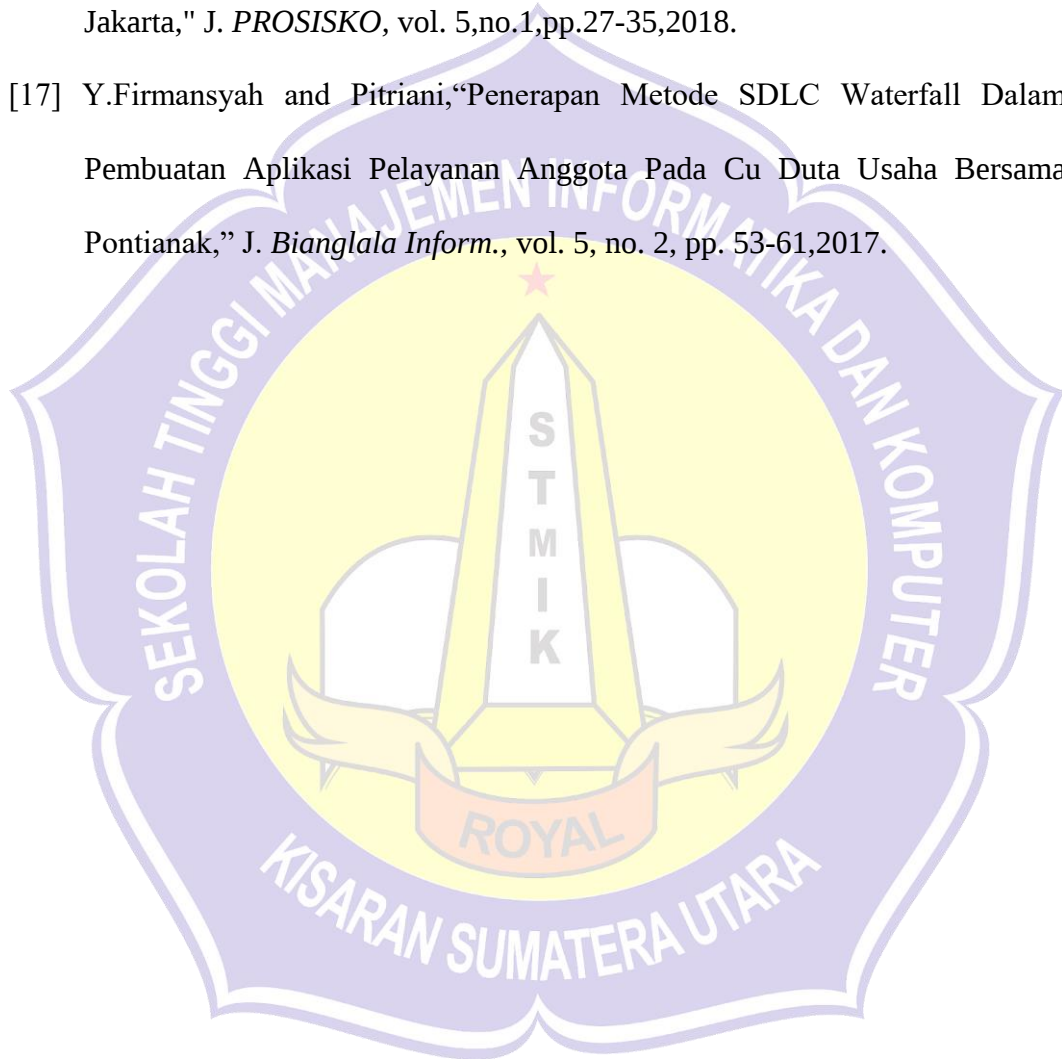


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Listing Program

```
<?php

defined('BASEPATH') OR exit('No direct script access allowed');

class Proses extends CI_Controller {

    public function __construct(){

        parent::__construct();

        // if($this->auth->is_logged_in() == false)
        // {
        //     redirect('login');
        // }

        $this->load->model('Kriteria_model','kriteria');
        $this->load->model('Alternatif_model','alternatif');
        $this->load->model('Penilaian_model','penilaian');
    }

    public function index(){

        // Nilai Alternatif

        $alternatif = $this->alternatif->getAlternatif()->result();

        $kriteria = $this->kriteria->getKriteria()->result();

        $nilai = $this->penilaian->getPenilaian()->num_rows();

        $nilai = $this->penilaian->getPenilaian()->result();
```

```

foreach ($alternatif as $a){
    foreach ($kriteria as $k){
        $nilaiAlternatif[$a->ID][$k->ID] = 0;

        foreach ($nilai as $n){
            if($n->IDAlternatif==$a->ID && $n->IDKriteria==$k->ID){
                $nilaiAlternatif[$a->ID][$k->ID] = $n->Nilai;
            }
        }
    }
}

// Nilai MAX dan MIN
foreach ($kriteria as $k){
    $nilaikriteria[$k->ID]['cmax'] = $this->db->query("SELECT
MAX(c.Nilai) as cmax, MIN(c.Nilai) as cmin FROM nilai c LEFT JOIN
tb_himpunan ON c.IDHimpunan = tb_himpunan.ID LEFT JOIN tb_kriteria c ON
c.IDKriteria = tb_kriteria.ID WHERE c.IDKriteria = ".$k->ID)->row();
}

// Nilai utiliti
foreach ($alternatif as $a){
    foreach ($kriteria as $k){
        if($nilaikriteria[$k->ID]['tipe']=='Cost'){

```

```

