mahasiswa m

INNER JOIN Prodi p ON m.KodeProdi = p.KodeProdi

INNER JOIN Fakultas f ON p.KodeFakultas = f.KodeFakultas

WHERE f>NamaFakultas = 'Teknik'

ORDER BY m.TanggalLahir ASC;

hasilnya:

| >NamaMahasiswa | >Alamat       | > |
|----------------|---------------|---|
| >-----         | >-----        | > |
| >Andi          | >Gunung Kidul | > |
| >Joko          | >Sleman       | > |

11.SELECT COUNT(\*) AS JumlahMahasiswaSleman

FROM Mahasiswa

WHERE Alamat = 'Sleman';

hasilnya:

| >JumlahMahasiswaSleman | > |
|------------------------|---|
| >-----                 | > |
| >3                     | > |

12. UPDATE Mahasiswa

SET TanggalDaftar = '2013-09-03';

13. SELECT \*

FROM Mahasiswa

WHERE>NamaMahasiswa LIKE 'D%';

hasilnya:

| MahasiswaID | NPM | KodeProdi | NamaMahasiswa | TempatLahir | TanggalLahir | Alamat | TanggalDaftar |
|-------------|-----|-----------|---------------|-------------|--------------|--------|---------------|
|-------------|-----|-----------|---------------|-------------|--------------|--------|---------------|

| ----- | ----- | ----- | ----- | ----- | ----- | ----- | ----- |
|-------|-------|-------|-------|-------|-------|-------|-------|
|-------|-------|-------|-------|-------|-------|-------|-------|

|   |          |    |        |                |            |        |            |
|---|----------|----|--------|----------------|------------|--------|------------|
| 5 | 08310234 | 31 | Didi   | Bandung        | 1987-07-11 | Kodya  | 2013-09-03 |
| 7 | 08320236 | 32 | Dodi   | Gunung Kidul   | 1979-03-24 | Kodya  | 2013-09-03 |
| 8 | 08320237 | 32 | Derri  | Pangkal Pinang | 1984-02-09 | Sleman | 2013-09-03 |
| 9 | 08410121 | 41 | Dudung | Kebumen        | 1985-02-25 | Sleman | 2013-09-03 |

#### 14.UPDATE Mahasiswa

SET TanggalLahir = '1990-01-20'

WHERE NamaMahasiswa = 'Joko';

#### 15.SELECT

p>NamaProdi,

COUNT(m.MahasiswaID) AS JumlahMahasiswa

FROM Prodi p

LEFT JOIN Mahasiswa m ON p.KodeProdi = m.KodeProdi

GROUP BY p>NamaProdi

ORDER BY JumlahMahasiswa DESC;

hasilnya:

| NamaProdi             | JumlahMahasiswa |
|-----------------------|-----------------|
| -----                 | -----           |
| Akintasi              | 3               |
| Teknik Informatika    | 2               |
| Agroteknologi         | 2               |
| PPKN                  | 2               |
| Manajemen             | 1               |
| Sejarah               | 1               |
| Pendidikan Matematika | 1               |

| Bimbingan Konseling | 1 |

| PGSD | 0 |