<?php

class ClusteringKMean {

private $objek = array();

private $centroidCluster = null;

private $cekObjCluster = null;

public function \_\_construct($obj,$cnt) {

$this->centroidCluster = $cnt;

for ($i=0;$i<count($obj);$i++){

$this->objek[$i] = new objek($obj[$i]);

$this->cekObjCluster[$i] = 0;

}

}

public function setClusterObjek($itr){

echo "<table width='100%;' cellpadding=0 cellspacing=0>

<tr><th colspan='100'>ITERASI ".$itr."</th></tr>

<tr><th>Objek</th>";

for ($i=0;$i<count($this->objek[0]->data);$i++){

echo "<th>Data ".($i+1)."</th>";

}

for ($j=0;$j<count($this->centroidCluster);$j++){

echo "<th>Cluster ".($j+1)."</th>";

}

echo "</tr>";

for ($i=0;$i<count($this->objek);$i++){

$this->objek[$i]->setCluster($this->centroidCluster);

echo "<tr><td>Objek ".($i+1)."</td>";

for ($j=0;$j<count($this->objek[$i]->data);$j++)

echo "<td>".$this->objek[$i]->data[$j]."</td>";

for ($j=0;$j<count($this->centroidCluster);$j++){

if ($j == $this->objek[$i]->getCluster())

echo "<td style='color:green'>OK</td>";

else echo "<td style='color:red'>&nbsp; Null</td>";

}

echo "</tr>";

}

echo "</table><br><br>";

$cek = TRUE;

for ($i=0;$i<count($this->cekObjCluster);$i++){

if ($this->cekObjCluster[$i]!=$this->objek[$i]->getCluster()){

$cek = FALSE;

break;

}

}

if ((!($cek))&&($itr<20)){

for ($i=0;$i<count($this->cekObjCluster);$i++){

$this->cekObjCluster[$i] = $this->objek[$i]->getCluster();

}

$this->setCentroidCluster();

$this->setClusterObjek($itr+1);

}else{

echo "<table border=1 style='width:100%; background:lightgreen;' ><tr>";

for ($i=0;$i<count($this->centroidCluster);$i++){

echo "<td>Cluster ".($i+1)." -> ";

for ($j=0;$j<count($this->centroidCluster[$i]);$j++){

echo $this->centroidCluster[$i][$j]."&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;&nbsp;";

}

echo "</td>";

}

echo "</tr></table><br><br><br>";

}

}

private function setCentroidCluster(){

for ($i=0;$i<count($this->centroidCluster);$i++){

$countObj = 0;

$x = array();

for ($j=0;$j<count($this->objek);$j++){

if ($this->objek[$j]->getCluster()==$i){

for ($k=0;$k<count($this->objek[$j]->data);$k++){

$x[$k] += $this->objek[$j]->data[$k]; }

$countObj++;

}

}

for ($k=0;$k<count($this->centroidCluster[$i]);$k++){

if ($countObj>0)

$this->centroidCluster[$i][$k] = $x[$k]/$countObj;

else{

echo "<font color='red'>Terdapat ketidak sesuai Nilai Awal Cluster</font><br>";

break;

}

}

}

}

}

?>