$nilaiakhir[$a->ID][$k->ID] = ($nilai kriteria[$k->ID]['cmax'] -
$nilaiAlternatif[$a->ID][$k->ID]) / ($nilai kriteria[$k->ID]['cmax'] -
$nilai kriteria[$k->ID]['cmin']);

    } else {

        $nilaiakhir[$a->ID][$k->ID] = ($nilaiAlternatif[$a->ID][$k->ID] -
$nilai kriteria[$k->ID]['cmin']) / ($nilai kriteria[$k->ID]['cmax'] - $nilai kriteria[$k-
>ID]['cmin']);

    }

    $normalisasi[$a->ID][$k->ID] = $nilaiakhir[$a->ID][$k->ID] * $k-
>Bobot;
    }
}

// Hasil akhir normalisasi - nilai utiliti kriteria
foreach ($alternatif as $a){
    $skor = 0;
    foreach ($kriteria as $k){
        $skor += $normalisasi[$a->ID][$k->ID];
    }
    $ranking[$a->ID] = $skor;
}

arsort($ranking);

$data['alternatifterbaik'] = max($ranking);

```



```

$data['judul'] = 'Proses Hasil Analisa Perhitungan';

$data['subjudul'] = 'Hasil Analisa';

$data['content'] = 'hasil/proses';

$data['kriteria'] = $kriteria;

$data['alternatif'] = $alternatif;

$data['nilaikriteria'] = $nilaikriteria;

$data['nilaiakhir'] = $nilaiakhir;

$data['normalisasi'] = $normalisasi;

$data['ranking'] = $ranking;

$data['hasilakhir'] = $this->penilaian->hasilAkhir()->result();

$data['cekhasil'] = $this->penilaian->cekhasil($tahun)->num_rows();

// Proses ke tabel hasil
if(isset($_POST['urutkan'])) {
    $tahun = date('Y');

    $cekhasil = $this->db->query("SELECT * FROM tb_hasil WHERE
Tahun = $tahun")->num_rows();

    if($cekhasil==0){
        $inputhasil = [];

        $index = 0; // Set index array awal dengan 0

        foreach($alternatif as $alt){ // Kita buat perulangan berdasarkan nilai
sampai data terakhir

            array_push($inputhasil, array(

                'IDAlternatif' => $alt->ID,

```

```

        'nilaiAkhir' => $ranking[$salt->ID], // Ambil dan set data nama
sesuai index array dari $index

        'Tahun' => $tahun // Ambil dan set data nama sesuai index array
dari $index

    ));

    $index++;

}

$this->db->insert_batch('tb_hasil', $inputhasil);

$this->session->set_flashdata('pesan','<div class="alert alert-
success">Data Berhasil Diurutkan dan Disimpan</div>');

redirect('proses');

}

}

$this->load->view('pages/index', $data);

}

public function resetHasil(){

    $tahun = date('Y');

    $this->db->delete('tb_hasil',['Tahun'=>$tahun]);

    $this->session->set_flashdata('pesan','<div class="alert alert-success">Data
Hasil Perankingan Berhasil Di Reset/Hapus</div>');

    redirect('proses');

}

```

```

public function laporanHasil(){

    $data['judul'] = 'Laporan Hasil Analisa';

    $data['subjudul'] = 'Laporan Hasil Analisa';

    $data['content'] = 'hasil/laporan';

    $data['hasilakhir'] = $this->penilaian->hasilAkhir()->result();

    if ($this->input->get('status') == 'print') {

        $this->load->view('hasil/print_laporan', $data);

    } else {

        $this->load->view('pages/index', $data);

    }

}

}

/* End of file Proses.php */

/* Location: ./application/controllers/Proses.php */

<div class="row">

    <div class="col-lg-12">

        <?=$this->session->userdata('pesan'); ?>

    <div class="card">

        <div class="card-body">

            <h5 class="card-title">Data Bobot Kriteria Tiap Alternatif</h5>

            <!-- <a href="#" class="btn btn-sm btn-primary">Simpan Hasil</a> -->

```

```

<table class="table table-bordered table-sm">

    <thead>

        <tr>

            <th rowspan="2">Kode</th>

            <th rowspan="2">Nama Alternatif</th>

            <th colspan="<?= $kriteria; ?>">Kriteria</th>

        </tr>

        <tr>

            <?php foreach ($kriteria as $krt): ?>

                <th><?= $krt->ID ?></th>

            <?php endforeach ?>

        </tr>

    </thead>

    <tbody>

        <?php foreach ($alternatif as $alt): ?>

            <tr>

                <td><?= $alt->KodeAlternatif ?></td>

                <td><?= $alt->NamaAlternatif ?></td>

                <?php foreach ($kriteria as $krt): ?>

                    <td><?= $nilaikriteria[$alt->ID][$krt->ID]-

                >NamaHimpunan ?></td>

                <?php endforeach ?>

            </tr>

        <?php endforeach ?>

    </tbody>

</table>

```

```

        </tbody>

    </table>

</div>

</div>

</div>

</div>

<!-- Nilai Bobot Kriteria Tiap Alternatif -->
<div class="card">
    <div class="card-body">
        <h5 class="card-title">Nilai Bobot Kriteria Tiap Alternatif</h5>
        <!-- <a href="#" class="btn btn-sm btn-primary">Simpan Hasil</a> -->

        <table class="table table-bordered table-sm">
            <thead>
                <tr>
                    <th rowspan="2">Kode</th>
                    <th rowspan="2">Nama Alternatif</th>
                    <th colspan="<?= $kriteria; ?>">Kriteria</th>
                </tr>
                <tr>
                    <?php foreach ($kriteria as $krt): ?>
                        <th><?= $krt->ID ?></th>

```

```

        <?php endforeach ?>

    </tr>

</thead>

<tbody>

    <?php foreach ($alternatif as $alt): ?>

        <tr>

            <td><?= $alt->KodeAlternatif ?></td>

            <td><?= $alt->NamaAlternatif ?></td>

            <?php foreach ($kriteria as $krt): ?>

                <td><?= $nilaikriteria[$alt->ID][$krt->ID]->Nilai ?></td>

            <?php endforeach ?>

        </tr>

    <?php endforeach ?>

</tbody>

</table>

</div>

</div>

<!-- Nilai Max dan Min Tiap Kriteria -->

<div class="card">

    <div class="card-body">

        <h5 class="card-title">Nilai Max dan Min Tiap Kriteria</h5>

        <!-- <a href="#" class="btn btn-sm btn-primary">Simpan Hasil</a> -->

```

```
<table class="table table-bordered table-sm">
```

```
<thead>
```

```
<tr>
```

```
<th rowspan="2">Kode</th>
```

```
<th colspan="<?= $kriteria; ?>">Kriteria</th>
```

```
</tr>
```

```
<tr>
```

```
<?php foreach ($kriteria as $krt): ?>
```

```
<th><?= $krt->ID ?></th>
```

```
<?php endforeach ?>
```

```
</tr>
```

```
</thead>
```

```
<tbody>
```

```
<tr>
```

```
<th>CMAX</th>
```

```
<?php foreach ($kriteria as $krt): ?>
```

```
<td><?= $nilaic[$krt->ID]->cmax ?></td>
```

```
<?php endforeach ?>
```

```
</tr>
```

```
<tr>
```

```
<th>CMIN</th>
```

```
<?php foreach ($kriteria as $krt): ?>
```

```
<td><?= $nilaic[$krt->ID]->cmin ?></td>
```

```
<?php endforeach ?>
```



```
</tr>

</tbody>

</table>

</div>

</div>
```

```
<!-- Nilai Normalisasi -->

<div class="card">
  <div class="card-body">
    <h5 class="card-title">Nilai Bobot Normalisasi Kriteria</h5>
    <!-- <a href="#" class="btn btn-sm btn-primary">Simpan Hasil</a> -->

    <table class="table table-bordered table-sm">
      <thead>
        <tr>
          <th rowspan="2">Kode</th>
          <th colspan="2"><?= $kriteria; ?>>Kriteria</th>
        </tr>
        <tr>
          <th><?= $kriteria; ?>>Kriteria</th>
          <th><?= $kriteria; ?>>Kriteria</th>
        </tr>
      </thead>
      <tbody>
        <tr>
          <td><?= $kriteria; ?>>Kriteria</td>
          <td><?= $kriteria; ?>>Kriteria</td>
          <td><?= $kriteria; ?>>Kriteria</td>
        </tr>
      </tbody>
    </table>
  </div>
</div>
```

```

<tbody>

<tr>

<th>Bobot Normalisasi</th>

<?php foreach ($kriteria as $krt): ?>

<th><?= $krt->Normalisasi ?></th>

<?php endforeach ?>

</tr>

</tbody>

</table>

</div>

</div>

<!-- Nilai Hasil Perhitungan Nilai Normalisasi Kriteria (Xij) -->

<div class="card">

<div class="card-body">

<h5 class="card-title">Hasil Perhitungan Nilai Utility</h5>

<!-- <a href="#" class="btn btn-sm btn-primary">Simpan Hasil</a> -->

<table class="table table-bordered table-sm">

<thead>

<tr>

<th rowspan="2">Kode</th>

<th rowspan="2">Nama Alternatif</th>

<th colspan="<?= $kriteria; ?>">Kriteria</th>

```

```

</tr>

<tr>

    <?php foreach ($kriteria as $krt): ?>

        <th><?= $krt->ID ?></th>

    <?php endforeach ?>

</tr>

</thead>

<tbody>

    <?php foreach ($alternatif as $alt): ?>

        <tr>

            <td><?= $alt->KodeAlternatif ?></td>

            <td><?= $alt->NamaAlternatif ?></td>

            <?php foreach ($kriteria as $krt): ?>

                <td><?= $utiliti[$alt->ID][$krt->ID] ?></td>

            <?php endforeach ?>

        </tr>

    <?php endforeach ?>

</tbody>

</table>

</div>

</div>

<!-- Nilai Akhir Normalisasi * Utility -->

<div class="card">

```

```
<div class="card-body">
```

```
<h5 class="card-title">Hasil Perhitungan Nilai Utiliti
```

```
( $\sum_{j=1}^n u_j(a_j)$ )</h5>
```

```
<!-- <a href="#" class="btn btn-sm btn-primary">Simpan Hasil</a> -->
```

```
<table class="table table-bordered table-sm">
```

```
<thead>
```

```
<tr>
```

```
<th rowspan="2">Kode</th>
```

```
<th rowspan="2">Nama Alternatif</th>
```

```
<th colspan="<?= $kriteria; ?>">Kriteria</th>
```

```
</tr>
```

```
<tr>
```

```
<?php foreach ($kriteria as $krt): ?>
```

```
<th><?= $krt->ID ?></th>
```

```
<?php endforeach ?>
```

```
</tr>
```

```
</thead>
```

```
<?php foreach ($alternatif as $alt): ?>
```

```
<tr>
```

```
<td><?= $alt->KodeAlternatif ?></td>
```

```
<td><?= $alt->NamaAlternatif ?></td>
```

```
<?php foreach ($kriteria as $krt): ?>
```

```
<td><?= $nilaiakhir[$alt->ID][$krt->ID] ?></td>
```

```

        <?php endforeach ?>

    </tr>

<?php endforeach ?>

</tbody>

</table>

</div>

</div>

<!-- Ranking -->
<?php if ($cekhasil == 0) { ?>
<div class="card">
    <div class="card-body">
        <h5 class="card-title">Peringkat</h5>
        <!-- <a href="#" class="btn btn-sm btn-primary">Simpan Hasil</a> -->

        <table class="table table-bordered table-sm">

            <thead>
                <tr>
                    <th>Kode</th>

                    <th>Nama</th>

                    <th>Hasil</th>

                </tr>
            </thead>

            <tbody>

```

```

<?php foreach ($alternatif as $alt): ?>

    <tr>

        <td><?= $alt->KodeAlternatif ?></td>

        <td><?= $alt->NamaAlternatif ?></td>

        <td><?= $ranking[$alt->ID] ?></td>

    </tr>

<?php endforeach ?>

</tbody>
</table>
<br>
<form action="<?= site_url('proses') ?>" method="POST">
    <input type="submit" name="urutkan" value="Urutkan Hasil
Perankingan" class="btn btn-primary">
</form>
</div>
</div>
<?php } else { ?>
    <!-- Urutkan Ranking Terbesar -->
<div class="card">
    <div class="card-body">

        <h5 class="card-title">Hasil Perankingan</h5>

        <table class="table table-bordered table-sm">

            <thead>

```

```
<tr>

    <th>Kode</th>

    <th>Nama</th>

    <th>Hasil</th>

</tr>

</thead>

<tbody>

    <?php foreach ($hasilakhir as $hasil): ?>

        <tr>

            <td><?= $hasil->KodeAlternatif ?></td>

            <td><?= $hasil->NamaAlternatif ?></td>

            <td><?= $hasil->NilaiAkhir ?></td>

        </tr>

    <?php endforeach ?>

</tbody>

</table>

<hr>

<a href="<?= site_url('proses/resetHasil') ?>" class="btn btn-sm btn-
danger">

    <i class="bi bi-bootstrap-reboot"></i> Ulangi Hasil

</a>

<a href="<?= site_url('proses/laporanhasil') ?>" class="btn btn-sm btn-
primary">

    <i class="bi bi-file-earmark"></i> Lihat Hasil Laporan
```


</div>

</div>

<?php } ?>

</div>

</div>



DAFTAR RIWAYAT HIDUP

A. Identitas Pribadi

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SMAN 6 : 2011-2014
SMPN 2 : 2008-2011
SDN 03 : 2003-2008

Kisaran, 29 Agustus 2023

Penulis,

Muhammad Yopi Darmawan